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Changing teaching and teacher education in the ‘Anthropocene’

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In late November 2018, thousands of Australian school students went on strike, holding rallies in capital cities and regional centres, to protest about lack of governmental action on climate change. Their signs included a report card, giving the government a ‘Fail’ on climate action, ethics and responsibility (“Australian students,” 2018), as well as: ‘There are no jobs on a dead planet’, ‘Don’t burn our future’ and ‘I’ve seen better Cabinets at IKEA’ (“Students strike,” 2018). They reminded the government that they would be future voters, insisting that their elders pay attention to the need to act on climate change for a planetary future. In media coverage, which noted that most Australians supported the students, the conservative Prime Minister, Scott Morrison, was quoted as saying that there should be ‘more learning in schools and less activism’. Underscoring the lack of political will around climate change, on January 7, 2019 more than a million fish – some decades old – died in the Murray-Darling river system, the third longest river system in Australia, as a result of governmental mismanagement of water (New Matilda, 2019).

School students internationally have shared their strike strategy on social media, following approaches started in Sweden; Australian students, alongside those in other countries, are undertaking a further strike on March 15, 2019 (School Strike 4 Climate Australia, 2019). They are doing so to bring attention to a crisis most people feel powerless to address. Certainly few governments are taking the planetary crisis seriously enough.

Unlike governments and global capitalists, educators and parents are compelled to listen to students, rather than make them the object of opprobrium or as in need of a reformist gaze: we have to support them because we are invested in their future. They are telling us they fear for their own and the planet’s future – fears most of us also share. There are many levels of response: individually, as citizens and in our professional lives. We have to work with this upcoming generation to find ways to convince global capitalist and governmental agencies that just playing with energy policy is not an adequate response to such complex issues. Dominant governmental and capitalist assumptions have enrolled human societies in ways of being in the world that destroy that world and its ecosystems. Climate change is not quite a wide enough brief: we also need to pay attention to the 6th mass extinction period, air and water pollution, enormous

poverty and social stratification, and nuclear threats, that call into question the future of humans as well as the planet. ‘The Anthropocene’ in this sense is a blanket term to cover the intertwined crises of species and ecosystems, of which those who respond tend to pick one issue to work on – bees, water, pharmaceuticals, oil, for example. Part of everyone’s intellectual task is to find ways to link up the issues, while pushing for work to proceed on each of them.

What might teacher education do?

Most particularly, we in teacher education have to take up the serious challenge of what can be done in our sphere of action.

- Our curriculum has to capacitate our students to ‘read the world’, as Freire so memorably put it (1970), and to develop pedagogies that assist their own future students to develop understandings of the changing wider world and how their enacted local lives are part of that world.
- Our programmes need to rebalance the attention given to passing on past knowledge and practice with attention to current and emerging problems facing communities, their schools and their children in ways that draw forth options to collaboratively build knowledge and act on those problems. Students – whether at university, technical college or school – present an untapped resource to undertake research towards the public good, able to staff many projects in collaboration with others. Attention to emergent knowledge production (Zipin, Sellar, Brennan, & Gale, 2015) is an important means to construct alternative futures.
- In continuing teacher education, beyond initial teacher education, teacher educators and teachers together can work through practical experimentation and reflection: a practice theory approach to professional education (Green, Reid & Brennan, 2017)
- We have to continue to engage in the politics of programme accreditation and renewal that would allow for very different kinds of teacher education programmes. This means continuing to struggle with our universities and external accreditation agencies for our programmes to make space for serious innovation to take up the complexity of world

problems which can only be addressed through inter-agency and inter-disciplinary action.

- In our partnership work with schools, in research and in shared responsibility for pre-service teacher placements, we have to undertake co-research with our students, the teachers and school students, along with their communities, as a way to reconstruct purposes and practices for schools and co-construct new possibilities on local issues (Zipin, 2017; Zipin & Brennan, 2019).
- In our teaching and learning together, we need to find ways to reconstruct our identities as teachers (pre-service, in-service and teacher educators) and construct new ways of reconstructing schools and universities that serve current and future needs of humans and ecosystems.

