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Book review

Critical perspectives on technology and education

Bulfin, S., Johnson, N. & Bigum, C. (eds., 2015). Palgrave.

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A clue to the thinking behind this collection, which is part of Palgrave Macmillan's series Digital Education and Learning, lies in the title: Why does it refer to 'technology *and* education' rather than 'educational technology' (or 'edtech')? In various ways, all the contributors to the 14 interesting chapters looking at education at different levels across different countries ask us to reflect on this supposedly innocent, positive sounding, yet hegemonic phrase: 'educational technology'. How is it that this is the phrase we use instead of, say, 'distractive technology', or 'irrelevant technology' or 'useless technology'? How did these two words 'earn' the right to be placed together? Have they, in fact? Does the phrase's unspoken reference solely to *computerized* technology mean that pens and paper are no longer technologies? Who benefits from that? And who loses?

You might already be grinding your teeth and thinking, "Oh no, another Luddite attack on edtech!" However, rest assured that this is not the point of this book. Rather, I think it does the valuable service of offering a range of theoretical approaches, different ways of thinking and examples of (especially qualitative) research that help in considering a key question: *Why, given that computers have improved so many other areas of life, has edtech had so little effect on improving education?* Because the reality, as mentioned in various places in this book, is that edtech, despite the often huge resources allowed to it, has not (as yet) lived up to the promises of its adherents. Accordingly, the contributors to this book, while not evidently against edtech in principle, seem unwilling to accept the phrase 'educational [computerized] technology' at face value until they have taken a much more theoretically informed look at how education and technology interact in particular contexts.

My guess is that, whatever your current stance on edtech happens to be, by the time you have dipped into some or all of the book's chapters (or thrown the book at the wall), while you won't have seen any clear answers, pedagogical advice or solutions, you will have some new theoretical insights about edtech. However, that is surely a good thing if it encourages more heterodox, creative, critical and deep analyses of the use of computerized technology in education – especially since it is being so strongly promoted in the Gulf region at all levels of education. You might be a keen but frustrated adopter of edtech, or a guilty resister. Either way, I think that something in this book will strike a chord with you and help you understand what underlies your unease.

If the contributors are against anything, it is the various manifestations of positivist thinking about edtech that they see as preventing a deeper analysis. That is, because positivist research tends to accept edtech as inherently beneficial, it merely investigates *how* to implement it most effectively (e.g. comparing using app A with app B). Such thinking assumes a relatively unproblematic cause-effect chain: 'If teachers do X with edtech then students will learn Y'; similarly, at an institutional level it can be seen in approaches like 'diffusion of innovation' theory. While all the chapters make important theoretical points, Chapters 1 to 3 most explicitly argue that a positivist perspective is just that – a perspective. As

such (like any of the other perspectives offered in the book), it entails a risk of not seeing certain things because one's theoretical perspective is an important determinant of what you (can) see.

Thus, Chapter 1 (Bigum, Bulfin & Johnson) considers different perspectives on edtech as 'maps' that inevitably simplify or omit in particular ways, while Chapter 2 (Bigum & Rowan) uses psychology's famous 'gorilla in the basketball game' experiment to remind us of how easy it is to miss the obvious when our theoretical focus is concentrated elsewhere. Chapter 5 (Edwards et al.) provides a good example of how teachers see children's play (comparing computerized and non-computerized) in ways that are constrained by their pedagogical perspectives. Taken together, these chapters make the point that, since a perspective is inevitable, we should welcome as wide a range in edtech as possible, from positivist through interpretivist to critical perspectives, to avoid missing something important – especially the unintended consequences of edtech innovations. Chapter 3 (Johnson) reports on a survey of researchers in the field that reveals widely differing and sometimes incoherent theoretical stances – or even a lack of one. The issue of theoretical incoherence is also addressed in Chapter 8 (Henderson), which analyses the problematic assumptions underlying the varied uses of the concept of 'community of practice' in relation to edtech.

Tied in with a suspicion of positivism is a resistance to simplistic technological determinism and essentialism, or to the instrumentalist 'boosterism' of those promoting (sometimes for their own interests) technological fixes to complex educational challenges. The book takes a critical perspective on the view of edtech as some easily definable material 'thing' that teachers and students use; rather, we should theorize it as a complex, indeterminate social practice – i.e. teachers and students *doing* edtech in particular local contexts. Chapter 9 (Lynch) offers a useful theoretical introduction to this approach along with examples. Thinking in this way seems to be quite productive in raising new questions, particularly about the messy realities of teaching and learning with computerized technology. The teachers' views reported in Chapter 4 (Orlando), which argues that in-depth qualitative interview data about their classroom realities should be taken as a vital resource for researchers, will likely ring true with many in the profession.

The need to acknowledge this complexity is also seen in chapters 6 (Nelson et al.), 7 (Pallitt & Walton) and 11 (Koutsogiannis), which look respectively at the different, sometimes unexpected ways children make meaning through technology in a multinational social media network; the relationships between game playing and constructions of gender in South Africa; and different kinds of in-school and out-of-school literacies mediated by digital writing in Greece. One important tension in edtech suggested by these accounts is between the ways that technology can empower young people versus the ways that technology is domesticated or 'schooled' by educational institutions. Chapter 12 (Shutkin), on a somewhat unsuccessful one-to-one laptop initiative in the US, also touches on this tension: in this case, a project to empower students by developing their technological literacy was thoroughly undermined by the legal necessity to prevent on-school access to most of the internet and by a test-driven focus on commercial drill/practice apps. Chapter 13 (Buchanan et al.) focuses even more broadly, on a nationwide government initiative to improve technological literacy in Australia. As in Chapter 12, the conclusion is that there is very limited improvement. More optimistically, Chapter 10 (Auld & Johnson) shows that teachers (in Australia in this case) can find ways to draw productively on students' out-of-school technological expertise and interest in ways that relate to the curriculum.

Finally, Chapter 14 (Selwyn) argues in favour of the critical perspectives on edtech that permeate this compilation. Interestingly, the writer notes that, when presented at edtech conferences, his calls for such approaches are sometimes strongly resisted as being negative or irrelevant. This is certainly unfortunate because, if this book is able to show one thing, it is that all of us involved in education

should have significant doubts about the interaction of computerized technology and education. To reiterate, that is *not* to say that computerized technology has no place. Rather, it is simply to acknowledge it is not something that can be applied in any simple way with guaranteed success; it is to accept that we need a far wider range of theoretical concepts and methodological tools to properly investigate what is going on.

As Chapter 14 concludes:

if we are genuinely concerned with improving the state of technology and education, then *all* academics would be well advised to continue asking critical questions in order to achieve critical outcomes” (p.254).

I think this sums up well this book’s approach and its value to all involved in education: students, teachers, computer technologists, administrators, policy makers, and others.