Synopsis : *Neil Selwyn et al, Nov 2019a,* "What's next for Ed Tech? Critical hopes and concerns for the 2020s."

Selwyn *et al* speculate on the challenges that face the future development of educational technology.

They begin with some useful guidance to frame speculations about future developments:

- Speculations should be plausible
- Speculations should be probable, possible, or preferable
- Speculations should be pluralistic – i.e. consider alternative future scenarios

Education throughout the world over faces considerable challenges but many problems stubbornly persist: deficiencies in resourcing, significant inequalities of opportunity, poor-quality teaching, variable or inappropriate curriculum design and difficulties in school organisation and management.

The paper outlines six substantial challenges. Responding them will be difficult and will rely on an interdisciplinary approach. Scholars of educational technology should pay close attention to hybrid areas of debate and inquiry working and the international community where the impact of digital technologies in education will vary significantly to meet local conditions, cultures and structures. A cross-cultural dialogue is therefore needed to create a counterweight to the globalising uniformity of education promoted by commercial interests.

Challenge 1: New forms of digital inclusion

"…the basic message remains the same. Those individuals who are well-resourced and have strong educational backgrounds are likely to benefit the most from digital education." (p2)

To date, approaches to this issue have been problematic because:

1. solutions have tended to locate cultural or educational deficits with individuals, holding them responsible for their position in society, while failing to address inequalities generated by wider social structures; and,
2. similarly, technology has been seen as an inherently 'good thing' that offers educational opportunities but ignores socio-cultural complexities and prevailing political ideologies.

EdTech cannot continue to focus solely on access and skills. This is an easy policy signal. A change of approach is required based on a better (theoretical) understanding of the links between technology, inequality and education and should aim to design technologies that facilitate more equitable futures for all.

Challenge 2: Platform economics in an age of artificial intelligence

"*…the … adoption of artificial intelligence into mainstream education … will initiate datafication on an unprecedented scale … Leading the charge to extract data … will be digital platform providers … leading to classrooms on platforms rather than platforms in classrooms. Artificial intelligence will increasingly become the engine of education, and student data the fuel.*" (p2)

The problem here is straightforward to state but harder to resolve: Who will control these developments? How will they be regulated and managed? (See also Challenge 4.)

Challenge 3: 'Divisions of learning' across humans and machines

Datafication implies a deep change in the modelling of human learning behaviour. To what extent is human learning (as citizens, students, workers) viewed in terms of the ways that machines learn?

Educational technology research needs to re-establish the value of formal education in an era of ubiquitous machine learning based on the use of data about human behaviour. We need to challenge accepted views of what constitutes meaningful and worthwhile knowledge the future. Alongside that we need to re-consider where significant and influential learning really occurs.

Challenge 4: IT industry actors as a leading educational force

The 2020s will see the expansion influence of commercial providers of educational technology. Privatisation of digital infrastructures will be a constant pressure. Corporate influence will increase alongside increasing influence from new global players such as India and China. Regulation and oversight of these influences will be critical. The extent to which economic value is extracted must be evaluated to ensure that the ideals of public education prevail over private, commercial interests.

"Critical researchers therefore need to be alert to how corporate actors that are shaping educational technology agendas around the world." (p3)

Critical educational technology research has a key role to play in supporting educational communities to confront the challenge of high-tech behaviourism promoted through the development of data-driven learning systems.

Challenge 5: Reimaging forms of EdTech suitable for an age of climate change.

It will be necessary "to establish sustainability and ecological responsibility as central elements of educational provision and practice."(p4). The sustainable use and application of digital technologies – ethical and environmental – will become crucial.

The emphasis here will be on planning future education technology use with a primary aim of ‘coping with finiteness’ and challenging the previous assumptions of limitlessness and abundance. We need to develop leaner, ecologically focussed approaches to the deployment of digital technologies in education.

Challenge 6: Finding alternatives: shared interests, convivial technology, respectful design.

“In an era when many commentators presume ‘there are no alternatives’, one of the key roles of critical scholarship is to find alternatives … engaging in critique that highlights [movement] away from (over)centralisation and excessive commercialisation.”(p4)

Who are we designing for? Who are the most vulnerable users? Who might be harmed by our designs? Who will benefit? How might not-for-profit organisations or the open educational movement shift priorities? Work is needed that foregrounds concerns of care rather than competition, cooperation rather than rivalry, imagination rather than corporatized creativity, to adopt and adapt technologies for social enhancement and fulfilment of personal and social needs. (See also Vetter, 2017. The Matrix of Convivial Technology: Assessing technologies for degrowth.)