

## **You can't cross a chasm in two small jumps**

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Transcript of a keynote speech by **Michelle Selinger of CISCO Systems**, at the 2007 Association for Learning Technology Conference in Nottingham, England. In the chair, Sharon Waller, Anglia Ruskin University. Slides for this talk are at [http://www.alt.ac.uk/docs/altc2007\\_michelle\\_selinger\\_keynote.ppt](http://www.alt.ac.uk/docs/altc2007_michelle_selinger_keynote.ppt) [8 MB PPT]. **Slide transitions are indicated in italics.**

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kB PDF]. An MP3 recording of the talk is at

[http://www.alt.ac.uk/docs/altc2007\\_michelle\\_selinger\\_keynote\\_audio.mp3](http://www.alt.ac.uk/docs/altc2007_michelle_selinger_keynote_audio.mp3) [13 MB MP3]. Slides and video of the talk, captured as an Elluminate Live! session, is on the ALT-C 2007 web site at <http://www.alt.ac.uk/altc2007>.

Good morning everyone, oh sorry, I should practice, 'g'day' I don't think I could ever say that seriously, I'll just talk to some of the Australians later and, and they can teach me how to say it properly without laughing.

I have been given this task and it's quite a daunting task of opening the conference and trying to cover the themes of the conference. I thought how can I cover those theme,' and I thought, well, I'm going to talk about chasms.

### *Slide 1*

I'm very aware that we're doing a lot of tinkering around the edges and I know that the people in this room today are some of the pioneers who are doing that tinkering. But we need to do more and there are some really nice initiatives which are taking giant leaps and sometimes they need them. David Lloyd George said "Don't be afraid to take a big step if one is indicated, you can't cross a chasm in two small jumps". I'm also going to talk about monkeys and you'll find more about that later.

### *Slide 2*

So, let me just explain how my talk is going to pan out, I'm going to talk about the chasms I see existing in all sorts of areas of education, I'm going to talk about some of the solutions that people have come up with and others that people are going to come up with and how they can really jump across those big chasms that are opening up in all facets of education, and then one or two caveats at the end because I think there are some things we need to do first before we can start to take these giant leaps.

### *Slide 3*

I'm going to talk about informal and formal learning, I'm going to talk about schools and higher education and I'm going to talk about cultures and economies. As Mike said, I have a background as a schoolteacher. I was in teacher training, in higher education and now I've gone into industry and I hadn't actually thought about that and I hadn't realised that I've jumped a few chasms myself. I don't call myself a corporate backpacker, 'escaped academic' usually. If anyone wants to know the escape route come and see me afterwards. There may be some other chasms I'll come across as we go through, particularly between higher education and, school education and training and industry.

### *Slide 4*

I'll start with informal and formal learning. Now I think there are a lot of differences and we've talked about this. We've just had Alan Dodson talking about the generation who are the digital natives and we're the digital immigrants. We know a lot about that, and we know that there's a lot of tools that we learn with that our children don't and younger people don't use.

*Slide 5*

My son tells me I use the computer like an old person. I actually think I'm quite good with computers, but it's just the way they use the tools, it's actually quite different. And the way we learn is different and with whom we learn. We had a very interesting session yesterday at the workshop at LSRI about learning spaces and we talked about moving away from age related classes and it's one of the things I've been talking about for a long while, that we really need to think about that.

*Flash animation of student at computer*

If you look at the way kids play games, they don't know how old the people are they're playing games with when they're playing multi-user games -they have no idea how old they are. But they don't care. If they're playing the game and they're getting some interaction and it's working and they feel they have the competition, why does ages matter? So this the sort of child that we, we all have to teach: they are in their bedrooms, they have the television on, they have the radio on, they have their i-pods, they're listening to music, they don't notice the time going, they don't have time, they don't seem to have time to do their homework though they seem to be doing that, and it's actually quite interesting because they still do want to sit down with their friends.

