Digital inclusion: can we transform education through technology?⁴⁰

NEIL SELWYN
MONASH UNIVERSITY, AUSTRALIA

Introduction

For this presentation we were asked to address a simple question: “*Can We Transform Education Through Technology?*”. My immediate –and short response– is ‘No!’. This is not to say that we should *not* be using technology in education at all. Instead, this is to argue that we need to be properly aware of what technology is capable of achieving (and what it is *not* capable of achieving). So for the remainder of this paper I would like to briefly outline four important points of clarification that need to inform any subsequent discussions of what technology can and cannot ‘do’ for education.

There are no technical fixes

First, it is important to remind ourselves that educational inequalities tend to be underpinned by broader social inequalities in income, housing, health, as well as social, cultural and economic capital. Moreover, it is important to remind ourselves that these inequalities are complex *social* problems. As such, it is highly unlikely that there will be any neat technical solutions to the problems that beset contemporary education systems.

Indeed, if digital technology was capable of addressing these problems then it would have done so by now. Instead, while we now live in societies that are more ‘digital’ than ever before, we also live in societies that are more unequal, divided and unjust than ever before. The ‘digital age’ is the age of the 1% - where the combined wealth of the richest one per cent of the world’s population exceeds that of everyone else. The ‘digital age’ is the age where youth unemployment is rocketing and ‘precarious’ forms of low-paid, insecure work is becoming the norm for many people. The many optimistic (and sometimes utopian) claims made during the 1990s for the democratic, inclusive nature of the internet have certainly not come to fruition.

40 Este artículo se desprende de la intervención realizada durante la *X Conferencia Internacional Encuentros Barcelona 2016*, llevada a cabo en la Universidad de Barcelona, los días 26, 27 y 28 de octubre del año 2016.

Of course, it would make no sense to claim that these recent *increased* inequalities are ‘caused’ by the growing prominence of digital technology. Clearly these inequalities are resulting from a variety of factors above and beyond the emergence of Facebook and smartphones. Yet, this means that it equally makes no sense to attribute any future *decreases* in inequalities as resulting from digital technology. Inequalities in education are entwined with issues of society, economy, culture, politics, history –on a local, regional, national, international basis.

Given this complexity, we should not be loading unrealistic expectations on the capacity of technology to somehow ‘transform’ education. Perhaps most importantly, we should not be loading unrealistic pressures on how schools and teachers make use of technology. We need to recognize that education inequalities are not problems that will be solved by schools making ‘better’ use of technology. Neither will education inequalities somehow be solved by teachers making ‘better’ uses of technology.

Instead, inequalities in education are problems that will always be with us in one form or another. History tells us that these are problems that must be primarily addressed through social welfare policies and hard work ‘on the ground’. There are tried-and-tested ways of tackling these issues ... but they do not primarily involve digital technology.

Technology solves nothing

Second, it is important to resist imagining digital technology to be a ready ‘fix’ or a ‘solution’. Evgeny Morozov (2013) reminds us of the dangers of ‘solutionism’ –the idea that technology and ‘fast capitalism’ can solve complex problems. This mindset pushes us to see everything as a ‘problem’ than can be ‘solved’. This mindset engenders a hopeful, forward-looking attitude that celebrates *possible* improvements. However, at the same time this mindset shifts our attention (and, most significantly, the attention of governments and policymakers) away from the more important tangible problems of the present.

Indeed, talk about technology’s ability to solve speculative education problems in the ‘near future’ is a dangerous precedent. We are frequently asked by technologists to believe that a better form of education is ‘just around the corner’ in 5, 10, 20 years’ time. Yet even if education provision is completely transformed in ten-year’s time, this is no help to the school students of today. Education is a key factor in determining the life-chances of all children and young people, so it is vital that attention is paid to the predicament of current cohorts of school students

Instead, talk about the potential of technology to solve education problems encourages us to forget that we are dealing with the lives of current generations of children and young people. The technology mindset is full of talk of experimentation

‘failing fast’, ‘failing often’, waiting for the ‘one-in-a-million’ idea that works. A sense of being willing to gamble and take risks is a central premise of the hype of innovation, disruption and entrepreneurship.

This is an acceptable stance for a business that is gambling with finances and profit, but with the education of a student who is in school today we only have one chance. Bill Gates –whose Gates Foundation is investing billions of dollars into ‘fixing’ education– was honest enough to admit. *“It would be great if our education stuff worked, but that we won’t know for probably a decade”* (cited in Strauss 2013).

Gates said this in September 2013, so that leaves us with seven years left to wait. For any child in school today, this is clearly not good enough. I would argue that the education of children and young people is not something that we can afford to be experimenting or gambling with.

Technology ‘transforms’ nothing

Third, it is important to retain a sense of history when speculating about the capacity of technology to ‘transform’ education. For example, we know from the nineteenth and twentieth centuries that technological change is iterative and gradual. History tells us that technologies do not prompt *complete* revolutions - not even the ‘industrial revolution’ was a complete change. Instead technologies prompt a gradual ‘remediation’, retaining elements of old ways of doing things alongside the introduction of new practices and processes.