At the moment, there are pockets of action along these lines –in Australia and in some other countries– but not programme-wide in teacher education. Tinkering at the edges to tweak existing practices is not enough. Nor is it an option to wait until we have a nice, neat ‘vision’ or plan that will guide our action. Renewal and repurposing our practices and relations has to acknowledge that change will have to be both small scale and able to be linked up. In teacher education, unfortunately, there is much that works against such renewal, deconstruction and care to do otherwise.

What gets in the way of teacher education action?

All fields need to engage in self-interrogation about what stands in the way of being more oriented to activism in addressing key problems. In addition to the well-documented reactions to problems labelled ‘Anthropocene’ – fear, despair, paralysis, short-termism, denial, for example (Klein 2015) – each field has specific logics and habits, and governmentalities that are specific to place and time. In Australia, the last decade has seen strong governmental policy attention to what might best be called the ‘standardisation syndrome’. The standardisation agenda has made innovation and thoughtful response to social, economic, political and environmental issues much more difficult, for both schools and teacher education programmes in universities, kept in place by vertical accountability measures.

It is hard to construct flexible programs when inter-disciplinary and integrated curriculum approaches have largely disappeared from school curricula, to which teacher education is closely tied. In Australia, the national curriculum, constructed around 8 key learning areas filled with content, is also tied to national standardised tests in

literacy and numeracy at years 3, 5, 7 and 9, and examinations at the end of schooling.

Teacher education, too, has moved to a standardised framework, with graduate standards, programs accredited both at national and state levels, and literacy tests that graduates must pass in order to register as teachers.

Environmental education is not recognised as a subject, since it is not in employer and accreditation listings of school subjects for which future teachers need qualifications to teach. As a ‘cross-curriculum priority’, environmental issues might be seen as well placed for inclusion in other subjects: a responsibility for all teachers. However, this means there is no requirement for specialist knowledge about environmental issues. From my experience as a researcher with schools, environmental issues tend to appear only as small, self-contained sub-sets of existing modules in health and physical education, science education, and social and civics education (Reid & Price, 2018).

Lack of required specialisation in environmental issues is also the case in Teacher Education. Thus, unless teacher educators are self-invested in knowledge about issues of the environment, it is unlikely that, in tight spaces of accredited programs, they will devote serious effort to building complex understandings of environmental challenges which face local communities and the globe. Teacher education is thereby enabled to remain human-centric, relying on a human-nature binary, which no longer serves.

Knowledge work has become detached from conditions of its production and use. Only a few school subjects now enact the knowledge they comprise: music, performing arts, physical education, media/ICT usage, sometimes writing and reading; and then in quite restricted ways. Science, for example, has significantly reduced laboratory work and experiments to book learning. Although in the national curriculum, general capacities and three cross-curriculum priorities (one of which is ‘sustainability’) are specified, these are left up to teachers to back-map them onto the disciplinary subjects.

Alternative knowledges, including those of Indigenous communities, are almost never used to address key societal and environmental issues. Furthermore, the silos of current disciplines, also translated into school subjects, help to occlude the relationship among domains of knowledge and action –politics, economics, social studies, for example – making action and understanding of issues opaque.

Students are treated as customers, not as active agents in their education. Concomitantly, teacher education is set up as to ‘deliver’ a product, an accredited programme.

The above summary understates the extent of shifts in the scope of teachers' control of curriculum planning, judgement about sequence, groupings, inter-disciplinary activity, and more, given forcible introductions of standardised curriculum, national testing and vocational/economic discourses about the purposes of schooling. *Teacher education is positioned as merely following what is supposed to occur in the state and federal policy for schooling.*

The control measures put in place on teacher education and teachers – and most of the human service sectors, especially in feminised professions – severely circumscribe what counts as education, through the use of both internal and external regulation, where compliance is achieved through standardised measurements that do not reflect complexity of work. It's hard to be imaginative, innovative and creative under conditions of overwork, when dissent is too easily punished, as is occurring in too many Australian universities (Connell, 2019; Manathunga & Bottrell, 2019). Yet, the dissonance that occurs for us when trying to comply with the 'new order' of universities is very unsettling. This unsettled feeling makes it hard to ignore the ethical demands for action – to do something else.

