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Continuity, change and challenge: unearthing the (fr)agility of teacher education

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ABSTRACT

In this final article, we bring together the issues raised by authors included in this special issue. We start by describing the current situation in our own countries, partly to highlight the different ways in which nations are responding in the longer term to the pandemic, but also to draw attention to the similarity of experience – of educators using digital technology, of concern with maintaining the supply of teachers, of the challenges relating to lockdowns – during its peak. We then reflect on the systemic issues that have been raised by the authors in this issue: what we call the (fr)agility of the teacher education system, in which educators' adaptive response to the pandemic and subsequent desire for change can be met by institutional resistance; the multiple questions raised by the use of digital technologies; and the challenges relating to teacher and teacher educator adaptability and/or agility. In the final section, we reflect on what we (might) have learned from the pandemic and consider a future agenda for teacher educators.

Introduction

The articles for this special issue were written in 2021, at a time when teacher education around the globe was beginning to emerge, in various ways and at different speeds, from the restrictions of lockdown. Systems were falteringly returning to a kind of (new?) normal, with much uncertainty about the ways in which the new academic year would work out: would there be more lockdowns? Would teaching build on the online and/or hybrid models developed during lockdowns, or would educators want to return to teaching largely face to face? How would educators feel about returning to classrooms and lecture halls when Covid-19 cases were clearly still in evidence?

Now, at the time of writing in July 2022, we can take better stock of the way that Covid-19 is influencing practice. We start the final article of this special issue by describing the current situation in our own countries, partly to highlight the different ways in which nations are responding in the longer term to the pandemic, but also to draw attention to the similarity of experience – of educators using digital technology, of concern with maintaining the supply of teachers, of the challenges relating to

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The current situation

In England mitigation measures centred largely around vaccination from the time that it became available in December 2020 and from April 2022 government policy has focused on 'learning to live' with Covid-19 (Majesty's Government 2022); despite a dramatic rise in the number of cases in June (N. Davis 2022), there is seemingly little political interest in returning to mask-wearing, regular testing, or self-isolation after a positive test. Schools fully opened for face-to-face teaching in the autumn of 2021 but both pupil (Weale 2022) and staff (NASUWT 2022) absences have been high during the 2021/22 academic year. In universities face-to-face teaching has been encouraged since September 2021 but, according to a recent survey, planned provision in universities still varies from on-campus learning, to blended or hybrid modes, to purely online (Bena 2022). However, it seems that the majority of initial teacher education (ITE) courses are back to the challenges of offering face-to-face teaching sessions in schools or universities, alongside practicums in schools (UCET 2022); most of this provision is being conducted on pre-pandemic models.

For the government in England, it certainly seems to be 'business as usual' for teacher education. Despite significant opposition from nearly all providers (universities and schools alike), the government is now implementing aspects of the Market Review of initial teacher training (ITT), first mooted in 2019, that aims to ensure 'radical teacher training reform' (Department for Education 2021, 3). Many providers have protested that this review is a fundamentally flawed model of pre-service education; it centralises control of ITE, positions teachers and student teachers as merely technicians, and robs the ITE sector of its academic autonomy (Newman 2022; Roach 2021; Virgo and Robertson 2021). Although not yet fully implemented, this review is already creating waves of uncertainty in the sector; all 'ITT providers' are undergoing a process of re-accreditation, and the current success rate of 37% for the first round of applications (Martin 2022) suggests that higher education institutions (HEIs) will have a smaller future role in teacher education. The establishment of the National Institute of Teaching, which aims to train 1,000 pre-service teachers when fully operational and emphasises the school-led aspect of teacher education (Belger 2022), reinforces this view and emphasises the increasing centralisation of the education sector. These are noteworthy developments in the light of first, the 'significant teacher supply challenges' that are returning after easing during the pandemic (Worth and Faulkner-Ellis 2022, 16) and secondly, the perception that school staff workload has increased, contributing to the finding that 44% of surveyed teachers planned to leave the profession by 2027 (National Education Union 2022).