I was interviewing a 14 year old a couple of years back and he said he gets home and he has all his instant message windows open and he's chatting to several different friends, all in different windows: several chats going, and I said "Do you talk about homework?" He said "Oh yeah, we discuss our homework". I said "Oh you get group homework?" thinking "Oh we've got a real innovation here going on in schools" and he said "No, no we don't have group homework - Oh yes, we do have group homework but we don't do that on instant messaging." I said "Well how do you do that?" "Oh they come round to my house." So, you know they do actually like to interact and they do actually see that there are times when they don't want to work at the computer, they actually want to sit down and work together.

*Slide 6*

So, move to the next slide. This is another example that I've ripped off YouTube, So just watch this little clip.

Clip from South Park, dialogue as follows:

*Cartman. Ok, I'm back.*

*Stan. Dude we've been waiting for ever.*

*Cartman. We'll I'm sorry I had to take a dump.*

*Stan. If you didn't eat so much you wouldn't have diarrhoea all the time fat ass.*

*Cartman. Hey I don't need to take any of this from a frickin' girl.*

*(mumbling sound which is Kenny speaking)*

*laughter.*

*Stan. Come on, we have to finish the question Stone gave us.*

*Stan's Dad. Stan. Stan.*

*Stan. Hang on guys my Dad wants something.*

*Stan's Dad. Stan.*

*Stan. What?*

*Stan's Dad. You've been on your computer all weekend, shouldn't you go out and socialise with your friends.*

*Stan. I am socialising artard. I'm logged onto an MMORPG with people from all over the world. I'm getting XP with my party using Team Speak.*

*Laughter.*

*Stan's Dad. I'm not an artard*

End of clip

I think that sums it up doesn't it? You know, the difference between the way they learn and the way we learn. But it's interesting because all this social networking that's going on is very interesting, I was on the way to give a talk to the Specialist Schools and Academies Trust and I was listening to a programme on the radio - a news programme - and they were saying that children don't know that porridge is made from oats, and oats are grown by farmers in fields. So with all this networking, with all this information, there's all this access to information, it isn't being processed into knowledge and there is still a very, very strong role for schools and for teachers and for parents to work with their children to turn that information into real knowledge.

*Slide 7*

Wim Veen has written a book called Homo Zappiens, I don't know if you've seen it. I recommend it: you can get it through Amazon, with Ben Vracking and he talks about the fact that if we think back to our own days of learning in schools, it was very linear, we start from the top left hand corner and we worked across. The only time we might not have done anything particularly linear is when we looked through an encyclopaedia and we were trying to find information. But when you watch young people at the computer, they tend to be very non-linear, they'll start somewhere, they'll flash around, they'll go all over the place to get to the information they want. They scan a screen, they don't start at the top left hand corner, they're drawn by particular images, they're drawn by text and they're very much more multimedia than we are, it's no longer text that is king.

### *Slide 8*

And then these children go to school and this is what happens, this is again an example from Wim from the Netherlands. Look at the reduction in use of media, and this isn't just the Internet, it's radio, it's TV, it's magazines, it's newspapers. Cell phones - we know that they're banned in schools, and games, so it's those sorts of media. Very little media is actually used in school in any format. We're still very much wedded to the printed page, with a little bit of content thrown up on the screen that looks very similar a lot of the time. Not all the time, there is some great stuff out there. So we have this issue where the informal learning that students are doing outside school and what they're doing inside school are very, very different. I think universities are getting better much faster because they have less of the pressures and I'll come back to that later on, when I talk about the differences between the two.

### *Slide 9*

John Seeley Brown who is one of my favourite authors talks a lot about the role of informal learning and how we don't really do enough with informal learning inside education. We don't give people the space and the time for it. At Cisco we've really recognised how important that is, and we have about 20 different tools that we use including blogs and wiki's and instant messaging that we allow our staff to use, and we encourage them to use. It's really very useful because that's the way I find out how to do my job. And you can imagine coming in from academia going into industry, I got completely blown away by the TLAs, you know, the three letter acronyms. And, just learning those sorts of things, learning the culture, learning how you talk to customers, learning what you don't say and what you do say in a business situation, I became the translator really between education and industry. Not just acting at the interface of the technology and education but actually being the translator between the two. I often get pulled in by our sales team to go and talk to customers because he said "Oh you talk the same language as them, Michelle" and I don't 'leverage' and I don't sort of do '360 degree views'. I mean I can swallow the Dilbert dictionary if I need to with the right customers.