The need for Teacher Educators to refuse to comply

Like all educators, the core logic of teacher educators' work is based around an inter-generational compact, an orientation to future generations. This is not just some idealistic statement. Rather it is a lived condition. Teacher education's specific logic is that the field has a responsibility for co-producing the current generation of teachers, for supporting the ongoing in-service education of teachers and for ensuring they are able to address the needs of all their students, the future generations of humans. Teacher educators are continually confronted by the contradictions between what they say and do; they work with students who go out into schools; they often work directly with schools themselves. And it is precisely because they move between institutions that it is more difficult for them to be positioned to comply with just the one institution, their own university workplace. Stengers (2011; 2015; Pignarre & Stengers, 2011) talks about the pressure to become mere 'minions' in the institutional chain of command, whose loyalty keeps the institution ticking over, for whom 'there is no alternative' but the current management-driven approach. Indeed, everyone in the institution is subjected – but not all are minions, say Pignarre and Stengers. "We must be capable of saying that *we are not all of us minions*", they argue (2011, p.

32), otherwise we become poisoned with guilt and paralysis.

If teacher educators are looking to break the titanium cage of digitised accountability measures, there is an obvious starting point. Teacher educators have so many 'masters': their students whose evaluations 'count' in teacher performativity, two layers of government, multiple governmental agencies, schooling policies, higher education policies, schools who take on professional placement of pre-service teachers and their own university workplace. Many of the requirements being policed are contradictory. For example, students are asked to rate their satisfaction with staff teaching methods, while universities set conditions in which teaching cannot be satisfactorily performed in the time allocated – and students are often working up to 30 hours a week and cannot attend classes. Accredited programmes are supposed to support students undertaking research, yet there is no time or funding provided for supervising those projects.

Caught between multiple institutions whose injunctions are incompatible, teacher educators cannot comply, cannot become loyal minions in the service of only one institution. Playing off contradictory requirements against one another could create a space in which teacher educators work more closely and collegially with schools and their own pre-service teachers in order to reconstruct their joint work. (Re)Building such relationships would make explicit the contradictions inherent in the task and the inadequacy of dealing with old practices to address the significantly changed world in which teachers, schools, universities and communities live.

Having to work closely with their own students – pre-service teachers and in-service teachers – and with schools and early childhood settings, teacher educators experience first-hand the mis-fit of current policies and practices with the demands of living communities and the planet. Experiencing the disjuncture of how education institutions are not supporting student capacities to 'read the world' underscores the ethical and pedagogical challenge to educators. Teachers and other older generations have to keep on learning to 'read the (changing) world' more complexly as the old master narratives that informed much of modern schooling so obviously do not 'work' any more. Teacher educators have more pressure than many to be invested in the future- and in acting to build a different future. They also have access to sites of education and potential to engage in collaborative action.

Attention to ‘care of the possible’ might help question whether the core purposes of education have already been so systematically eroded as to be unacceptable. Many teachers, teacher educators, and some of their students, might then refuse to reconcile their hopes and aspirations with the shifts in expectations for their fields of practice. They might indeed ‘get political’ about deleterious effects for education of the next generation/s.

Such an orientation to doing something non-compliant is not without its dangers: the institutional minions in each site all strive to discipline participants/members to comply. Pre-service teachers themselves return to universities from schools and ask for help with ‘what works’, echoing teachers’ accusations that teacher education is living in an ivory tower, out of touch with the realities of schools. Fortunately, evading the capture of both the school minions and the university management minions is something that can bring academics and their students together. Pre-service teachers also live between institutions. Learning together the political art of reading those worlds, we find spaces for the fine art of ‘paying attention’ to what matters. Stengers terms this attention ‘the care of the possible’ (Stengers, 2011).