Ireland's response to the lockdown was similar to that of many developed countries. It was one of the first countries to impose a national lockdown in 2020 and, relative to other countries, adopted a cautious approach to the lifting of these initial restrictions. Subsequent rolling restrictions in late 2020 and 2021 were determined by infection rates and hospital admission rates. The high public participation in the national vaccination programme saw the lifting of all restrictions in 2022. Throughout this time, school closures, while seen as necessary at certain times, resulted in considerable national debate in relation to their impact on student learning, state examinations and student welfare. While there is considerable uncertainty about future waves of infection and their impact on schools, there is a heightened appreciation of the social role of schools and their importance in students' well-being (Quinn, McGilloway, and Burke 2021). For that reason, there is likely to be less of an appetite to impose the types of severe restrictions and lockdowns within the education sector. In the area of teacher education, with the closure of university campuses, teacher education was delivered online, and this resulted in significant challenges and changes for teacher educators (Murray et al. 2020). Practicum placement requirements, set down by the teacher accreditation body, the Teaching Council, were eased as a result of school closures. Notably, the ongoing re-accreditation of teacher education programmes, initiated before the pandemic by the Teaching Council, progressed with limited disruption to the process.

The Chinese government took generally stronger prevention and control measures than in western nations, largely because of the size of the population and concern to avoid overwhelming the medical system. In the initial stages of the pandemic in 2020, central government implemented a lockdown in affected cities, and initiated a policy of 'Suspending Classes without Stopping Learning' (Ministry of Education of the People's Republic of China 2021). This meant that classes moved online, and learning was guaranteed for all students of all ages. The policy also required schools and universities to offer technical support and organise online training for teachers to enhance their technological pedagogical and content knowledge (TPACK). At the same time, technology companies were encouraged to create and develop more online teaching software, such as Ding Talk and VOOV; an online examination system was initiated; emotional and well-being support was available to students in universities and schools either online or offline via counsellors, volunteers and psychology teachers to help them cope with the Covid-related restrictions, and students were given free medical treatment for Covid-19. Online teaching was and is the only form of teaching during a pandemic containment period. Policy is now focused on a 'dynamic zero-Covid' approach, in which 'swift and targeted responses' of isolation and treatment are implemented as outbreaks are detected (Hui 2022), exemplified in the outbreak in Jilin, Changchun, Shenzhen, Shanghai and other cities at the beginning of 2022.

Schools and universities started to open again from September 2020, with students and staff required to test regularly and wear masks; education premises are currently required to have medication, sanitising liquids and masks available at all times, and to implement regular disinfection of key areas. However, despite the rapid development of digital technology during the pandemic and the apparent success of the measures taken – government research showed that 91% of college courses were offered online, 80% of teachers accepted online teaching, and 85% of students were satisfied with online teaching in 2020 (Wu 2021) – as Zhou and Song's contribution to this special issue

indicates, educators generally prefer face-to-face teaching. Covid-19 has promoted the rapid development of digital technology and upskilled educators in its use; the research and development capacity of technology companies and educators' TPACK should now be developed to promote the sustainable development of both online and offline teaching to become the new normal.

As this brief overview of these three different countries highlights, there were similarities and differences in terms of how the countries responded to the pandemic and how they continue to operate within uncertain times. The next section turns to the systemic issues that have emerged from the contributions to this special issue.

The (fr)agility of teacher education

Teacher educators encourage student teachers to reflect and learn from events that do not go as planned and facilitate opportunities for them to make sense of unexpected events that emerge in their practice. This type of reflection is encouraged because critical occasions such as these are regarded as unique learning opportunities (Tripp 1993; Meijer, De Graaf, and Meirink 2011); they are occasions when taken-for-granted beliefs, and the associated practices that result from them, are challenged, bringing to the surface assumptions that may have been hidden from view and that ultimately damage teachers' practices (Larrivee 2000). The Covid-19 pandemic is unusual in that it has been experienced by all teacher educators across the globe, and the collective reaction from the sector can highlight systemic issues across teacher education that transcend particular settings or jurisdictions.