### *Slide 10*

What we see is there's also this stasis. We haven't really grasped it and you look at what happens in education, you see that link with print - it's still very much there. The VLE approach on the whole is very much about putting, your notes up on the web and I know that I'm talking to a group of people here who don't just do that, who do far more. But I'm talking about a lot of the colleagues that you work with, and I imagine that 90 percent of you are trying to bring into the 21st century. We still have lectures when kids demand podcasts, so we give them both, why? In the school setting we're still bogged down with standards, and the standards that are set very much in the 20th century, if not the 19th. We don't think about what it is we need to do and learn for today's world, for living in today's world and for working in today's world.

### *Slide 11*

David McConnell in his book on e-learning groups and communities of practice talks about e-learning courses being linear and remember I've just shown you how young kids work, they start in the middle and work outwards and they link things in very different ways, it's deterministic, it's closed and we don't celebrate success, we only seem to look at telling people how badly they're doing rather than how well they're

doing. And I won't talk about the GCSE results and the A Level results because we get that every year!

#### *Slide 12*

Ok, so that's the informal/formal learning, I've just touched on a few things, there are loads more. Then there are the chasms between school and higher education. I think the US is particularly diverse in that respect. The top 10 universities in the world are American, and yet it's becoming the worst education system. They are falling down and down the league tables in schools. The focus on testing, on the SATs, is absolutely amazing. In the job I'm just about to leave, I've been working on our corporate social responsibility - our social investments in education, and we have a big programme in Mississippi where we're really trying to turn around their view about education. We say "Look, those kids will pass the test if you go beyond them and go around them, and work in creative ways using their lives, using their technology and giving them access to authentic learning opportunities rather than drilling them all the time", which is what they do. So there are these big chasms. I see schools almost going backwards in lots of countries and I see higher education beginning to take leaps forward.

#### *Slide 13*

This is the Technical University of Eindhoven, where they run an industrial design course. It's a very interesting course and I think what's happening there shows this real chasm because they are recruiting students who come from schools to the university and they've got a very, very high drop out rate. I think it was around 80 percent drop out. Why? Because they make the students become employees from day one, they're employees in industrial design and they have projects that they work on with local customers, Philips is in the town so I imagine a lot of those projects come from Philips and the lecturers act as project managers and coordinators and they direct the project. Those students just cannot cope with that degree of flexibility, autonomy; the need to collaborate, the need to work in teams, the need to have those critical thinking skills that are so important. And they drop out the course: they cannot cope. Obviously those who do cope and who finish walk into jobs. And I think that, to me, it just shows the differences and the chasm that is growing between schools and universities.

#### *Slide 14*

Our assessment systems are way out of alignment. A recent announcement in the UK is that school, school coursework for GCSEs is going to be replaced by controlled assessments because too many parents are helping their kids, plagiarism and everything else, so they're going to have controlled assessments where the kids will sit and do their coursework in the classroom. Now we did a survey, again a little while ago, two or three years ago, where we, we talked to children about their use of the Internet in school and they said "There's no point in using it at school because the security there is so tight, so many sites are banned, I can't actually use it, so I wait till I go home." And they go home and they get the information they need for their coursework. Now they can't do that. We have these tests at 14, 16 and 18 with still a very strong focus on writing skills, not on their multimedia skills. And there are no group assessment tasks. When we go to universities - I'm still external examiner at Sheffield Hallam University on a very innovative course on e-learning, multimedia and consultancy. They have a very varied type of assessment there: group

assessments, peer assessments, e-portfolios, which a lot of you are using, and the assessment of the way students collaborate online. So you can see how that chasm is really really broadening.

