

Reflections on 50 Years of Educational Technology Research: A Perspective from the UK

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The BJET Editors invited a reflection on their journal's landmark birthday. The suggestion was to do this by building upon the two review articles of Anniversary Issue 1 (Bodily et al 2019; Bond et al, 2019), while taking some account of the other 39 research articles in Issues 1 and 2.

Those two review articles did a most effective job of tracing the changing character of technology research across this 50-year period. In addition, Bond and her colleagues highlighted the long and distinguished record of BJET in this narrative – rightly celebrating the journal's rigour and impact, as well as documenting the shifting pattern of research topics. However, there are certain themes in the field of educational technology that are not so easily articulated with this analytic review method. I wish to highlight three such themes – dipping into the 39 articles to illustrate their urgency. Those three are: disciplinary alignment of the field (and this journal within it), methods and methodology of research, and the research/practitioner relationship.

I have chosen these three because, personally, I believe they deserve more attention. Although I also believe that both the review authors and the editors have expressed the same opinion. Moreover, all three themes arise as part of two outside challenges that the field needs to address. First, a widespread uneasiness about the gap between the enthusiasm of researchers/designers and the actual impact of new technology on educational practice. Second those critical realist commentaries that question the methods and priorities of the field's dominant research strategies (e.g., Bayne, 2015; Facer & Selwyn, 2013; Friesen, 2013; Haugsbakk & Nordkvelle, 2007; Li, 2013; Oliver, 2011; Ross, 2017; Selwyn, 2014; Selwyn & Facer, 2013).

But first, a minor matter of identity – one relating to BJET's status as a prominent host to this research community. Bond et al (and the Issue 1 Editorial) make much of the international diversity of the journal's authors. Moreover, this observation is reinforced by the Issue 1 and 2 articles – whose 39 corresponding authors are drawn from 21 different countries. It was noted in the Bond et al review that the proportion of UK-based BJET authors has declined across each successive decade of the journal's lifetime. So, perhaps it is unsurprising that on considering these first 39 articles of 2019, we find that there are *zero* UK authors! In what sense, therefore, is this a *British* journal addressing educational technology? It seems to be so only in the sense of content being orchestrated (albeit very successfully) by an overarching British editorial team. No harm in that. Therefore, is this no more than a trivial branding issue? One problem would be the confidence with which certain conclusions can be drawn from review articles based on the journal's contents. Bond et al do a skilful job of extracting key research themes across 50 years, and that is welcome. But any effort to relate these themes to the ecology of UK educational practice and policy becomes less convincing as the research underpinning the argument becomes increasingly less British-facing. Although browsing the 39 2019 articles leaves a strong impression of authors nevertheless comfortable with the implication that their local findings will freely apply to other political, cultural and economic circumstances.

My first topic inspired by these reviews, but deserving closer attention, concerns the uncertain disciplinary identity typical of educational technology research. This matter surfaces in both the Issue 1 Editorial and the Bond et al article; although I believe those commentaries express it more in terms of papers lacking strong theoretical frameworks. Yet it is the deployment of theory by authors that helps us locate a field's disciplinary alignment. The set of 39 articles can be recruited to consider

these matters. From my own browsing of them, it can not be claimed that they are simply theory-lite. But it can be claimed that they have a limited alignment with the particular theoretical traditions of Educational Studies. At least this was my conclusion after text searching for references to key education theorists - ones that I would expect to find peppered through the pages of an educational journal (Table 1 is my complete, although shamelessly top-of-the-head, search list). Again, this observation should not imply the papers are theory *free* – although the research reported may be trapped in idiosyncratic theory bubbles.

0	Ausubel, Bakhtin, Bereiter, Bernstein, Bourdieu, Bransford, Bronfenbrenner, Bruner, Carey, Engeström, Erikson, Flavell, Foucault, Freire, Gagne, Gardner, Illich, Kress, Knowles, Maslow, Montessori, Newell, Olson, Paivio, Pea, Roschelle, Skinner, Schank, Schon, Sternberg, Vygotsky
1	JS Brown, Dewey, Dweck, Jonassen, Keller, Kolb, Laurillard, Lave, Lewin, Piaget
3	Bandura, Bloom, Papert, Siemens, Sweller
5	Mayer

Table 1: Number of the 39 articles citing indicated educational theorists

It might be objected that because BJET Issues 1 and 2 include two thematically-defined sections, this must constrain the theoretical reach of these articles. But those two section themes appear to address clear ‘educational’ concerns. After all, ‘Learning Analytics’ is an enterprise that involves capturing digital data “to improve learning and teaching” (Sclater et al, 2016). While mobile learning is defined by Sharples et al (2007) as “coming to know through exploration and conversation across multiple contexts”. Therefore, all these papers seem to be tackling mainstream education topics that draw from education theory. On the other hand, it might simply be objected that modern scholarship really does not demand such deep anchoring in theory – yet as Bodily et al (2019) note with approval at the start of their review: “If you do not know history then you do not know anything”.

