

Commentary

What is *critical* in EdTech research?

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in conversation with

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Introduction

There are a number of editors on the editorial board for *Critical Studies in Teaching and Learning* (CriSTaL), whose interest lies in educational technologies, emerging technologies, ICTs in education, digital education, and digital pedagogies; these are just some of the many terms that are used in our field. These are usually the editors I, Daniela, as managing editor, draw on, when we get submissions from authors on issues around the use of technology in learning and teaching. We receive many submissions, especially since the COVID-19 pandemic, but the rejection rate is also increasing due to the majority of the papers failing to meet CriSTaL's aim and scope. I invited some of my editorial board colleagues into a conversation to chat about what we would like to see in a paper tackling technologies in learning and teaching and which papers we feel do not suit CriSTaL's aims and scope. The colleagues who joined me in this



conversation were Dr Najma Agherdien, who is in Curriculum and Teaching at the University of Witwatersrand and Dr Nicola Pallitt, an educational technology specialist and senior lecturer at Rhodes University. We shared our reflections with other members of the board, such as Paul Prinsloo, Research Professor in Open and Distance Learning (ODL) in the College of Economic and Management Sciences at the University of South Africa, and Tataleni Asino, Associate Professor in the Learning, Design and Technology Program at Oklahoma State University, and invited our critical friend Laura Czerniewicz, emeritus professor at the Centre for Innovation in Learning and Teaching at the University of Cape Town, to get an outside perspective as well.

There is a field out there...

CriSTaL receives many submissions from academics from a variety of disciplinary backgrounds, who might be established researchers in their disciplines, but are newly venturing into the scholarship of teaching and learning and in particular the field of technology in teaching and learning. Such scholars may not yet have been exposed to the existing literature in the field, and might not be aware of the ongoing conversations in the Educational Technology (EdTech) field, both globally and in South Africa.

The EdTech field is very broad, emerging, and often interdisciplinary, but it has well established frameworks and concepts that people can use. Some of these frameworks and concepts stem from more technology-oriented contexts, applying models and frameworks from fields such as Information Technology or Information Systems. It is understandable that people sometimes might not know where to start, or do not have exemplars of what good studies in this field look like. For this reason, in this paper, we provide examples from CriSTaL of effective pieces of writing which contribute to the field of the scholarship of teaching and learning with educational technology and which pick up on existing conversations. A scan of recent CriSTaL Volumes (2020 – 2022) shows six (6) published articles (Feldman (2020), Gachago, et al. (2021), Magunje & Chigona (2021), Mwanda (2022), Shange (2022), Parker, et al. (2022)) loosely positioned in the EdTech field, which could be a starting point for authors thinking of sharing their work in CriSTaL. Through sharing such exemplars, we aim to make visible the implicit ideas of criticality we hold and invite alternative perspectives on what criticality means. Like Agherdien (2023) in her paper in this special edition, we recognise that being critical also means being self-critical and that criticality with care needs to be foregrounded. That is, we expose our own vulnerability in doing critical work and invite you to be vulnerable with us.

Join the broader conversation

What we at CriSTaL are looking for is authors who enter existing conversations. This is the case for most academic writing, both in books and in journals. It often feels that authors are starting afresh, when they describe the work they're doing as something completely new. It might be that the work feels new to them from their own experience and possibly it feels that way, because in a lot of our universities, EdTech research is still an emerging field. But it is that embeddedness in existing conversation that is really valued and that we oftentimes miss. The examples shared

below introduce such conversations by first sharing existing literature in the field, and pointing out possible gaps in this literature. But it is not just any literature that is equally relevant. Which literature is chosen to locate the research engaged with is really important. Generally, it is up-to-date literature which is what is sought after; of course, older references may be useful, but their relevance must be clear. This is evident in the reference section of the manuscript, where the literature cited is often outdated, or relies too heavily on the Global North, rather than being part of a more critical EdTech conversation focusing in our context. It may be related to the silo-ing of research in higher education. For example, colleagues researching higher education might not read an EdTech journal (critical or not), so they might not be familiar with what a lot of EdTech research looks like; what makes it tick or not. While more EdTech-oriented researchers do not necessarily engage with critical research in educational research more generally, and therefore do not use critical theory in their research to add a critical perspective to the EdTech field.

Shange's (2022) paper is an interesting example of discussing the literature around care in higher education, to care in ODEL in particular, while Gachago, et al. (2021) give an overview of academic staff development interventions, with a particular focus on what they term 'emergent' (at the time of the writing) models, which engage flexible, open and equitable interventions, that promote relationships and collaboration rather than technology and openness in attitude, learner collaboration, self-directed learning, and authentic learning.

