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Online Initial Teacher Education in Australia: Affordances for Pedagogy, Practice and Outcomes

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Abstract: This paper reports on interviews with 19 senior teacher educators from 18 universities across Australia who offer fully online courses in initial teacher education (ITE). Teacher educators provided insight into four focus areas related to online ITE: 1) institutional practices; 2) affordances; 3) challenges; and 4) research priorities. Analysis revealed teacher educators perceived that online ITE can not only match on campus delivery but is also able to respond to reform agendas in ITE, including attracting students with attributes and characteristics that are likely to see them succeed as teachers, enabling students to experience contemporary approaches to learning, building strong partnerships between schools and universities, and helping address teacher shortages in rural/regional areas.

Introduction and Background

Australian universities have experienced consistent growth in the number of students choosing to enrol in Initial Teacher Education courses (ITE). Over the decade between 2005 and 2015, these numbers grew from 24,604 to 29,617, with the percentage choosing an online or blended mode of study nearly doubling, from 5,412 (22%) in 2005 to 12,143 (41%) in 2015 (AITSL, 2017). Of the 47 providers of ITE in 2015, 19 (40%) offered some or all of their courses in an online or blended mode of study.

Paralleling the growth in online ITE in Australia (and more broadly) has been an emerging international research base detailing the affordances of particular synchronous and asynchronous technological innovations that are used in ITE courses, such as web-conferences, blogs, social media, and discussion forums. This research often focuses on a single 'case' (university/course/unit) to profile the ways in which a particular technology is used by a (team of) teacher educator(s) and the impacts on ITE student learning (e.g., Arabacioglu & Akar-Vural, 2014; Cinganotto & Cuccurullo, 2015; Ebrahimi, Faghieh, & Marandi, 2016). A much smaller body of literature has focused on the experiences of teacher educators as they have transitioned to online delivery of ITE courses. These articles almost exclusively profile one or a number of teacher educators at a single university (e.g., Baker, Hunter, & Thomas, 2016; Downing & Dymnt, 2013; Dymnt & Downing, 2013; Fletcher & Bullock, 2015). Another focus area of research explores the impacts of online teacher education in learning areas that

have traditionally experiential and embodied approaches to teaching, such as art (Baker et al., 2016), health and physical education (Daum & Woods, 2015), and outdoor education (Dyment, Downing, Hill, & Smith, 2017). This small-scale approach to research on online ITE reflects the body of teacher education research more generally, which, as Mayer and her colleagues (2017) argue, is “characterised by isolated, often unrelated and small-scale investigations” (p. 4). In reflecting on this fragmented approach to ITE research, they suggest that:

The findings from the many small-scale studies of teacher education have informed local teacher education practice in useful ways. Nevertheless, these studies do not produce the data sets that policymakers generally appear to be seeking and the prevailing view is that this body of work has not systematically built a knowledge base for teacher education policy (Mayer et al., 2017, p. 4).

Our assessment of and concerns around the research on online teacher education parallel Mayer and colleagues (2017) and, in response, we purposefully designed this study to move beyond individual or small teams of teacher educators at universities around Australia. To gain a national perspective on the practices and pedagogies of online ITE, we invited teacher educators from all universities with more than 100 ITE students studying in an online or blended mode to participate in semi-structured interviews. This paper reports on the reflections of 19 senior teacher educators from 18 universities in Australia as they considered their experiences and beliefs in relation to the practices, pedagogies and outcomes of online ITE. Three focus areas guided the exploration with the teacher educators:

1. Institutional practices in online ITE
2. Affordances and opportunities in online ITE
3. Concerns and challenges in online ITE

This study stands to make important contributions to the literature on two accounts: first, the design purposefully moves beyond the ‘single site’ of investigation and provides a national snap-shot of the experiences of online teacher educators around Australia; and second, our findings revealed the significant yet largely unacknowledged affordances for the practices, pedagogies and outcomes in online ITE that stand to contribute meaningfully to the national agenda for improved effectiveness of ITE.