This process of remediation is evident if one reflects on any of the contemporary industries that are supposedly in the throes of being completely digitally transformed or digitally disrupted. For example, newspapers, television and music industries are all experiencing some big shifts due to digital technology, yet these industries are also continuing to function along the same essential lines. Even in the world of online streaming and ‘freemium’ services, content continues to be created, distributed and sold by elite interests. Most importantly, profits are being made by the likes of News International and Universal-Time-Warner.

Crucially, we know from the history of technology in education that this sense of remediation (rather than revolution) is especially pronounced in schools. The historian Larry Cuban (1986) provided a detailed reminder in his book ‘Teachers & Machines’ how new technologies quickly become shaped by what he called the ‘grammar of schooling’. Here, Cuban was referring to how engrained ways of doing things persist in schools –for example, notions of timetables, curriculum, assessment, discipline, presentism. Cuban’s history of educational film, radio, television and micro computing illustrated how these grammars of schooling shape how any ‘new’ technology is used. As Cuban (1993) put it in a later paper, ‘Computer Meets Classroom - Classroom Wins’

This situation appears to be continuing through the twenty-first century. Recently we have seen interactive whiteboards being used often in ways akin to the chalk boards of fifty years earlier; iPads being used essentially as text books used to be; Apps such as Kahoot! being used as substitutes for the old-fashioned ‘pop quizzes’. Of course, the use of digital technology in schools is not completely a case of ‘Old Wine In New Bottles’, but neither should we expect immediate ‘transformations’ to occur from the use of digital technology in classrooms. Schools are changing, but substantial change will take place over the next fifty years rather than the next five minutes.

There is no sustained research evidence for technology reducing inequalities, improving social inclusion and/or ‘making things better’

Fourthly, it is important to remind ourselves that there is little empirical justification for expecting an imminent improvement of education through digital technology. Educational technology is a field of research that has produced many case studies of success and best practice, yet little evidence of sustained systematic change. For example, even though it is one of the big assumptions behind the use of technology in education, after 40 years of research in this area, we still do not even know how digital technology influences learning. Indeed, there is no consensus how ‘learning’ can be measured, let alone researched, and most researchers concur that there are too many confounding variables to make ‘does technology effect learning’ a sensible question. Even those studies that do attempt to look for impact on proxy indicators such as exam results and PISA tests are completely inconclusive. A few studies will point to slight improvements, a few studies will point to slight decreases, and most studies will confirm what has become known as the ‘No Significant Difference’ phenomenon.

This lack of evidence is mirrored in other areas of educational ‘improvement’ besides learning. For example, research that looks at how technology is impacting on education participation and education engagement tends to tell a similar story. Research here tells us that technology seems to follow the well-worn tendency of the ‘Matthew Effect’ – that is, the tendency toward accumulative advantage where ‘Those that have more, get more; those that have less, get less’ (Rigney, 2010).

This tendency for technology to amplify –not alter– patterns of educational engagement and participation is certainly evident in higher education. For example, studies examining the participation and completion rates of massive open online courses (MOOCs) tend to find these courses being most successfully engaged in by individuals with college educations and from higher income backgrounds (students who could be labelled ‘the usual suspects’). Thus while MOOCs might be effective in increasing levels of participation in education, they do not seem to be widening participation to those social groups who previously were not involved.

The recent disappointing showing of MOOCs suggests that many of the claims about the positive effects of technology in education are based on hunches, hopes and what people want to happen. It also highlights the fact that the benefits of digital technology are a tricky thing for educational professionals (teachers, policymakers, academics) to be objective about. Most people working in the area of education and/or technology are notably privileged in terms of their own education success and their extensive use of technologies. Yet the education and/or technology experiences of a university professor or a successful school teacher are clearly not generalizable to all.

Final remarks

None of this is to say that ‘We do not need technology in schools’. I would be one of the first people to argue that, of course, we need technology in schools! However, I do believe that we need to be thinking far more carefully about how technology is used in schools and why technology is being used in schools. Above all, we need to be thinking much more carefully about what we want education to be. The ways in which digital technology is used in education is not inevitable but is an ongoing process of debate and choice. It is therefore important to see digital technology use in education as a matter of values, preferences and politics.

So all of the potentials and promises of technology use in the classroom should not distract us from the central premise of this debate –i.e. that digital technology on its own will *not* make things better. Instead, it is fair to say that digital technology simply makes some things different. It is therefore important for everyone in education to recognize these differences and respond accordingly. We cannot afford to simply look toward digital technology as a magic solution or silver bullet. Education –as with developments in digital technology–is much more complicated than a straightforward case of ‘cause’ and ‘effect’

References

- Cuban, L. (1986). *Teachers and machines: The classroom use of technology since 1920*. New York: Teachers College Press.
- Cuban, L. (1993). Computers meet classroom: Classroom wins. *Teachers College Record*, 95(2), 185-210.
- Morozov, E. (2013). *To Save Everything, Click Here: The Folly of Technological Solutionism*. New York: Penguin.
- Rigney, D. (2010). *The Matthew Effect: How Advantage Begets Further Advantage*. New York: Columbia University Press.
- Strauss, V. (2013). 'Bill Gates: It would be great if our education stuff worked but...' *Washington Post*. Retrieved from: www.washingtonpost.com/news/answer-sheet/wp/2013/09/27/bill-gates-it-would-be-great-if-our-education-stuff-worked-but/?utm_term=.776bd2db5d3b