It was notable, therefore, that the optimism of the authors in this second Covid-related special issue that the pandemic might offer an opportunity to re-think teacher education was tempered by the realities of working within highly bureaucratic education systems. Institutions have often required new, time-consuming formalities in their efforts to keep both staff and student teachers safe. Responding to the pandemic so that current student teachers could complete their qualifications, so that new student teachers could build positive relationships with their educators, and so that teaching and learning remained as accessible as possible was time-consuming and, in many cases, exhausting for teachers and teacher educators. It seems that on the one hand systems and institutions required agile (Kidd & Murray) and entrepreneurial (Donitsa-Schmidt & Ramot) educators who responded quickly and effectively to unexpected circumstances at a personal level with their students but, on the other, these same institutions left educators operating within slow-moving systems that can often be resistant to change. Rosehart et al.'s deep disappointment in the British Columbia Teaching Council's decision to discontinue online practicums was palpable, exemplifying both Young et al.'s complaint that teacher educators are unable to 'transform the school placement experience but . . . remain responsible for it' and Burn et al.'s view that policy in England profoundly limits teacher-educators' scope to act 'as adaptive and agentic professionals, as they did when Covid-19 first struck'.

Rosehart et al.'s conceptual framework of serendipity and zemblanity – of happy and not-so-happy confluences of circumstances that may, or may not, lead to change – neatly captures some of the variety of Covid-related experience at institutional level but also draws attention to the complexity and fragility of teacher

education systems. The quotations above illustrate how the ambitions of those particular agile, entrepreneurial teachers and teacher educators, who carefully reflected on aspects of teacher education that they want to be changed, have been frustrated. Young et al.'s participant comment that Covid-19 has 'shown the vulnerability of school placement and the lack of importance attached to it' echoes the concerns of Murray and Kosnik (2013), who argue that teacher educators are seen to have inferior status within university culture and to be subject to a greater governmental monitoring and discipline than other university faculties and departments. The latter point can be seen in Young et al.'s comment on the loss of autonomy in teacher education in Ireland over the past decade and in the current developments in England. The particular fragilities of teacher education brought to our attention by the authors in this special issue can be seen in the reported lack of wider institutional understanding, structural inequalities of access to learning, wide range of teacher educator tasks, wide diversity of staff and student background and need, and a concern that the issue of staff and student wellbeing has been neglected. These challenges are located within the wider context of accountability initiatives and policies in teacher education influenced by market-based neoliberal educational reforms characterised by an absence of democratic discourse (Cochran-Smith 2021). And herein lies the (fr)agility of the subheading; the immediate, positive response by dedicated professionals determined to make the best of a difficult situation in potentially precarious circumstances.

The (fr)agility of teacher education was particularly evident in how the sector responded to the digital challenge caused by the pandemic. The rapid shift towards digital technology use highlighted the digital deficits within teacher education, but the sector's response to the challenge also highlights its enormous agility in reacting to change. The following section explores this issue and examines the long-term questions it raises for teacher education.

Advancing the digital agenda – has teacher education finally reached the promised land?

The central role played by technology in the response to the crisis echoes Mutton's (2020) analysis of submissions to the previous special issue of JET where the shift to online teacher education was also a common theme. The contributions to this special issue not only highlight this shift towards greater digital technology use, but also note the rapid nature of this change. Kidd and Murray, for example, note how the pandemic forced the pace on the digital transformation agenda and a similar observation of the speed of the change in the upskilling of teacher educators in this area was noted by Zhou and Song.

Within the area of teacher education there has been ongoing criticism for many years that the sector has been slow to integrate technology and to adequately prepare student teachers for a technology-rich environment (Carpenter et al 2020). In the light of these criticisms, the increased use of digital technologies in the sector could be seen as a positive and welcome outcome of the crisis. However, while there are undoubted benefits to using digital technologies within education and teacher education in particular, use of digital technologies needs to be seen within the

context of widespread techno-utopian discourses and associated attempts over many years to increase digital technology use at all levels of the educational system (Cohen 2022). Viewed through this lens, the sudden and rapid increase in digital technology use and the long-term changes this is likely to cause, noted by many of the contributors (Kidd & Murray; Donitsa-Schmidt & Ramot; Rosehart et al.), raises a number of implications for teacher education beyond the pandemic. They include the extent to which digital technologies have lived up to the expectations with which they are associated, whether teacher educators will take a more proactive stance in determining the nature of digital technology use in their sector and the extent to which professional upskilling provided as part of the pandemic has provided a broad level of professional digital competence for teacher educators. These critical questions will now be explored.