Before turning attention to the literature that underpins this study, it is important to clarify that this research adopts the definition offered by Allen, Seaman, Pouline and Straut (2016) in their annual reviews of online education in the United States between 2003 and 2015:

An online course is defined as one in which at least 80% of the course content is delivered online. Face-to-face instruction includes courses in which zero to 29% of the content is delivered online; this category includes both traditional and web-facilitated courses. The remaining alternative, blended (or hybrid) instruction, has between 30% and 80% of course content delivered online (Allen, Seaman, Pouline & Straut, 2016, p. 7).

In addition to the terms ‘online’ or ‘blended’, some providers, accreditation bodies and reporting agencies use the term ‘external’ or ‘distance’ for either the enrolment type and/or the mode of study. In these cases, particularly for statistics from the early 2000s, it is often difficult to determine whether the students were engaging through an online learning environment or by other means, such as postal correspondence. As all statistics referred to in this paper are from 2005 or later, it is assumed that all ‘distance’ or ‘external’ activity was online or blended in nature.

Literature Review

We begin our review by considering the published literature related to online Higher Education in Australia, before narrowing our focus to online Initial Teacher Education.

Online Higher Education

The number of commencing domestic students in Australian higher education (HE) enrolling in a fully external, online mode is steadily increasing. In 2016, 93,905 (22.8%) of the 411,228 domestic commencing students enrolled in a fully external mode, compared with 17.5% in 2010 (Australian Department of Education and Training, 2017a). The growing body of research into the online higher education experience reveals that the relative flexibility of online study attracts a wide diversity of students, including “those who are older with responsibilities of family and work” (Stone, O’Shea, May, Delahunty & Partington, 2016, p. 163). It has been argued that the opportunity to study online has “transcended geographical, physical, visual and temporal barriers to accessing education, and reduced socio-physical discrimination” (Knightley, 2007, p. 281). Online study can reduce financial, geographic and time barriers, alleviating the need to leave home, change location, or travel long distances that are costly in both time and money (Michael, 2012; Park & Choi, 2009; Shah, Goode, West, & Clark, 2014; Stone et al., 2016). Regional and remote students can choose to study “while remaining in their communities” (Regional Universities Network, 2017); while for many students with disability, online study has been shown to be “a preferred way to access higher education” (Kent, 2015, p. 2).

However, retention and completion rates for online students have been shown to be at least 20 percent lower than in face-to-face study (Greenland & Moore, 2014; Stone et al., 2016), while an ongoing cohort analysis of student outcomes in higher education (Australian Department of Education and Training, 2017b) shows that only 46.6% of external students, compared with 76.6% of on-campus students completed their undergraduate degrees over a nine-year period. Currently, external students in Australia are 2.5 times more likely than on-campus students to withdraw without a qualification (Australian Department of Education and Training, 2017c). Clearly, there are many inherent challenges in studying successfully online, with much of the literature pointing to challenges such as that of understanding e-learning technology and feeling isolated and unsupported in negotiating the learning content. The technology associated with online learning can be overwhelming for “novice adult learners” (Yoo & Huang, 2013, p. 160), while also struggling with technical problems, lack of interaction with tutors and other students, problems with instructional materials and difficulties with time management (Ilgaz & Gülbahar, 2015). For the many students with work and family responsibilities, there is evidence that “work-related factors” and “personal reasons relating to health and family commitments” (Greenland & Moore, 2014, p. 53) can also be significant factors contributing to online student attrition.

A recent Australian report on ways to improve the experience and success of online students (Stone, 2017) points to the importance of developing whole-of-institution strategies to improve the quality of online delivery and support, making it “core business” (p. 30). Such strategies include not only ensuring that online course design and pedagogy is engaging and relevant, but also that students are supported holistically within their learning via effective communication with teachers, other staff and students; and that comprehensive support, both

academic and personal, is embedded within their learning (Stone, 2017, pp. 6-12). There are similar findings, such as those by Salmon (2014) which emphasise the need for universities to develop clear institutional policies and strategies for online education to ensure that academics are equipped to teach online; that appropriate digital resources are both available and understood; and that students and staff are well supported in this new and often unfamiliar environment. Parsell's "*Standards for Online Education*" (2014) were developed in collaboration with "approximately 170 researchers and practitioners from across the sector in Australia" (p. 14); they stress that it is vital that the "organisation supports online education through the provision of quality leadership, infrastructure and evaluation [with] a clearly articulated strategic position on online education" (p. 22).

