

How the coronavirus pandemic may be the discontinuity which makes the difference, in the digital transformation of teaching and learning

At the time of writing this editorial, the majority of people around the world are living through a prolonged period of pandemic response. While circumstances and policies vary, certain changes are common: across the world we are seeing the imposition of social distancing and an expectation of sustained changes to the way social interactions can be safely conducted. Such rapid changes in how societies do things are described by Foucault as discontinuities and he outlines the “concepts of discontinuity” as “transformation” (2013, p. 23). For many organisations these enforced changes have accelerated digital transformation, a discontinuity already underway. We have seen digital transformation in retail and financial services for several decades. More recently the cultural industries, such as the makers of music, games, film and television have undergone enormous discontinuities. For education, the digital transformation of teaching and learning is being accelerated by the Covid-19 lockdowns. This involves the rapid and widespread adoption of e-learning, as many schools, colleges and universities are closed – and teaching and learning is being widely accessed online.

The major discontinuities of the past have been characterised by a change in the scope of worldview of human experience. To the historian, these changes are often defined through the writings of dead white men. Notable examples in the western canon include Copernicus, who changed how humans viewed their place in the universe, Karl Marx who foregrounded the material determinants of power relations, and Darwin, who reshaped our relation to the other species. More recently Freud and Einstein reframed our understanding of both the inner and the exterior world, radical discontinuities that shaped the twentieth century. In our own time, as we become accustomed to the changing relationship between humanity and machine which artificial intelligence heralds, we are amidst a discontinuity of the digital transformation of knowledge and even of what it is to think (Mazlish, 1993)

The impact of the coronavirus on the pace of the digital transformation learning and teaching presents many opportunities for the readers and writers of this journal. The benefits of e-learning can be enormous and as outlined in much research published here can help develop the trend towards interactive learning environments that are student centred and offer personalised learning. MOOCs and other forms of accessible online learning can widen participation and democratise access to knowledge. E-learning can facilitate New Vocationalism where graduates demonstrate their ability and willingness to learn (Bourner et al., 2011). This is an approach to higher education which prepares graduates for a globalised world of complex systems and rapid change. In the workplace e-learning can enable many types of lifelong learning that will allow a rich and full development of human capital. As with many of the discontinuities of digital transformation, the new ways of doing learning and teaching offer opportunities to radically rethink what impact our activities' have on the environment. The cost to the commons of inessential travel and resource usage will look different as we emerge from lockdown.

The rush to widespread adoption of e-learning does not just offer a range of opportunities, but poses real risks. These range from the prosaic to the systemic. For many institutions the need to demonstrate to their students and stakeholders that discontinuity does not mean disruption can lead to an unimaginative duplication of timetabled classes. There is much research to indicate that synchronous / real time online classes and video lectures are prone to reproduce the least effective aspects of education. Chalk and talk, rote learning and discussions where only a few voices get heard (if any) are a real problem for webinars and videoconferencing seminars. More insidious than dull classes are the risks that distance learning allows for a Fordist rationalisation of teaching and

learning. Such a turn, to a digitally cost-reduced 'delivery' of education undermines the contribution learning makes to developing critical thinking and creativity, values that will be needed in the post Covid-19 world. But critical thinking may seem expensive if we re-enter an age of austerity. If there is widespread adoption of software systems for monitoring engagement and assessment the likelihood increases of unleashing the algorithmic injustice that Ruha Benjamin characterises as The New Jim Code (2019). Eye tracking and chatbots are not really valid substitutes for teachers and students socially constructing meaning of value. The importance of the social aspects of learning are all too easily at risk, when learning technologies are deployed, and are at the core of meaningful learning, in the class or more generally.

Despite the many risks, the discontinuity that the Covid-19 pandemic causes to education offers a chance for change. This is a great opportunity for those of us who believe in the human transformation that teaching and learning brings. In rebuilding the way we do things, we have an opportunity to incorporate those positive digital transformations that online learning and artificial intelligence offer to interactive learning environments. Now more than ever, critical research into what works, and how and why, can make an important contribution. This is a moment when those who have an interest in how e-learning can bring positive transformations to education, the economy, and society have an opportunity to share their expertise and make a difference. This year, 2020, is the 30th anniversary of the journal *Interactive Learning Environments*. Now, more than ever this journal continues to offer cutting edge research, case studies drawn from industry as well as higher education, reviews of scholarship, and an informed position on the role of higher education in society and of interactive learning environments in teaching and learning.

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