Building on existing topics and offering novel ideas

To be part of this on-going conversation, what we would like to see more of, is more nuanced conversations around the global north/global south, qualitative/quantitative and post-qualitative, disciplinary-specific vs multi/trans-disciplinary binaries, across a variety of Scholarship of Teaching and Learning (SoTL) EdTech practices, thinking differently about critique and criticality in EdTech, and shifting away from overwhelmingly positive findings. What we are still not seeing is the vulnerability to report on unsuccessful implementations, liminal spaces, and skewed perspectives (including ours as (guest) editors/reviewers/practitioners). We invite you to think with us, write with us, theorise with us, so that collectively, we take care of ourselves and the field. We encourage our authors to 'be creative, take risks, think "otherwise"'.

Shange (2022) again, for example, critiques the move to online learning, showing how there was a distinct lack of care and how important it is to really get to know students and what they want, are nervous of, desire, and so forth. It is through giving and developing caring through university teaching that it is believed that more just outcomes, as opposed to only economic focused ones, which in truth may lead to their exploitation, will be developed.

For nuance and criticality

What does that mean for us? At CriSTaL, we believe that the call for a more critical approach is urgent, particularly in times of strife, complexity, and inequity. We define criticality though in a very broad way:

Critical Studies in Teaching and Learning (CriSTaL) is a peer-reviewed journal that publishes critical scholarly articles and essays that make interesting and distinctive contributions to the scholarship of teaching and learning in higher (university) education. Contributions that address challenging problems and issues from theoretical, ethical, practice-based, empirical, strategic or analytical angles are welcomed, as well as contributions that focus on innovative and creative approaches to teaching and learning."(see more under [Aims and Scope of the Journal](#)).

One of the main reasons we reject papers is the lack of critical engagement with concepts or theoretical constructs that are too often taken for granted. An example of a dominant and taken-for-granted popular construct at present is that of the Fourth Industrial Revolution (4IR). Many authors engage these concepts as if they were a given, and often use these in a technopositivist way, as if any kind of technology is bound to transform education for the better. We value critical engagement for example around where that concept is coming from; what kind of discourses is it implying? How is it framed socio-politically? Is a neoliberal trope of employability and progress being unthinkingly regurgitated? Who is benefitting from dominant discourses? How do they fit into the purpose of higher education in Africa and beyond of both redress and transformation? Are there other ways to look at it?

This does not mean that we are not supporting technology. We all do, that is our job. In our view technology is part of life and of education, whether we like it or not. We are looking for critical views that would move us possibly to a postdigital space, where rather than differentiating between digital or non-digital education, we look at how teaching and technology complement each other, work together (or not). In CriSTaL we believe that technology, pedagogy, context, socio-materiality are entangled (Fawns, 2019) and foreground the complexity of such research. We agree with Fawns (2022) that we shouldn't put technology first nor last as by separating it from pedagogy, makes us susceptible to technological or pedagogical determinism (i.e. where technology is seen either as the driving force of change or as a set of neutral tools). Following his argument, we believe in an *entangled pedagogy* that encapsulates the mutual shaping of technology, teaching methods, purposes, values and context.

From the titles, the six exemplars show a focus on online learning, teaching and tutoring during Covid-19, academic development and policy and curriculum. All six articles aimed to highlight the need for redefining how we use/think about EdTech and the inherent relationships needing care. The element of embracing nuance and acting *against determinism* is evident in how the authors question taken for granted EdTech assumptions, such as how technology supports distance learners without questioning who these distance learners are and how some might benefit more than others (see Magunje & Chigona, 2021). Another example of challenging taken for granted assumptions and the importance of context is for example Gachago, et al.'s (2021) study which concluded that LCT allowed them to view the challenges experienced by participants not as 'deficiencies per se, but rather ... an opportunity to understand participants' experiences and make sense of our own design decisions'. Not only do they advance different

thinking of tool usage, but they question their own design decisions in a way that shows drawing from both practice and theory.

Rich methodological approaches

In our aims and scope, we encourage work that moves beyond boundaries, such as methodology, discipline or location. We invite authors to be creative, take risks, think "otherwise". What do we mean by that? We receive a lot of 'run of the mill', small scale studies, that are looking at, for example, feedback from staff and students to either the introduction of a particular technology or tool, or blended or online learning more generally. While this might be novel at that particular department or institution, it does not necessarily add to the conversation that is happening in our field or engage, challenge or build upon existing knowledge. It also does not push the boundaries of how we usually do research. This doesn't mean we do not value small scale studies. In the examples from the mapping exercise, we see a willingness to challenge taken for granted assumptions about what constitutes valid, rigorous research.