Various studies point to the importance of appropriate online course design, to "stimulate their [students'] active participation and interaction" (Park & Choi, 2009, p. 215); provide "robust and comprehensive instructional support systems" (Yoo & Huang, 2013, p. 160); and use "formats and content that represent the students' experience" (Devlin and McKay, 2016, p. 98). There are strong arguments for embedding support, such as academic and technical support, within the curriculum, "taking into account the nature and diversity of the cohort and their particular needs when designing the unit" (Kuiper, Solomonides & Hardy, 2015, p. 243).

Online Initial Teacher Education

Mirroring the broader Higher Education environment, offerings in online teacher education have grown significantly in Australia in the last ten to fifteen years. The first graduates from online or blended teacher-education courses emerged around 2002, with many of these students beginning their study via distance (through paper, then CDs) and transitioning to an online or blended mode. In 2005, 5,412 students (22% of the total commencing cohort) began their teacher-education course in an online mode in Australia. By 2015, this number had grown to 12,143, representing 41% of the commencing cohort. In 2015, of the 46 providers of accredited teacher-education programs, 19 (40%) offered some or all of their courses in an online or blended mode of study (AITSL, 2017). For the period between 2005 and 2013, student completion data revealed how rapidly numbers had increased in external ITE compared to the broader externally studied HE, with twice the percentage of growth. In fact, external ITE accounted for around 30% of the total growth in external HE during that time (Australian Department of Education & Training, 2015).

There are a number of motivating factors for universities to offer online ITE and while some of these mirror motivations for higher education, some are unique to the ITE offerings. Some ITE providers have offered distance courses for many years, so online delivery was a natural progression that responded to an established market of geographically diverse students. The Remote Area Teacher Education Program (RATEP), a partnership that began in 1990 between Tropical North Queensland TAFE, James Cook University and Education Queensland, provides one example of a well-established distance ITE program that recognised the potential for the online space to better support their community of learners (Bartlett, 2006). Importantly, programs such as RATEP attract remote and regional students and increase the likelihood that graduates will become teachers in what have been traditionally hard to staff schools (Kline, White & Lock, 2013).

For other, traditionally on-campus providers of ITE, moving into the online space was a strategic business objective in order to maintain competitiveness or increase student load

(Edwards & Weldon, 2017). Additionally, expected growth of 15-25% in the number of Australian school students between 2015 and 2025 has encouraged the expansion of both course offerings and modes of delivery in ITE. More broadly in HE, the removal of a cap on the number of government supported places in undergraduate courses (Australian Government, 2009) enabled universities to plan for strong growth in enrolments, and online offerings increases the appeal to potential students. Financially, providers recognised the significant investment to implement e-learning but considered that savings in additional campus infrastructure and face-to-face teaching would result in a more efficient business model (Collis & Moonen, 2001). Such early hopes were somewhat dashed by the mid 2000s when a number of high profile universities in the United States of America closed their online programs due to significant financial losses (Guri-Rosenblit, 2005). More altruistically, on the other hand, providers recognised that online ITE increased access to higher education and offered greater flexibility in how students engaged, thereby addressing concerns over equity (BOSTE, 2014) and justifying the significant financial investment.

For teacher educators, the transition to teaching online can be challenging on a number of levels. Firstly, in a profession centred on relationships, trust and support, the lack of face to face contact and opportunities to effectively model classroom teaching skill can threaten the traditional identity of a teacher educator (Downing & Dymont, 2013). Such concerns are particularly noted in subjects that typically rely on experiential embodied pedagogies, such as outdoor education (Dymont, Downing, Hill, & Smith, 2017; Smith, Dymont, Hill, & Downing, 2016), health and physical education (McMahon & Dinan Thompson, 2014) and the arts (Baker, 2013; Baker, Hunter, & Thomas, 2016). Secondly, teacher educators may find the technical challenges in designing, developing and delivering online ITE “overwhelming and downright frustrating” (Stott & Mozer, 2016, p. 152), leading to dissatisfaction and concerns about the efficacy of this mode of delivery (Gregory & Salmon, 2013; Zimmerman & Kulikowich, 2016).