In avoiding being co-opted into compliance, it is important to be explicit: to recognise and address the different ways those pressures are experienced by pre-service teachers, wanting the opportunity to graduate and gain employment, and teacher educators who want to retain their jobs. Yet both groups need to feel and act in ways that are consistent with the underlying reasons that drew them to the profession: contributing to make a good life worth living for the next generation/s. Bringing analysis of the crises to bear on that issue can provide the impetus to change schooling and teacher education in concert through joint action.

Moving towards action in caring for the possible

How can it be possible, given the conditions outlined above, to work towards a different kind of future, to re-make teacher education and schooling? In this final section, I recognise that much work is already being done, and that constant deferral of working on producing knowledge through action on urgent issues is becoming more difficult to accept: young people and older ones are putting Anthropocene-related issues high on their agenda. Here, I gesture towards a practical starting point (see also Brennan, 2017), which could help grow institutional practices in teacher education and schooling to work directly on these issues.

Every institution and every community – even the richest – is having to deal with what Lauren Berlant (2016) calls ‘glitches’ in the infrastructure of their daily lives – for example, access to water, air, food, homes, income, physical safety, health care and education services. The young, the poor, the colonised and marginalised bear the greatest burden of the fall-out from these glitches. Their analyses, as seen in the Schools Striking for Climate movement, call for others to take notice and act. This movement can support co-analysis of local glitches, their histories, effects and possible options for dealing with them. Such collaborative research, on the serious problems of our time, as experienced locally, can bring together university students, academics from diverse disciplines, teachers and students from schools. This work is necessary – desperately so in marginalised communities. Pre-service teachers and students in schools provide necessary resources as researchers of these glitches, with access to their communities’ knowledge and experience of the glitches – and, through teacher educators’ positioning in universities, access to networks of specialists who can contribute their knowledge to the problem at hand, alongside local community expertise.

For pre-service teachers to work with school students as co-researchers as the basis of their professional experience placements will require teacher and school agreement, with strategic identification of where such projects can be made to fit national curriculum. There are schools already engaged in community service and in working with students as researchers where such approaches are more likely to provide hospitable agreement. It may initially only be possible in one of the placements in a certification programme. However, once the practical issues are identified and addressed, there is a real opportunity to expand in scope and build conditions for inter-generational learning and joint action.

By undertaking such projects, and reaping the benefits of community recognition of the impact of such research, teacher educators participate – in collaboration with teachers, their own students and those of schools – in redefining what counts as learning and in co-producing new knowledge through acting on projects that matter in local communities. In the process, teacher education is re-purposed and redefined, and the approach can expand in collaboration with more schools and more disciplinary groups inside the university. We have already seen that examples of such community-engaged scholarship can be university wide, and need to be scaled up (Lotz-Sisitka & Mandikonz, 2018) to enrich the relationship of universities and their communities as a means to address planetary-human needs.

This ‘think piece’ has developed an idea for renewal of teacher education in conjunction with schools and communities. It has some precedents in both schools and universities around the world, where groups – and occasionally their senior officers – have undertaken community engagement (Mtawa, Fongwa & Wangenge-Ouma, 2016), teachers and students as researchers’ (Noffke & Somekh, 2009) ‘place-based learning’ (Somerville, 2013), ‘community-based research’ (Hall, 2016), and environmental education projects (Stevenson,

Brody, Dillon & Wals, 2012). Using such approaches in teacher education is rare, except for action research. Even more rare is ensuring that pre-service teachers themselves have a strong role as co-designers, co-researchers of both teacher education programmes and schooling. Yet, I suggest, unless the next generations of students are themselves agents, alongside their teachers, community members and other experts, then teachers and teacher education will not be able to contribute to acting on ‘the Anthropocene’.

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