Question 1: Can digital technology use in teacher education move beyond the focus on technology-enhanced distance learning it has acquired from the pandemic?

In their contribution exploring Israeli teacher educators' responses to the pandemic, Donitsa-Schmidt and Ramot remind us that there is a huge difference between distance learning and a 'genuinely digital education setting'. Employing digital technologies to support distance learning is only one form of the use of digital technology in the field of education; it could be argued that it was the primary form during the pandemic, largely driven by school and institutional closures, and that this experience does not reflect the broad spectrum of possible digital technology uses in education.

Many teacher educators are relatively new to using digital technologies in their professional practice and are unfamiliar with many alternative applications of digital technology. This was reflected in a number of contributions that highlighted how many teacher educators were unfamiliar with technology (Young et al.) and were 'caught off-guard' (Donitsa-Schmidt & Ramot). Despite this lack of experience, they are nonetheless likely to have been exposed to the optimistic claims related to the benefits of digital technology in education and may feel somewhat underwhelmed by their own experiences of its use during the pandemic. As a result, many are likely to question the educational merits of digital technology, particularly when it does not live up to the claims marketed by the EdTech industry. This is alluded to in Zhou and Song's paper, which raises concerns about the potential of frustration and dissatisfaction amongst educators when digital technology use does not meet expectations – expectations which are often driven by lofty claims made in the advertising and marketing of such products to educators (McGarr and Engen 2021). Oddly therefore, instead of advancing the uptake of digital technology, as is assumed by most of the contributors in this special issue (Donitsa-Schmidt & Ramot; Kidd & Murray; Burn et al.; Zhou & Song), the emergency pivot to technology-supported distance learning may inhibit the digitisation agenda as this type of use of digital technology may eclipse other innovative possibilities. It is also worth considering the unintended consequences of this dominant mode of the use of digital technology in teacher education, together with how it may steer teacher education into the future and how it may influence the nature of engagement with partner schools.

Question 2: Will teacher education take a more proactive stance in determining the nature and direction of the use of digital technology or will it continue to be swept along by wider digitisation agendas?

Within a techno-positive environment where most technology use in education is associated with innovation and progress, there are many digital practices that have been employed by educators with limited previous experience of digital technology in education. Many of these practices are seen as innovative simply because of their novelty, despite the lack of evidence of their effectiveness. Research studies moving beyond self-reports and descriptive experiences of technology-enhanced practices are needed to determine the merits of these practices. It is understandable, given the speed of change during the pandemic, that studies that go beyond self-reporting have not emerged as yet, but robust empirical evidence is needed to cut through the blind optimism often associated with the use of digital technology in education. There is also a need to engage with critical debate on the application of digital technologies in teacher education. Now that the emergency phase of the response to the pandemic appears to have passed, the teacher education community can critically reflect on their use of technology over the past two or so years. This is called for in the contribution by Burn et al. to this special issue who argue that, for transformative practices to emerge in this area, the use of digital technology needs to be combined with continuing cycles of reflection.

The extent to which more critical questions in relation to the online pivot will be asked, however, will be determined by how receptive the wider educational environment is to debating these issues. Apart from some important exceptions, at a wider level there is an absence of a critical debate in relation to the use of digital technology in most levels of the education system. Williamson (2022) reminds us that, 'EdTech is not just about education, or about technology: much of it is also about business' (157). Corporate interests continue to drive much of the expansion of EdTech and influence national and supra-national policies in this area (Moeller 2020). Cohen (2022) notes that the EdTech industry has successfully blending techno-utopian optimism with profit-driven motives of market expansion. It is not surprising therefore that the sector has used the coronavirus crisis to advance their expansion agenda (Williamson, Eynon, and Potter 2020); reflecting on the emergency response to the coronavirus crisis in England, Peruzzo, Ball, and Grimaldi (2022) argue that COVID-19 and EdTech became conjoined as governments tried to respond to the emergency. While noting the long complex history in this area, they nonetheless argue that, 'the government [in England] response to the Covid-19 crisis created a new field of EdTech policy and provision – dominated on the one hand by the Google and Microsoft platforms and supported by various intermediary organisations' (7).