A national report, commissioned by the Australian Department of Education in 2015 to identify best practices in teacher education, presented a somewhat gloomy picture by concluding that “there are programs, such as online programs, where it is difficult to believe that these best practice principles can be met, or how they can meet rigorously imposed accreditation standards” (ACER, 2015, p. 44). Long standing concerns related to the theory:practice divide in teacher education (Darling-Hammond, 2006; Loughran, 2014, Mayer et al., 2017) are potentially magnified further with the prospect of school placements in remote and regional areas, without visits from university lecturers. Seeking solutions to these challenges, Zeichner, Payne and Brayco (2015) call for the creation of “new hybrid spaces in university teacher education where academic, school-based and community based knowledge come together to support teacher learning” (p. 3) and examples of such spaces would be a valuable addition to the research literature.

Despite ongoing concerns about online ITE, it appears that as teacher educators become more experienced in the online ITE space the affordances of this mode of delivery begin to emerge. Early research findings pointed to the capacity of asynchronous communication to facilitate deeper reflection (Whipp, 2003) and then broadened to identify particular pedagogical approaches or frameworks that encouraged greater student activity and engagement (Downing, 2015; Jung, 2005; Salmon, 2005). Graduate satisfaction was found to be equal or even higher than on-campus courses (BOSTE, 2014) and teacher educators began to report a sense of satisfaction from teaching online, even in subjects considered particularly challenging, such as the arts (Alter, 2014). There remains, however, a gap in the literature in relation to the national

picture in online ITE, particularly in relation to the pedagogical affordances and how practices in this mode of delivery might respond to the call to improve graduate readiness for teaching careers (Australia Department of Education and Training, 2015). As identified by Mayer et al. (2017), there is “value to be had from research that is able to simultaneously speak back to policy, teachers and teacher educators with new forms of evidence about the quality of teacher education” (p. 17).

Methodology and Methods

Methodology

With a goal of accessing authentic teacher educator voice pertaining to their experiences of online ITE courses, we adopted a qualitative, interpretive approach to our research design (Cohen, Manion & Morrison, 2011). We adopted this approach given our interest in gaining in-depth understanding of teacher educators’ experiences in transitioning to the online space and our belief that these experiences would be multi-layered, complex and “as varied as the situations and contexts supporting them” (Cohen, Manion, & Morrison, 2011, p. 18). We also adopted elements of a pragmatist worldview, given our concern with “applications – what works – and solutions to problems” (Creswell, 2014, p. 10).

Sampling

With a view to ensuring representation across Australia, we adopted a purposeful approach to sampling (Creswell, 2012) and invited participation from teacher educators from all universities with teacher education programs ($N=19$) that had more than 100 online ITE students (AITSL, 2017). This purposeful approach was warranted given our interest in “acquiring in-depth information from those who are in position to give it”, in this case, teacher educators familiar with online ITE (Cohen, Manion, & Morrison, 2011, p. 157). For each university, we emailed the Dean or Head of School to provide them with an overview of the study and requested to interview one person from their Faculty/School with expertise in and support for online ITE. We deemed it important to have expertise in and support for online ITE given our interest in exploring the affordances of this mode of delivery. Of the 19 ITE programs invited to participate, 18 agreed (see Acknowledgements for a list of participating universities). In some cases, the Dean/HOS ($n=2$) agreed to be interviewed themselves; in other instances, the Dean/HOS nominated an experienced online ITE academic ($n=8$), the Associate Dean Teaching and Learning ($n=5$) or a Program/Course Director ($n=3$).