Does it really matter that a corpus of articles on educational technology sits outside the theoretical framework of Educational Studies? Yes, I do think this is worrying. First, it can matter because it feeds the commentary of critical theorists (echoed in Issue 1 Editorial and Bond et al) that the field foregrounds technology over pedagogy. Second, it is within university Schools of Education that teachers are most likely to encounter research on technology – in their own pre-service, in-service and postgraduate education. That is also where they may discover theoretical niche for their reading of such research. Accordingly, if we desire national weathervanes for dominant educational research themes, then they might be best diagnosed from *institutional* (rather than journal) publication patterns. Xiaoqing Gu and I have a paper in press (BJET) that attempts to do this. One sobering finding is that technology as a topic accounts for only 7% of one year’s research output from the five highest performing UK Schools of Education. This is so, despite the technology’s pervasive presence in young people’s lives, and policy imperatives to adopt it in schools. From these observations it might seem that educational theorists have limited engagement with educational technology, while educational technologists have limited engagement with educational theory.

Again, this urges care in summarising national states of play. We find BJET publishing few papers on educational technology by UK authors, coupled with a low profile for such research in leading centres for teacher education. This pattern suggests a national research ecology that needs to be cautiously defined, while similar care is taken when contrasting it with others. History may help us again here. In disciplinary terms, Educational Studies in the UK has, historically, much stronger links into the foundational disciplines of Sociology, Philosophy, and Economics. Whereas in other

developed 'Anglo' contexts, links with Psychology and Computer Science have been much more formative and perhaps friendlier towards the consideration of educational technology. It is interesting that Bond et al's review highlights the dominant node 'learning' in their thematic maps of journal publication: yet the UK Educational Studies community have warmly embraced Biesta's (2015) critique of the 'learnification' of educational practice.

My second neglected topic concerns research methodology. Bond et al acknowledge that this is something for future analysis. Meanwhile, browsing the 39 research papers - and to borrow the language of photography - it seems there is a 'depth of field' problem. Most empirical reports (and most reports are empirical) have a 'shallow focus'. An intervention is documented close-up. There is limited attention to the context or the politics of implementation. Li (2013) refers to this narrow 'environment' focus as a pre-occupation with the 'micro-' level of educational practice – neglecting the 'meso-' level of institutional structures and the 'macro-' level of "wider cultural, societal, political and economic contexts" (p. 280). There is an unsettling sense of researchers parachuting into sites of education. Yet Niederhauser et al (2018) have illustrated how the 'scalability' of educational technology interventions depends critically on the integration of strategy, practice and policy across a whole range of educational gatekeepers and practitioners. Future research may need to be more attentive to this socio-cultural dynamic: adopting more of a 'deep focus'.

It was rare for a study in this set of 39 to adopt a longitudinal methodology. It was rare for research to be concerned with the diverse ways in which technology features in young peoples out-of-school experience, then seeking continuities and discontinuities with what happens in classrooms. Many studies adopted an 'enhancement of learning outcomes' perspective. Yet, as Bayne (2015) notes, the language of enhancement is inherently conservative: "...assuming as it does a pre-existing set of practices which are not in any need of radical shift or displacement but are rather simply open to being made even 'better' by the judicious application of a little (in this case technological) assistance" (p. 10).

Finally, a third topic that deserves future attention is the management of exchange between the research community and the practitioner community. Again, this is a concern expressed in both the journal Editorial and in the review of Bond et al. In the 2019 set of 39 papers. Teachers do not seem ever to be co-authors and there is no strong indication of those teacher-researcher partnerships that are celebrated elsewhere in educational research (Day, 2002; Hollingsworth, 2005). Academic journals such as BJET may have to be satisfied with influencing practice through trickle-down means, or other more roundabout routes than through direct contact with practitioners. Many studies have documented a disconnect between teachers and the research literature. Although it is heartening that BJET is one of the rare journals that incorporates "practitioner notes" - to help locate papers in the arenas of practice. However, unless a paper is 'open view', these notes seem to remain hidden behind the publisher's firewalls - thereby rendering them invisible to most practitioners. Hopefully, the BJET community may also make its contribution through continuing to publish more reports of cross-community initiatives such EDUCATE by Cukurova et al and available in Issue 2 of 2019.

In reviewing some academic state of play, an outside observer- such as I - enjoys the luxury (perhaps also the *responsibility*) to dwell more on gaps and on areas where things can be strengthened. Yet this apparent privilege may leave the commentator feeling rather uncharitable. Having edited an educational technology journal for a long period, I am keenly aware of the demands that such duties bring. Whatever may be argued about 'better futures' for the field, it remains a pleasure at this milestone moment to acknowledge the considerable contribution that this journal, its editors, reviewers, authors and publishers have made to educational research. I look forward to the next 50

years and am confident the current team will continue to open that path with imagination and enthusiasm.

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