*Slide 15*

We talk about lifelong learning. Lifelong learning means something seamless but we get these big jumps, we don't get this continuity. And then when students come out of university and go into work, we have to retrain them. Our graduate trainees spend a year on a boot camp learning how to work for Cisco. They shouldn't have to do that. They should be able to have a shorter induction course because they know what to do and they can hit the deck running.

*Slide 16*

Then the other thing that's dear to my heart is the chasms between North and South. And having worked in so many developing countries, I have been to so many universities and been absolutely appalled. There's one university in Senegal where to get into a lecture that starts at nine o'clock you have to be there by six thirty or you won't get in the room. This is because there are 2,000 students to fit into a lecture theatre for 200. They sleep six people to a room designed for one. So universities in the North say "But we bring people to the UK, to the US, to Australia" but they don't go back. So we have this dichotomy of how we can, get Africa to grow and to develop and to have an education system and to have an economy that is going to grow and education is the key to that, every governments agrees. Yet we bring people here and they don't go back because they see what life is like in another country, they see the opportunities, and they're going to go back to poverty. How can we help those countries to grow and develop without having to bring those people out but still give them the benefit of an education?

*Slide 17*

There's other issues around linguistic issues, what language are people taught in? Often it's English or it's French or it's Spanish ... and it's never their home language. Then there are technological barriers, what a colleague and I call 'technology dissonance', we impose technology solutions on them that they can't afford. When I did an evaluation of the Cisco Networking Academy back in 2001, they still had screens that flickered and we were expecting them to read online all the time, and that really is quite hard on the eyes and the students got very tired. But we were working on high resolution screens that are easy to read from.

*Slide 18*

We impose a learning methodology and pedagogy as well when we bring students here or we work with them overseas and that might also be different. Again in that evaluation I did in 2001, I did see nuances in pedagogy, although teaching is teaching and everyone is trying to move towards a constructivist education model. I did see teaching which had slight differences, slight nuances and it's very important that we allow for that and we understand the cultures that our students come from and the relationship that they have with their teachers, which is very different from the relationship that British or American or Australian students have with their teachers. I can't talk about the other countries that are represented here.

*Slide 19*

Then we have these other tensions, when we talk about trying to improve and helping to improve developing country HEIs by some sort of reciprocal arrangement using technology, co-teaching. We've got a lovely project in Western Sydney in schools where we're using interactive white boards and video conferencing to co-teach where there is a shortage of teachers. We can do that, but then we have this tension about open education resources and trans-national education where we're trying to get people to work on a set of resources that may be not culturally suitable. How do we accommodate those and how do we help the developing countries to improve at the same time? Alternative access to higher education, through distance learning from home has the problem of the availability of technology. We are working on low cost solutions for that, but they are some way off and those low costs solutions may be more expensive than others but they are going to be there and it's going to take time, so what do we do in the interim?

What about peer review? Peer review is very important but peer review and cultural relevance sometimes don't go together because what is relevant to one country isn't always relevant to another. What about innovation, interactivity, using all these wonderful tools that we can use? Video conferencing for example is very difficult when you have half a megabit coming into your campus. And yet we're talking about access, so we have those tensions. And quality; quality is expensive. How can you provide quality at low cost? So there are a number of tensions between North and South that are causing those chasms to grow and we've got to find a way to try and bring those together.

#### *Slide 20*

Ok, so that's looking at the chasms. Let's look at some of the solutions that people already have come up with.

#### *Slide 21*

First of all this bit of research I thought was quite interesting: what is it that employers are looking for? If we're going to cross the chasm between education and industry we need to know what employers are looking for. David Thornburg carried out this research in 2004 that showed that technological fluency was very important, then communication skills, collaboration, team work, leadership: interesting how low down creativity comes. That's worrying. Why don't they want their employees to be creative? But what was interesting was that people who got jobs were very happy with cultural diversity, there are so many multinational companies, the world's a big melting pot now, so there are so many immigrants and you have to work with those people and it's very important that you're very happy with that environment - people who have work/life balance (and, I won't say anything about Cisco there!), and a sense of pride and excellence.