In the case of the one ITE provider who did not take part in this study, the response from their Dean was that this research was not necessary, so no further action was taken apart from a further invitation to the Dean to participate. This second invitation failed to elicit a response and no further action was taken.

Semi-Structured Interviews

As we were interested in gaining in-depth/rich accounts of teacher educator experiences of online ITE, formal individual semi-structured interviews (Hatch, 2002) were employed as the

primary means of data collection. This form of interview, also known as the “interview guide approach” (Cohen, Manion & Morrison, 2011, p. 413), employed open-ended questions across key themes with additional optional prompting questions to delve more deeply into the experience of participants. Development of the interview schedule was guided by educational research texts such as Creswell (2012) and Cohen, Manion and Morrison (2011) and through reading other research articles relating to online teaching and learning in higher education (e.g., Bolliger & Wasilik, 2009; Gannon Cook, Ley, Crawford, & Warner, 2009). The key interview themes included an exploration of issues related to online ITE, including the motivations for online ITE, characteristics and attributes of online students, affordances, challenges, and research priorities. Illustrative questions included 1) *What do you believe are the challenges of fully online/blended ITE, in particular for a) students and b) teaching staff?*; 2) *What differences, if any, do you believe that ITE graduates from online ITE courses might have to those ITE graduates from on-campus courses?*; and 3) *What areas do you believe are ripe for further research in online ITE?*

Once the interviewees had been identified and had agreed to participate in the interviews, the semi-structured interview schedule was sent. A time was arranged for the interview to be conducted by phone, Skype or Zoom. Interviews were recorded, transcribed and checked for accuracy. Interviews took between 30 and 50 minutes. In total, 94,175 words were transcribed.

Data Analysis

Interviews were transcribed verbatim and were initially read through by the research team to gain a general sense of the main themes. The process of moving from transcribed accounts of online ITE provision to research data involved thematic analysis that employed both deductive and inductive coding. Deductive themes such as those indicated above (e.g., opportunities, challenges, research priorities, etc.) were informed by previous research into online teaching and learning in higher education and teacher education. Inductive themes emerged from the data (e.g., the ways in which online pedagogies influence and strengthen on-campus pedagogies) and are reported on below in the results and discussion. These steps of data analysis are consistent with Creswell’s (2012) steps for analysing and interpreting qualitative data. After themes had been identified and data coded, the research team engaged in the interpretative stages to make sense of data and construct coherent, trustworthy and authentic accounts (Cohen, Manion & Morrison, 2011).

Following this initial analysis, data were imported into NVivo and assigned codes. Nodes/child-nodes were created to reflect the inductive and deductive themes. In total there were 18 nodes and 9 child-nodes with a total of 372 references taken from the data. The node with highest number of references was “what is working or not working in online ITE pedagogy” (n=43 from 13 sources), closely followed by “ITE Educators’ reluctance to embrace the online ITE environment” which had 36 references from 13 sources.

With a view to ensuring this research aligned with the National Statement on Ethical Research in Human Conduct, this project received formal approval from our university ethics committee. All participants reviewed the information sheets and provided their verbal consent to participate in the interviews. With a view to ensuring the anonymity of the study participants and their employers, pseudonyms are used in the results and discussion.

Results and Discussion

Focus area 1: National snapshot of Online ITE

Institutional Motivation to Offer Online ITE:

We begin this section by reporting on why the teacher educators believed their institution had decided to offer online ITE and what modes of study were offered to their students. The most common perception of teacher educators was that their institution moved into the online ITE market in order to increase market share and profitability. For several providers their move into online ITE was a gradual progression from many years of providing distance (by correspondence) teacher education. Other motivations included the desire to improve accessibility and equity for students, and to provide a more flexible learning environment for students juggling multiple roles and responsibilities. Jane's double-barrelled response (Institution F) represents the view of the majority of the teacher educators well:

Now, the official line here is always going to be to address isolation. And this could be isolation in distance or time. And both of those are perfectly valid. But of course you and I know that there are other reasons that often aren't documented. Things like, for some reason, seems to be cheaper, more economical, to be in the online space. (Jane, Institution F)

