Networked realms and hoped-for futures: A trans-generational dialogue

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> Where did you go to, if I may ask?' said Thorin to Gandalf as they rode along.
> To look ahead,' said he.
> And what brought you back in the nick of time?'
> Looking behind,' said he.
> – J.R.R. Tolkien, *The Hobbit* (1937)

Put very simply, this Special Issue looks backwards from the present, to trace the origins of ideas whose time may have come at last. During the past decades, people from all walks of life – educators, information scientists, geeks, writers, film makers, etc. – envisioned various futures for the relationships between education and technologies. Step by step, the logic of technological and social development has cherry-picked the most viable options and dumped others deep into the waste bin of history. Yesterday, our present was just one of many possible futures – today, it is our only reality. In this Special Issue of E-Learning and Digital Media, we invited authors to step back from the never-ending quest for new concepts and ideas and to revisit past insights into the relationships between education and technologies – including, but not limited to, the formal process of schooling. Based on analyses of historical ideas, we asked authors to reflect on the relationships between past, present and future.

What is viable today might not have been viable yesterday; the history of human thought is packed with excellent ideas that once failed to make an impact because of wrong placement, timing or simple bad luck. Therefore, we had a particular interest in identification and examination of ignored / abandoned / neglected / forgotten concepts and ideas that might shed new light to our current reality: they might even (re)open new and / or abandoned strands of research. Our mission was perhaps risky; we could not predict how authors would respond to the request. In the event, we have been delighted with the mix of theoretical (re)conceptualisations, case studies and academic appropriation of science fiction that has emerged. We have been somewhat surprised by the variety of ways that contributing authors understood our Call for Papers. However, after the first impressions faded, we started to recognise similarities and patterns.

The first group of articles focuses on the relationships between teaching, learning, technologies and time. 'A sphere of resonance for networked learning in the non-places of our universities' by Sarah Hayes, examines opportunities and restrictions pertaining to compression of time and space brought about by ubiquitous use of information and communication technologies in our daily lives. The resulting social acceleration impacts upon how we experience the present, interpret the past and construct the future; in order to emancipate from overly deterministic approaches brought by technologies, Sarah Hayes argues for a broader attitude towards time in teaching and learning. The next two studies enrich theoretical interest in time with insights from educational practice. 'Not just about gadgets: Habit, innovation and change in the design of learning technologies' by Patrick Carmichael explores issues pertaining to educational technology design in the light of Gilles Deleuze's concept of time and the concept of 'present-becoming' (2004). Drawing from a large research project 'Ensemble: Semantic technologies for the enhancement of case-based learning' (Carmichael and Jordan, 2012), it offers a framework for understanding "why some educational technologies are adopted and abandoned, some are creatively appropriated and used in unexpected ways, and others sink without trace". The last article in this group, 'Beyond robotic wastelands of time: Abandoned pedagogical agents and new pedalled pedagogies' by Maggi Savin-Baden, Gemma Tombs and Roy Bhakta, offers two exciting case studies about the pedagogical use of chatbots. Showing various restrictions of posing the problem of human–computer interaction through somewhat narrow approaches offered by Turing tests, it brings additional light to Neil Frude's predictions (1983, 1984) of beneficial relationships between humans and computers.