#### *Slide 22*

OK, so what has changed? There are places where those chasms are being bridged.

#### *Slide 23*

We're seeing some attitudes and approaches in higher and further education, we're seeing some great programmes coming out of JISC. We're seeing portal technology for example. We're looking at some great e-learning con', coming out like Jorum and we're looking at skills, and access to e-learning is improving all the time.

*Slide 24*

We're seeing this development of personal learning environments and the work's being done up in Bolton. I know that that was a big topic of debate last year at the conference here. But, bringing the formal and the informal together through personal learning environments is something that I really think is going to take off and going to make a big difference and that's bridging that chasm.

*Slide 25*

Learning from experts, using podcasts and blogs to get some of the top people to come to the university and to interact with the students without being there - experts in non-residence. And being able to bring them in and giving access to your students to the leading thinkers in your field. But what needs to change?

*Slide 26 and Flash animation of monkey attempting to jump across a river*

Now this is where the monkeys come in. I was in Borneo a few years ago and had this great privilege to go on a river barge and see the Proboscis monkeys who go and feed. They go up and down the river, and our guide said to us "Occasionally they cross the river". Now that very rarely happens; he said in 25 years he'd never seen it happen, he didn't actually believe they crossed the river. We saw it. We were so lucky, and I just thought for me it was a great metaphor or what we're talking about here today and at this conference is, how do we get across? It was great, those monkeys weren't frightened, every single one of them leapt across and most of them did what this one did which was fall in, fell into the water. And they just scrambled up and they carried on, climbed up the tree and they were eating again. And there was one that was really nervous so the lead monkey which is always much bigger than the others, he went and sat on a branch and beckoned this monkey across. He kept going up to the branch and back again, and up to the branch and back again and we were willing him to make it and he got across and he slithered down the side but then he scrambled up on the bank and you could see all the other monkeys were really happy. And I thought, this is really a metaphor: we have to scramble up the bank sometimes; we might miss; we might do something wrong; but if we don't try it's not going to happen.

*Slide 27*

So we need to think about what needs to be taught, what is actually taught. What needs to be taught, what is actually taught and what is learnt - going back to the porridge and oats situation. What is it that needs to be taught? We keep talking about the Knowledge Society and every country I go to we talk, say, to the Minister of ICT, or the Minister of Education, and they say "We want to be the knowledge society, the knowledge centre for this part of the world". We can't all be there. We need to think about division of labour; we need to think about what is it; what skills that we in our country can bring for the rest of the world, for the global good. And then we need to think about what's actually taught and what is learnt.

*Slide 28*

We need this, much more of this: knowing what, knowing that, knowing why, knowing how, knowing where and knowing when. The problem is we're missing out the "why" and that's why children don't know that porridge comes from oats. And it's not about a Knowledge Society; it's about a "Knowledgeable" Society. The knowledgeable society - so that you are better at agriculture; you are better at



manufacturing; you are better at tourism; you are better at health; you're better at the knowledge society. I think we need to change that Knowledge Society to the knowledgeable society and show how we can use technology to bridge the chasm between the North and South and to make everybody part of the Knowledgeable Society.

*Slide 29*

We need to think about how we're going to use that technology because whatever way we design it, it isn't going to be used that way. I think the telephone was a classic example of that, and this quote from Manuel Castells I think sums up a lot of that "People will transform the technology themselves."

*Slide 30*

Nobody ever thought that SMS messaging would take off; it was just an add-on. But for kids it's what they use most of the time. The telephone, as an example, was only ever meant to be for listening to concerts and getting public messages. I don't think that's what we ever use a telephone for. We need to make sure that people have the opportunity to be successful.

*Slide 31*

These children in Afghanistan made a satellite dish out of recycled cans (because they wanted to get television and they couldn't get it. They took cans and turned it into a, a satellite dish. As Robert Sternberg said "In the real world, analytical intelligence is no longer enough, it's not that it no longer matters, but it certainly matters less". We need to be creative and we also need to be practical, we need all three.