In addition, the ethical concerns related to this commercial expansion into the traditional public space of education need to be more widely aired within teacher education. In many of the contributions to the special issue, the further digitisation of teacher education was presented as inevitable, but little attention has been paid to the wider ethical context of how this might be negotiated. While commercial expansion of EdTech

may be unavoidable in the present context, it should not be accompanied by technology-determinist thinking that downplays the agency of the teacher educator in this change agenda.

Question 3: Has the covid pandemic provided a narrow understanding of what being digitally competent is for a teacher educator?

It is recognised that the urgency of the challenge posed by Covid-19 led to 'on the spot' professional development where teacher educators were quickly upskilled to use specific technologies to support online seminars or deliver content via learning management systems. This professional upskilling was often achieved through informal engagement with colleagues and is largely favoured by teacher educators over more formal modes of provision (Roulston et al. 2019); Donitsa-Schmidt and Ramot reported that teacher educators preferred informal and non-formal professional development rather than formal approaches during the emergency phase of the pandemic. While this professional upskilling prepared teacher educators for technology-supported distance learning, often it did not address the wider set of knowledge and skills that encapsulates teachers' professional digital competence (McDonagh et al. 2021) as defined by various competence frameworks such as DigiCompEdu (Redecker et al. 2017) or the UNESCO Digital Competence Framework for Teachers (UNESCO 2018). Furthermore, it is unlikely that professional development in other aspects related to cyber-ethics was prioritised at this time, as more practical technical competencies were of greater concern. It could be said that teacher educators have achieved a level of upskilling in digital technologies, but the extent to which they have achieved a level of professional digital competence that captures a broad spectrum of knowledge and skills is more debatable. The narrow range of professional upskilling seen during the pandemic may stifle opportunities to explore a wider range of pedagogical practices supported by digital technologies. In addition, as professional upskilling prioritised the acquisition of immediate technical and pedagogical skills rather than issues related to cyber-ethics, many teacher educators may need professional development in this important area now that they are more professionally digitally active.

To conclude this section, it is clear from all the contributions to this special issue that teacher educators are more digitally literate than before the pandemic and that they have acquired digital skills that have opened up new ways of working and collaborating with colleagues and partner schools. These changes may act as a catalyst and facilitate an exploration of possibilities in relation to different pedagogies and student experiences both on campus and during the practicum experience. However, amidst what McIntyre, Youens, and Stevenson (2019) describe as the 'persistent turbulence and debate around teacher education', digital technologies do not present an infinite canvas of possibilities for teacher education. Their use will be more than likely be determined by dominant policy discourses and the prevailing logic at a given time. In responding to these discourses of innovation, teacher educators need to be able to determine what digital practices augment and make a positive contribution to teacher education and student teachers' development, and which dilute the experience. Kidd and Murray also note that intending teachers need

such knowledge and skills. It is important therefore that teacher education collectively reflects on what Rosehart et al. call the, 'gifts from pandemic' to consider whether they are indeed gifts or a Trojan horse to support wider corporate and policy agendas.

Teacher adaptability and convergence with other reform agendas

The coronavirus emergency can be seen as an opportunity to consider what is important in teacher education and raise questions about current practices and policies, particularly at a time when issues such as student welfare and educational inequalities were brought into stark focus. These practices and policies include the increasingly utilitarian and economic justifications of teacher preparation driven by concerns over comparative education performance metrics (Brooks, McIntyre, and Mutton 2021) and set within an accountability paradigm that focuses on, 'uniformity and standardisation (and ultimately, leading to compliance) rather than fostering innovation and giving attention to local contexts based on the assumed agency of teacher educators and their school' (Cochran-Smith 2021, 11). However, it could be equally seen as an opportunity to accelerate these wider reform agendas. Exploring the policy process around ITE during the pandemic, Brooks, McIntyre, and Mutton (2021) observed that the shifts that took place during the pandemic that valued workers such as teachers, and their contribution to communities and the wider public, did not last. They noted that the greater agency and autonomy were short lived and that, 'before the end of the academic year, teacher educators perceived there to be a move back to the previous policy agendas with their associated technologies for change' (12). This resonates with Rosehart et al.'s observation in Canada that, despite the opportunities of attracting student teachers from more remote and indigenous communities through a move to distance learning, 'in approaching the third year of the pandemic, some systems seem to be reorganising to revert to the status quo'. This would suggest that the wider reform agendas within teacher education and wider regulatory regimes may be advanced as a result of the pandemic. For example, the pivot to distance learning could be used as an opportunity to introduce 'leaner' programmes. Therefore, changes to programme delivery driven by cost savings, incorporating greater distance learning, may be forced regardless of effects on the overall student experience.

