21st Century Learning for 21st Century Skills: What Does It Mean, and How Do We Do It?

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Abstract. I want to argue in this lecture, that life – especially educational life – is never that simple. What exactly are 21st century skills? How, for example, do they differ from ‘knowledge’? And once we know what they are, does there follow a strategy – or at least a set of principles – for what learning should look like, and the roles we ascribe to technology? Most importantly, if 21st century knowledge is qualitatively different from the 19th and 20th century knowledge that characterises much of our existing curricula, we will need to consider carefully just how to make that knowledge learnable and accessible through the design of digital technologies and their evaluation.

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Abstract

21st Century Learning for 21st Century Skills. What’s not to like? We know, it seems, that the newish century demands new, process-oriented skills like teamwork, flexibility, problem solving, to take account of the shift from material labour to immaterial, weightless production. We can take for granted, at least in a gathering like this, that 21c. learning is learning with digital technology. And we can surely agree that we are gaining with impressive speed, understanding of the technology’s potential to enable a new kind of pedagogy.

I want to argue in this lecture, that life – especially educational life – is never that simple. What exactly are 21st century skills? How, for example, do they differ from ‘knowledge’? And once we know what they are, does there follow a strategy – or at least a set of principles – for what learning should look like, and the roles we ascribe to technology? Most importantly, if 21st century knowledge is qualitatively different from the 19th and 20th century knowledge that characterises much of our existing curricula, we will need to consider carefully just how to make that knowledge learnable and accessible through the design of digital technologies and their evaluation.

The problem is this. The needs of the 21st century are seen as broadly dichotomised. Much of the discussion about who needs to know what, is predicated on the assumption that technology has created the need for fewer and fewer people really to understand the way the world works; and for more and more merely to
respond to what technology demands of them. There is partial truth here: very few people need to know how derivatives work (it seems that the bankers don’t either); and the supermarket checkout operator no longer needs to calculate change. So this gives rise to the belief that there is stuff that the elite need to know; and stuff that everyone needs to know – and that these have very little in common. Inevitably, the latter is reduced to process-oriented skills, denuded of real knowledge that can help individuals engage as empowered agents in their own lives. And the gap between these two poles is widening, despite the best intentions of educators and policymakers. So the danger is real: Knowledge for the top of the pyramid; skills and processes for the bottom.

Of course, the imperatives of the workplace should not be the only driver of educational policy or practice. But they cannot be ignored, and if they are going to inform or even direct it, it would be helpful if we were clear about what we are trying to do. This is all the more important as we are at something of a crossroads in our thinking about technology (more fashionably, a ‘tipping point’).

The first 30 years of educational computing were dominated by a commercial paradigm borrowed from business and industry. When educators and policy makers thought of technology for schools, colleges and universities, they were guided with reference to a social niche nicely occupied by Windows, the all-pervasive metaphor of the office, the desktop, the filing system, and so on. It worked fine in many respects, except one: it pretty much guaranteed that the existing practices of teaching and learning institutions remained more or less intact, lubricated by the application of technology, but not changed fundamentally by it. The technology beautifully legitimised the commercial/business paradigm of learning – think, for example, how the interactive whiteboard has been, for the most part, the technological end of a pedagogy based on eyes-front, teacher-led practice.

I don’t want to future-gaze too much, and certainly do not want to stand accused of technocentrism, which I’ve been pretty vocal about over these last thirty years. But technology does shape the ambient culture, as well as being shaped by it, and understanding how that works is an important part of how we should respond. It is hard not to notice a change in the ways technology is impacting people’s lives; and again, without attributing magical powers to this or that passing platform, I think that the sudden ubiquity of the i-Pad/smartphone paradigm – a paradigm quite different from the commercial paradigm that preceded it - should give us pause for thought. Until now, technology has been seen as institutional; but now, we have reached the point where it has moved from the institution to the home, the pocket and the street – it has become personal.

There is a lot to say about this, and I’ll save it for the lecture. But one thing is clear: this change is double-edged. i-Pads are wonderful machines for viewing photos, organising playlists, and providing a platform for the exponentially increasing number of apps, all just a click away. That click is attractive for schools and colleges – no

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1 Seymour Papert describes technocentrism as “the fallacy of referring all questions to the technology”. (http://www.papert.org/articles/ACritiqueofTechnocentrism.html)