*Slide 32*

So learning I think has a new focus, we have to think about it as having an informal focus, it's emergent and it's social.

*Slide 33*

Instead of talking about the three Rs, we need to talk about the three "Ps", persistence, power tools and play. We're seeing a lot of research going on into gaming, serious gaming, because we recognise the skills that people use when they're playing games. I used to be a maths teacher and the 'generalisation' that students go through when they're playing games: the trial and error, trial and improvement, the meta-cognitive skills. If they'd use those in a maths lesson I would've been over the moon, but they didn't, they just did their sums. So we really need to think about how we can bring persistence, making people try again. If they get it wrong, working out where they went wrong, using those meta-cognitive skills, using the power tools at their disposal, all that technology and learning through play, "Learning 2.0".

*Slide 34*

We need to make sure that we have richer and more engaging learning experiences for our students; we need to restructure our teaching. Why are we sitting giving lectures in lecture theatres, gosh I'm doing it now. But there are times when you want to do it, but you can put this onto a podcast and people are watching this on Illuminate and I hope that their experience is no less because they're not in the room. They're able to ask questions, and I see some are already appearing and I hope I can answer some of them. I can't phone a friend can I? And, so we need to think about that. We also need

to think about students as authors of content; they're always authoring content when they write their exams, when they produce a piece of multimedia. Are we using that? Are we harnessing that? Are we putting it up there for critical review from other students as part of their assessment processes? And we've got to think about new ways of teaching: what should be known; making sure that, that these kids know that porridge comes from oats, it's just an example.

*Slide 35*

I think the name of the game is collaboration, collaboration, collaboration, I sound like Tony Blair now, don't I? "Education, education, education". But it is; everything you see and everything we talk about is around collaboration.

*Slides 36 -38*

We have the creative archive; the opportunities to rip mix and share; turning the concept of media literacy into more than a good idea. We have open courseware, where people can play around with resources that other people have put up. Change it, add to it, put it back up again and share it: collaboration.

*Slide 39*

We see children who if they work together can design their own e-learning environment. This is a bit of work that Shirley Alexander and Lyn Schaverein did in Sydney and asked eight to twelve year olds to design their own e-learning environment. And the questions they asked! "What do we think and how do we think?" These are their questions, not the teachers, because if it'd have been the teachers it wouldn't have been as complex as that! And they asked, "Why aren't we born knowing what we know now?" This is serious; these are eight to twelve year olds from an ordinary school who came up with these questions and then designed an e-learning environment as a journey through a forest rather than a journey on a train, which were the two options they came up with. Because, if they were on a train the driver would know where he was going. If they went through a forest they wouldn't know where they were going, they wouldn't be guided, they'd have to make their own decisions, and they might make some mistakes, but that would be OK. We should be listening to those kids, listening to the learners.

*Slide 40*

Then we, we need to think about the human network, the opportunities that are coming up now, the solutions that are coming up around 'follow me content', people subscribing to people, Linked In, Face Book, My Space, immersive interactions, and making sure that the learning services, the social collaboration, all those resources are there from any device. This is all going to be up, available later so you can look at this in more detail because they're fairly complex slides.

*Slides 41 & 42*

But it's about a network of people; it's about finding ways to improve that communication so people can collaborate. Integrated learning teams, education partners, multi-format learning, and at the back end of that, having ways to operate it efficiently and manage it from the administration end. Looking at communication, information sharing, collaboration, decision, support, event management, data integration, we need to think about all of those. We need to think about how we can partition the network so that students can't use MSN and email when they're sitting in

a lecture, but they can still have their laptops there. How we can make sure that we've got the bandwidth we need without having to make the pipes fatter and fatter? We need to think about that as we increase collaboration so that we can work with developing countries and we can work with each other without having to constantly increase the bandwidth, but to find ways of managing the bandwidth more intelligently.

*Slide 43*

We want to look at ways we can use our mobile phones to access all of that, so that you have a screen where you can touch the screen and pull up different things; education materials, finding experts and using presence and location resources to get to those experts.