   Within this context, it is worth reflecting on the calls for teacher educators to be more adaptable and to develop greater adaptability in future teachers to deal with future challenges and changes. What it means to be an adaptable teacher (and indeed teacher educator) needs to be interrogated further. It can be seen, for instance, as the ability to adjust to new conditions and modify one's practice. To achieve this, Parsons, Ankrum, and Morewood (2016) note that teachers need, 'deep and wide repertoires of content, pedagogy, and curricular knowledge' (251) and a level of professional agency. The presence of professional agency is an essential ingredient here. Adaptability also has a critical reflective element in that it involves exploration and understanding of the factors that have led to the emergence of the new conditions. For teachers and teacher educators, perhaps the most important element of adaptability is to question critically the representation of the crisis/problem together with the subsequent solutions and proposed new practices/procedures that can be presented as inevitable and necessary changes. In the absence of this critical reflective dimension and set within an

accountability paradigm, adaptability is simply compliance and conformity to externally imposed understandings of changes. In addition, adaptability is frequently presented as changing from 'old' to 'new' practices in a uni-directional way with limited consideration of reverting to past practices if subsequent conditions again change, but adaptability is experienced as bi-directional. It involves the ability to alter practices to adjust to new conditions and also to revert to past practices when conditions change again. As the immediate disruptions of the pandemic dissipate, an important task is to re-establish positive practices that were paused as a result of the pandemic and ensure that the interim solutions established, that were often a poor approximation of traditional practices, do not become accepted as viable long-term alternatives. This means that teachers need to have the agility (and agency) to revert to past practices where they are appropriate and relevant.

Continuity and change: learning from the pandemic

When we reflect on the lessons learned from the pandemic, one question stands out: will it be seen as a mere blip in the teacher education history timeline or will it be seen as a significant turning point? Despite the optimism around the potential for change and an appetite to reconceptualise practices in teacher education brought about by the pandemic, Covid-19 may be seen in hindsight as nothing more than a temporary disruption to longer-term change agendas that were re-established after the crisis abated. The contributions in this special issue leave no doubt that digital practices have increased and that teacher educators have developed digital skills they did not possess before the crisis. There is also little doubt that, if exposed to a more technology-rich environment, student teachers will feel more comfortable using digital technologies in their own practices; there are many ways in which these technologies can enrich practice at higher education and school classroom levels and enhance the school–university partnership. But, as we can also see from the articles in this special issue, digital technology use initiated during the pandemic generally has been used to maintain a level of continuity in programme provision, aligning with the view that in the history of educational technologies they have tended to be used to maintain existing practices rather than reconceptualise them (Cuban 1986; Selwyn 2010). This means that a critical stance in relation to the governance and use of digital technology will be essential to its future development as a tool to aid – rather than drive – processes of teaching and learning in all sectors from primary to higher education.

Now, as teacher educators adjust to (moving towards) a post-pandemic new norm, it is important that they find the time for reflection on their individual and institutional responses to Covid-19. This would not only include reflecting on the pedagogical approaches and practices that worked well (and not so well), but would also include consideration of what was prioritised in responding to the pandemic and what those priorities reveal about the conceptualisation of teacher education. Looking retrospectively at these issues and responses may help teacher educators continue to identify what they hold important in teacher education, a process reported as under way by authors in this special issue. Collective reflection may also strengthen fragile teacher educators'

identities (Mayer et al. 2011; Ducharme 1993) as they think about their role in the development of student teachers, recognise their professional commitment and think about their agility in responding to the crisis.