The next batch of articles explores historical and fictional writings on the relationships between education and technologies. This group starts with Lydia Rose's article 'Resistance is futile: Cognitive dissonance, temporal refusal, and the e-learning environment as cyborg', as it links the previous group's interest in teaching, learning, technologies and time with well-known concepts from science fiction. Looking at fictional accounts of cyborgs, most notable the science fiction concept of the Borg and the trope 'resistance is futile' (Roddenberry, 1987), Lydia Rose identifies temporal aspects of oppression brought by information and communication technologies and identifies suitable spaces for resistance using the concepts of cognitive dissonance (Festinger, 1957) and temporal refusal (Lemelle, 1996). In 'Utopia: An imaginative, critical and playful dialogue on the meaning and practice of contemporary education', Michael Hayes and Matthew Marino anticipate the 500th anniversary of the publication of Thomas More's *Utopia* (2001) and explore its current messages for teaching and learning in the age of the network. They show that the concept of Utopia, rightly understood, still holds potential for the productive analysis and scholarship. Finally, Gillian 'Gus' Andrews analyses science fiction stories focused on the relationships between technologies and education. Reaching beyond the pedagogical implications, Gus Andrews considers a wide array of issues from individual growth and agency to moral and social implications, and shows the dialectical nature of their relationships. While educational technologies are too often focused on particular classroom developments here and now, the free imagination characteristic of science fiction may help us envision broader implications of their usage.

The third batch of articles revises traditional (and often taken-for-granted) concepts such as learning through doing, user instruction and community participation, and adapts them to the contemporary context. In 'Still to learn from vicarious learning', Terry Mayes explores Bandura's concept of 'vicarious learning' (1962) through observing the behaviour

of others. He analyses the rather poor uptake of vicarious learning in the 'official' context of technology-enhanced learning, and links opportunities for vicarious learning in vernacular practices which characterise social networking, Massive Open Online Courses and other sharing practices. On that basis, he arrives at the conclusion that vicarious learning ''poses fundamentally an attitudinal or even cultural challenge for education, rather than a technical one''. In 'The pendulum swing of user instruction and interaction: The resurrection of ''how to use'' technology to learn in the 21st century', Judith Ramsay and Melody M. Terras explore the replacement of traditional user manuals with user-centred design which implies that instead of learning 'how to use technology', users need to learn 'how to learn' and 'how to manage and structure' their own learning across various digital contexts. Using Marr's classic levels of analysis framework (1982), they reconceptualise user instruction for the 21st century. Tony Reeves' and Phil Gomm's article 'Community and contribution: Factors motivating students to participate in extra-curricular online activity and implications for learning' explores the eternal human desire to participate in communities, transfers that desire to the Internet, and links it to production of digital artefacts. Based on case activity systems analysis of data collected within a particular higher education course, it analyses the pedagogical value of non-assessed, fun activities and their benefits to a course culture and to student experience.

Finally, in the Interchanges, Petar Jandrić engages in conversations with two people who marked the history of education through information and communication technologies. In the first conversation, 'The intimate machine – 30 years on', the clinical psychologist Neil Frude reflects on the pioneering theorising which he contributed in the early 1980s on the relationships between humans and technology (Frude, 1983, 1984). The conversation explores the ''three vital elements needed for a successful artificial companion – animism, artistry and artificial intelligence''. On that basis, Neil Frude revises some of his early views as overly optimistic but remains confident in his strong techno-optimism. In the second conversation, 'The dubious promise of educational technologies: Historical patterns and future challenges', the doyen of the educational use of technologies Larry Cuban explores methodological issues pertaining to historical thinking about educational technologies, explains some historical patterns using the concept of 'magical thinking', examines the ideological role of information and communication technologies in contemporary school reform, and analyses the process of 'educationalising' various social and economic problems. Reflecting on the eternal question 'Why it is so hard to balance education with technologies?', Larry Cuban modifies his early predictions, and inquires about the limits to human predictions of the future.

Our Special Issue has therefore brought out four key themes that impact on education's relationship with technology: the need for clarity about our concepts of time, lessons from (science) fiction, the need to revise traditional concepts, and the limits to human prediction. The implications our authors derive from these themes in terms of actual and possible practice suggest that we should indeed pay attention to our former hoped-for futures. While we should sometimes be careful what we wish for, we should also ensure that we can continue to access, exploit and redevelop worthwhile ideas. We hope that our readers will be stimulated by these papers to revisit their own sources of stimulation through a judicious backward glance at ideas that excited them. We need to continue the trans-generational dialogue not only with previous generations but also with future ones.

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