It is interesting that financial motivation was the most common reason offered by teacher educators, as the literature has generally pointed to the higher than expected cost of providing online education (Norton, Sonnemann & McGannon, 2013). Yet a recent study by Zhang and Worthington (2017), who analysed the economies of scale and scope of 37 Australian universities, found that fully online offerings are more profitable than blended or on-campus modes provided that student enrolment and retention rates remain high. It raises the question of whether the economic return could be due to teaching staff 'doing more with less' in their determination to provide a rewarding and engaging experience for their students. Many teacher educators spoke of their own or their colleagues' tendency to regularly work on weekends and evenings in order to be responsive to the study patterns of their learners and in recognition of the positive correlation between teacher engagement and student retention. Such inclinations support the broader literature on the characteristics and study patterns of non-traditional students in higher education (Stone, 2017) and their engagement in higher education (Kahu, 2013). It also highlights, however, the perhaps predictable inclination of teacher educators to position their students' satisfaction and engagement above adherence to institutional work-load allocations for online teaching, as suggested by Nica (2017).

Most notably, no teacher educators suggested that their institution had moved into online ITE because of a belief that online offerings would deliver the affordances that were beginning to emerge in the published literature; the potential for an online learning environment to actually improve student engagement and outcomes seems an unconsidered factor in the institutional decision making process. Conversely, most reported both their own and their colleagues' hesitance to move into online delivery due to their concerns over these very aspects. This is a significant finding, with implications for how providers continue to make decisions about the modes of delivery for their ITE programs and the manner in which those online programs will be supported and evaluated.

Types of Online ITE Offered:

Not surprisingly, the blurred lines between different forms and definitions of online learning were evident in the interviews. However, the main forms of delivery in the ITE programs were reported to be:

- Fully online, with no requirement for any on-campus attendance;
- Multiple modes of enrolment within each semester, for example, some units fully online and some on-campus;
- Blended delivery – on campus study but with a wide range of activities conducted, and resources available, online;
- Blended delivery- alternating on-campus, then online study within units (e.g., two weeks online, two weeks on campus);
- Blended delivery – for example, first two years face to face, second two years online;
- Fully online for study, but on-campus requirement for the final semester and final Professional Experience; and,
- On campus study, with minimal resources online.

As noted by Karen (Institute H), many providers have increased enrolment options in response to student or staff feedback:

I think there's increasing flexibility between when they start online and go face-to-face, or start face-to-face and then go online. That's the world we're living in, we have to offer that flexible approach. (Karen, Institution H)

Some providers were also offering what participants referred to primarily on-campus with minimal resources (such as the Unit Outline) accessed online. For many providers, a minimal online presence was the first step towards a fully online or blended mode of delivery. Several interviewees noted that reliable broadband internet could not always be assured for remote and regional students, leading to frustration and contributing to student attrition:

The geographic remoteness of some of our students and relying on diesel generated power, and given the climatic conditions in the north of the country with respect to dust storms and flooding, makes the internet unreliable. (Glenn, Institution E)

We get a lot of flak from students who do live in remote areas who don't have broadband access. You know, it's okay for someone living in Rockhampton who has access to NBN, and what I see on my screen should be what everyone else sees. It's like, 'well, no, a person who lives two hours down the road, it takes 20 minutes for that page to load because they're on satellite, or whatever...' (Ron, Institution M)

Such difficulties reinforce the call to remember the “diversity of the cohort and their particular needs” (Kuiper, Solomonides & Hardy, 2015, p. 243) when designing and developing online resources and activities. Enabling streaming of media files and downloads (for when remote students are able to access community centres or libraries) as well as recording any synchronous activities such as web-conferences helped students with some of the challenges faced.

Focus area 2: Affordances and Opportunities in Online ITE

The following findings represent the primary focus of this paper and have been organised into five areas, each representing particular affordances that emerged from the interviews with teacher educators.