*Slide 44 & 45*

Use of avatars in education, we see a lot of work going on in Second Life, and bridging the divide using things like Tele-Presence or the Thunder system or using the two together. The Thunder system is an electronic note-board system where, instead of having paper flipcharts you have electronic flipcharts. Putting those two together you can really do research, you don't have to travel and you can do research across borders.

*Slide 46*

And the future education mash ups that are coming where you're going to be able to have an avatar who will go out and find the information you want, link you and locate people with you, this is all about collaboration. Using Google Maps, using instant messaging and video conferencing; all those tools and your avatar will help to locate the people you need, the experts, because it'll be an intelligent avatar who will go out and find those for you.

*Slide 47*

And then we need to think about the university links; we need to think about how we work with the south and the south working together with each other - how we link universities in the developing world as well as those north-south engagements that some of you were involved in. How can we broaden those? How can we make them better? How can we really help those developing countries to develop? And then we need to make joint appointments. In Qatar they've taken a brand new university in the knowledge village there and they've said to one of the American universities, "You can have a free campus but you have to send all your lectures to teach on this campus, we don't want local people teaching and you will co-teach with them." So that's the way that they're trying to build up the skills in-country because those people who are taught by those American lecturers will then become the teachers of the next generation. So it's really about capacity building in a very, very positive way although they have a lot more money in Qatar than they do in, say, Kenya. We need to think about making sure that education is locally relevant but also making sure it fits in the global model as we are in a globalised society. And we need to really push these low cost access solutions.

*Slide 48*

Ok, I'm going to finish off with my caveats. Sometimes those smaller steps are needed. You do need to sort of maybe paddle across the water, test things out. I didn't

mention one of the things I came across yesterday where I think one of the biggest chasms that has ever been jumped, which is the RSA Academy where they have built a school around a new curriculum, so it's a new curriculum, a very innovative curriculum called 'Opening Minds' and they've built a school around that. So there are some really exciting things going on. It's being heralded as a real showpiece and it might actually change things in school education.

*Slide 49*

So we need to think about identifying the relevant knowledge, what it is to be knowledgeable in your country, in your society, in your town, in your university. Thinking about whether we always need to give lectures; can we do podcasts instead? Making closer links and ties with schools and the workplace and with higher education and the workplace. The reason that the universities in the US are the top ten is because of their links with industry and their business incubation. Making sure that they are all interoperable and that we're using them right from school onwards so we do get these small steps which build up into this lifelong learning piece which is seamless. Schools being preparation for lifelong learning and recognising that, from the recent study by DEMOS, that not all learners are ground breaking pioneers, they're not all home zappiens, but they are using this technology. And the big thing, assessment, is very political. Changing assessment takes time in schools. That's the thing, that's the biggest chasm we have to jump, that's the biggest leap we have to make. If we can make that then I think all the other pieces will fall into place.

*Slide 50*

Thank you.

(Applause)

A: Thank you very much Michelle. We've got a little time for questions and we're going to take questions from the floor and also some, a few questions that have come in via Illuminate. So we have a roving mike so if you'd like to ask a question can you put up your hand and wait a minute till the, the microphone reaches you. Any questions? (Pause) While you're thinking, what I'm going to do is start with one that's come from Illuminate which is this, that Michelle you put a lot of emphasis on text no longer being king or queen, how does that square with the phenomenal success of Wikipaedia as a largely text based medium?

Q: That's a very good question. I mean text is no longer king, it doesn't mean that it isn't important, it's just that we know YouTube is phenomenally successful and there's TeacherTube now, so it's the fact that we always place it above everything else rather than actually looking at the other media as an equal resource.

A: Ok. Let's see some questions from the floor. Yes, there's one at the back there.

A1: Thanks. Michelle in the, on your presentation you were, you showed us the questions that some eight and 12 year olds had come up with and I suppose sort of paraphrasing that, the questions they come up with were sort of about self understanding and independent exploring or exploration, I suppose the big chasm is where does the teacher fit into all this or maybe, or I mean how does the teacher fit into all this?