In our examples, this is evident in the use of multiple methodologies and designs, such as surveys (Feldman, 2020), iterative cycles of action research (see Gachago, et al., 2021), Critical Discourse Analysis (including social media/Twitter entries – (Magunje & Chigona, 2021)), reflective journaling, student /peer feedback (Parker, et al., 2022). Mwanda (2022) uses WhatsApp as a means of conducting individual interviews, and whilst perhaps being new, she does not stop there. She highlights the need for further longitudinal studies on the ethical implications of its use. She couples this data with her own reflections on her experiences captured in a research journal, to triangulate and collect rich data.

Context matters

We believe that it is essential for authors to engage with the context of their practice and their research. How is this different from other contexts, how would research in our context differ from other contexts? How do we speak back to research from the Global North, how do we develop our own voice and not just in a way that is deficit driven, focused on what we do not have, the literacies our students lack? What can we offer the global north? What would postdigital education in our context mean, how does for example mobile technology play a role? Because we are still grappling with the tech, the technical stuff, even the technology itself. So, tell us why your research is important in your specific context, give us an explanation of why the topic is relevant in the particular context and in the broader literature; let us know whether and how the paper is uniquely local/African/South African.

The examples from our mapping exercise very concisely show how context matters, from a mostly South African context – one from Zimbabwe (Magunje & Chigona, 2021) – by highlighting micro- (programme/course), meso- (institutional imperatives), and macro level (global concerns). As an example, while both Feldman (2020) and Shange (2022) employ the notion of care, how care plays out during the pandemic at Stellenbosch University and at UNISA, the largest open and distance education institution in South Africa, differs widely.

Reflect on positionality and researcher stance

We are looking for research that acknowledges that there are always interests and power dynamics involved, especially when it comes to technology in teaching and learning. There are always those who benefit and those who are harmed by it. Who are we as researchers and where do we stand on this? We value authors who position themselves, who share their worldviews, assumptions and beliefs around learning, with technology. We prioritise research, which recognises that it is intrinsically political, that it can never be neutral.

Mwanda's (2022) article for example includes a reflection on her own positionality and how it may affect her relationships with her participants (see research journal reflections).

Linking theory and practice

In defining criticality, Kubota and Miller (2017: 133) reference the work of Pennycook (2001), who argued that the term could be understood in terms of keywords and phrases such as 'problematizing naturalized and normalized assumptions and practices; questioning power and inequality; focusing on broader social, ideological, and colonial milieus; problematizing gender, race, class, and sexuality; transcending fixed knowledge and seeking visions for change; *and practicing self-reflexivity and praxis*'. The latter part of this definition is particularly important for us. While we value papers about practice, we need to see a link between practice and theory, what we would define as praxis. What new emerges from a reflection on your practice through a specific theoretical lens? That lens can be a critical theoretical one, but doesn't necessarily have to be. If you look at our aims and scope, it's not just about critical theory, but about using different theories in critical ways, in novel ways, in challenging ways. It is about finding that balance between practitioner research that is both practical and critical. This then would allow us to advance the field.

The papers shared in the appendix, all apply a theoretical lens to their data, be it criticality and care (see these three studies: Feldman (2020); Shange (2022); Mwanda (2022)) or a shift away from models (often applied in mechanistic ways in EdTech research) to substantive underpinning theories such as Maton's Legitimation Code Theory (LCT), Bernstein's ideas of instructional and regulative discourse (see for example Gachago, et al. (2021); Parker, et al. (2022)). There seems to be an appetite for *saying something new about practices*. For example, Parker et al, challenged the discipline, explored student identities or what it means to be a (science) knower, using hybrid approaches in pursuit of more just outcomes while Gachago, et al. (2021) show that curriculum work and learning design are iterative, contextual and messy processes. Furthermore, they suggest that the degree to which context has been foregrounded in the course design impacts on the levels of participant engagement.

Final words

In summary, this is what we mean by criticality when it comes to research around technologies in higher education:

- making assumptions clear and challenging assumptions
- asking who benefits and who does not benefit
- acknowledging complexities and are comfortable with nuance
- describing both benefits and problems for different stakeholders in higher education
- touching on power relations explicitly or implicitly
- considering socio-technical arrangements, i.e. the interlinked relationships of technological affordances and social arrangements
- recognising the multidisciplinary nature of this field

Critical EdTech examples from CriSTaL

These are some examples from CriSTaL published between 2020 and 2022, which speak to some of the concerns raised above. Not all papers cover all of the concerns.