The problem remains as to how to operationalise change within bureaucratic systems that can be resistant to change; for teacher education to respond to Young et al.'s challenge to 'enact and harness the positive practices emerging through the pandemic'. We believe that there are two main areas in which the pandemic has opened up potential to make lasting changes to teacher education. The first relates to teacher and teacher educators' increased confidence in their use of digital technology which, in turn, can have a positive effect on their collective agency. While collaboration between teacher educators is nothing new, digital technologies enable them to look regularly and easily beyond their institutional boundaries; to keep up with new developments and ideas and strengthen partnerships with schools simply through keeping in touch. As Rosehart et al. observed in their paper, digital technologies enabled teacher educators to connect and collaborate throughout the pandemic.

At the same time, digital infrastructure has been created to facilitate rapid change. One example comes from the Chinese government's policy of 'Suspending Classes Without Stopping Learning', which guaranteed both emergency remote teaching across the nation and the institutional training to enable educators to carry out this policy (Zhang, Chu, and Song 2022). At the time it was supplemented by the Ministry of Education seeking teachers' views on changes via regular questionnaires, and the results were used to shape teacher education programmes for pre-service teachers. If such an infrastructure can be set up to implement rapid change in emergency circumstances, could it not be set up or drawn on for other systemic changes in other nations? Here, teacher educators' new-found confidence in their ability to use digital tools would be an important part of contributing to a collective agency that, in time, could result in a powerful grassroots movement for change that has the possibility of operating locally, nationally or internationally; it also has the potential to halt the continuing erosion of the professional footing of teacher education in many jurisdictions. Additional strength would come from teacher educators' knowledge that they can successfully implement rapid change.

The second area of potential relates to the theme running through all these special issue papers of teacher and student welfare. Awareness of the importance of wellbeing suggests a deeper appreciation of what it means to be a teacher that lies well beyond a technicist, exam-focused approach. Teacher educators need to consider what staff and student wellbeing looks like and what it means for everyday practice, once again a process that authors of articles in this special edition seem to have begun. Including marginalised groups, exemplified in online practicums by Rosehart et al., would seem to be at the top of the list; a sense of belonging is a critical part of development both as an individual (K. Davis 2022) and a (developing) professional (Williams, Ritter, and Bullock 2012), and can provide the foundation for working towards the 'more just and equitable society' invoked by Mutton (2020).

But let us return to the (fr)agility of the system. We have seen how the pandemic has offered opportunities within constraints, and the willingness of educators to respond in positive ways to a highly difficult situation. Together the papers in this special issue suggest tensions between the grassroots desire for change and wider, more intransigent

institutional agendas; of cost-cutting while widening participation, for instance, or of standardising teacher education to fit in with other university departments rather than appreciating the time, knowledge and skills it takes to nurture new entrants to the profession. We can imagine a situation, for instance, in which university managers suggest that school placement face-to-face mentoring for student teachers is no longer necessary and should take place online. Notwithstanding the value of hybrid forms of delivery, our own experience suggests that face-to-face interaction offers opportunities for more personal engagement, and it is this personal engagement that can make a real contribution to staff and student wellbeing.

In summary, looking at the covid pandemic as a critical incident, we can see that a space for real and lasting change has opened but that it is not yet clear how it will be colonised. Much will depend on the way the wider agendas for university-based teacher education are influenced by economic and political policy; the way these play out will be influenced by teacher educators' responses. Within this context it is worth reflecting on the calls for teacher educators to be more adaptable and to develop greater adaptability in future teachers to deal with future challenges and changes. This was a common theme to emerge from the contributions to this special issue. While adaptability is important in any profession, the response to the pandemic would suggest that this adaptability and agility is already present in the profession (if one is to judge how successful teacher educators and teachers were in responding to the crisis in the contributions to this special issue). Further still, in calling for greater adaptability and agility amongst student teachers, we need to consider why this adaptability is required. For teacher educators, such calls come from a desire to enable teachers to respond to future crises such as Covid-19 and to uphold professional values in the process. Set within an accountability paradigm, however, it may be seen as a way to prepare teachers to accept future top-down reforms that may be damaging to their sector and profession. The agility of teacher educators must not be misused to increase the fragility of teacher education.

Disclosure statement

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