Q: I think teachers are necessary; without the teacher there supporting the children, asking questions to them to help them think, to bring out their ideas, because they don't always know what questions to ask in terms of how they're going to design the environment. So modelling the learning process I think is what I see teachers doing. They're expert learners in that domain. And they model the learning process. That's how you learn as an apprentice when you sit at the foot of the master, you learn by asking questions, watching the way that the master works, and you ask the questions and you learn the job that way. So I see teachers and students in that role.

A1: Thanks.

A: Another question? There's one just down there. Half way down on the right. Right at the end.

(Pause)

A2: I just wanted to ask Michelle how you think we should address the issue of literacy because in universities now we've got a big problem with literacy problem, issues and, and challenges associated with students and personally I think the fact that, I know you said about students learning less in a linear fashion, I think that it's had an impact on their literacy and you don't seem to have addressed that within your presentation?

Q: I only had 40 minutes. (laughs) One of the interesting things that we did a few years ago, gosh it's 10 years ago now, with the EDSI project. We were looking at, we were working in a primary school, and the students were writing emails to other students, and they took so much more care in their spelling, their grammar, the way they created their sentence because they were writing for an authentic audience. I think what happens in schools is your teacher expects you to make mistakes and therefore, you know, she'll correct it for you, or he'll correct it for you. And when you have to write for another audience, then you start to see them taking more care and more pride in their work. So I think that I agree that you, with you, literacy standards have fallen despite all the literacy hour, all the efforts that have been made in, in, in England to improve the, the quality of literacy and I think it really is around finding new ways of teaching literacy that really engages students in their lives and in their way. And then maybe we can get back to the standards that we should expect. But I think I do see an improvement when students have to write in school for another audience and I think that's probably one way forward.

A2: Ok.

A: Can we have just one more question? Yes, down there at the front. (Pause) We've to do a little bit of microphone relay passing here. No, right down at the front.

Q: Down here.

A: Yeah. One more question. And that'll have to be the last one I'm afraid.

(Pause)

A3. Yeah, Michelle, in your presentation I get the idea you're talking about active, students that are actually willing to learn. What's your opinion on students that are not so willing to learn? Are, aren't they falling behind in, in (...). approaches?

Q: Well I think that's, that's a big problem. They're not willing to learn because they have to leave their culture outside the school grounds. They come into school and they resent being there; they can't use the tools they use to learn or to, to relate to others inside school. And what they're learning they don't see as relevant. It doesn't fit their idea of what they're going to need. I used to be a maths teacher and if a child said to me, and they did occasionally, "How's this gonna help me get a job?" which is what they did, then I would know I'd failed as a teacher because I wasn't giving them an experience that they engaged with. Kids love solving problems, solving puzzles and I just wasn't giving them enough of that to do, so it's about really bringing their culture into the school, within the school gates, and giving them the opportunities, There's lots of other social issues around that, but if we can try and get them into school and wanting to be there, then they'll want to learn because everyone learns but it's what they learn and how they learn it that's the problem. (laughs).

A3. Ok.

A: Right, this has been a really excellent start to the conference. I think one of the points that Michelle picked up about children and trying to understand children's learning ... all of us who've got teenage children, I think we ought to thank them for their contribution as research partners. I don't think I could ever have done my research without the contribution of my two teenage children, so thanks to all our children and thank you very much Michelle for raising such relevant themes to the conference and also leaving us with big issues that we need to confront, to confront. It's, it's not often that we can rise above the narrow issues of 'how do you design learning materials for your own context' and think about what are the global issues that are now confronting learning technology and you've helped us to do that. Thank you very much indeed. (Applause). I'd also like to thank Illuminate and also Linda (Keurner?) who's done a great job in plucking out some questions, I'm sorry we haven't been able to cover them all but certainly Illuminate has been successful, I've just been monitoring some of the ... private chat that's being going on and we've had colleagues for example from the Palestine Polytechnic University in Hebron Palestine, so our Palestinian colleagues have been watching this talk and participating. So thank you Illuminate for making that possible. (Applause).

(End of Transcript)