- Feldman, J. 2020. An ethics of care: PGCE students' experiences of online learning during covid-19. *Critical Studies in Teaching and Learning*, 8(2): 1–17.
- Gachago, D., Jones, B., Esambe, E. E., Jongile, S. & Ivala, E. 2021. Engaging knowledge and the knower: Design considerations for emerging modes of academic staff development. *Critical Studies in Teaching and Learning*, 9(SI): 145–169.
- Magunje, C. & Chigona, A. 2021. E-Learning policy and technology-enhanced flexible curriculum delivery in developing contexts: A critical discourse analysis. *Critical Studies in Teaching and Learning*, 9(2): 83–104.
- Mwanda, Z. 2022. Text, voice-notes, and emojis: Exploring the use of WhatsApp as a responsive research method for qualitative studies. *Critical Studies in Teaching and Learning*, 10(1): 78–92.
- Parker, D. M., Vorster, J. A., Quinn, L. & Blackie, M.A.L. 2022. Hybrid approaches to teaching: Re-imagining the teaching of a foundational science course during a global pandemic. *Critical Studies in Teaching and Learning*, 10(2): 42–56.
- Shange, T. 2022. Reconceptualising 'caring' in e-tutor-student interactions during the Covid-19 pandemic in an ODeL university in South Africa. *Critical Studies in Teaching and Learning*, 10(2): 21–41.

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- Kubota, R. & Miller, E.R. 2017. Re-examining and re-envisioning criticality in language studies: Theories and praxis. *Critical Inquiry in Language Studies*, 14(2-3): 129-157.
- Pennycook, A. 2001. *Critical Applied Linguistics: A Critical Introduction*. New Jersey: Lawrence Erlbaum Associates. Inc. Publishers.

Useful critical EdTech readings

Some further readings you might find useful:

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- Bayne, S. 2015. What's the matter with 'technology-enhanced learning'? *Learning, Media and Technology*, 40(1): 5-20.
- Bulfin, S., Johnson, N.F. & Bigum, C. (eds.) 2015. *Critical Perspectives on Technology and Education*. (1st ed.) (Palgrave Macmillan's Digital Education and Learning). Palgrave Macmillan.
- Bulfin, S., Henderson, M. & Johnson, N. 2013. Examining the use of theory within educational technology and media research. *Learning, Media and Technology*, 38(3): 337-344.
- Dlamini, R. 2018. Corporatisation of universities deepens inequalities by ignoring social injustices and restricting access to higher education. *South African Journal of Higher Education*, 32(5): 54-65.
- Gachago, D., Huang, C., Czerniewicz, L. & Deacon, A. 2023. A commodity to be exploited and exhausted: Expressions of alienation in higher education. *Digital Culture & Education*, 14(4).
- Isaacs, S. & Mishra, S. 2022. *Smart Education Strategies for Teaching and Learning: Critical Analytical Framework and Case Studies*. Open Access Book. Available at: <https://ujcontent.uj.ac.za/esploro/outputs/bookChapter/Smart-Education-Strategies-for-Teaching-and/9917709507691>
- Isaacs, S. 2020. South Africa's (unequal) digital learning journey: A critical review. *ICT in Education and Implications for the Belt and Road Initiative*, 187-211.
- Kirkpatrick, G. 2020. *Technical Politics: Andrew Feenberg's Critical Theory of Technology*. Manchester: Manchester University Press. Open Access Book. Available at: <https://library.oapen.org/handle/20.500.12657/42641>
- Kirkwood, A. & Price, L. 2013. Technology-enhanced learning and teaching in higher education: what is 'enhanced' and how do we know? A critical literature review. *Learning, Media and Technology*, 39(1): 6-36.
- Ndzinisa, N., & Dlamini, R. 2022. Responsiveness vs. accessibility: pandemic-driven shift to remote teaching and online learning. *Higher Education Research & Development*, 41(7): 2262-2277.
- Pallitt, N. & Kramm, N. 2022. ERT as Mobile Learning by Necessity: A Sociomaterial Perspective of Lecturers' Design Journeys—Lecturers' Approaches to ERT in Resource-Constrained Settings as Shifting Digital Practices. *International Journal of Mobile and Blended Learning (IJMBL)*, 14(3): 1-15.
- Selwyn, N., Hillman, T., Eynon, R., Ferreira, G., Knox, J., Macgilchrist, F. & Sancho-Gil, J. M. 2019. What's next for Ed-Tech? Critical hopes and concerns for the 2020s. *Learning, Media and Technology*, 9884.