Positive Characteristics and Attributes of the Online Learner:

Aligned with published literature, teacher educators described their online student cohort as quite different to their traditional, on campus, student. Typical characteristics identified included being more mature, juggling multiple roles, first in family to attend university and such like. Importantly, a consistent message emerging from the data was the positive, indeed powerful, personal characteristics and attributes of the online students that were not only likely to engender success in studies but also in their future teaching careers. This aligns with other recent research (O'Shea, May, Stone & Delahunty, 2017) to reinforce the value these non-traditional students bring to their university, but also highlights the significant value these students bring to a profession seeking particular traits in their pre-service teachers. Descriptors such as 'committed', 'motivated', 'focused', 'engaged' were repeatedly used and connections made to how these traits will stand them in good stead in their future classrooms:

They're older and maybe then therefore they've got a clearer idea of what they're doing and why they're doing it. Often they've made a very conscious decision to do this thing because they want to change something in their life. So they've tried something or they've not had opportunities before and now they've got to, typically, mid-30s and they've thought, "This is what I want to do now." They're very motivated towards that and they've got a clearer idea that this is right for them. Vera (Institution P)

I think that the level of independence that's required to work in that online space, away from the turning up to class at particular times, and what have you. They're having to think about how they're learning in a different way in those spaces and hopefully then thinking about how they're going to apply that to their future classroom. I actually think there's a whole range of skills that those students are learning in the online space that they can be taking with them into the traditional classroom. (Lorraine, Institution J).

This raises an important affordance of online ITE not currently represented in the literature – the capacity of this mode of study to attract the type of students that have the personal attributes sought in the teaching profession. While the recommendations from the Australian Department of Education and Training's (2014) Ministerial Review have seen the introduction of 'suitability' assessments before acceptance into ITE programs, the finding of this study suggest that providers might also capitalise on the affordances of online ITE to attract the type of students most likely to be effective, successful teachers.

Opportunities for New Approaches to Teacher Education

Mirroring the broader higher education online literature (Salmon, 2005; Stone, 2017), there was recognition that the online environment created opportunities for providers to revise or reimagine the student experience:

I've got a firm belief that universities are still stuck in 19th century in many cases, and if not the middle 20th century, and we've got to break out of that in terms of looking for different ways in which we need to support student learning. When you're forced into an online mode, that's the first step in having to do that, because it challenges your traditional practises about people having to be face to face. (Gary, Institution E)

Gary's comment reflects the general view of the participants, and the research literature, that the online environment cannot merely be an electronic version of the on campus equivalent and, in particular, requires more consideration of how best to support and engage students. For example, participants stressed the need to more effectively scaffold the students' experience in the online learning environment, especially in the early semesters of the course. Aligning with the findings of Salmon (2013), Stone (2017) and BOSTES (2014), participants recommended a consistent 'look and feel' to online units, with clear instructions and comprehensive guidance, in order to encourage student engagement and retention:

You need to tell students, "This is this unit. This is where it sits in your course. This is what you'll be doing in the unit, this is why. This is the best way to navigate your learning through". You just provide so many more signposts. (Vera, Institution P)

Rather than considering this an indication of needy students, many of the teacher-educators described it as an opportunity to model a supportive environment, where careful design and teacher presence guided students and helped them to feel comfortable in their new learning context. The capacity for the online space to facilitate a more engaging environment was noted by the teacher educators:

I see that now discussions where students engage, you know when we put up a module online week to week and they're asked to engage, and they're often very perceptive and reflective in their responses ... I think in [on campus] intensives we don't, in that sense they're so intensive and so curriculum packed, that they perhaps don't have time to really reflect on the learning, and the online environment really provides that opportunity that we don't necessarily get here on campus. (Kathy, Institution I)

Additionally, the value of Learning Management Systems being able to analyse and report student activity and engagement was appreciated:

There's a lot more data you can actually get out of the LMS than you ever could before, in terms of really understanding what interaction means and what good interaction means.... Not just the loudest voices on the discussion page but we can now really focus in on the data, into how long they're spending on video, or how long they're actually looking at discussions and how many times they're opening the readings. (Jasmine, Institute H)

A number of respondents noted that students were increasingly choosing online enrolment in preference to on campus where they had a choice, perhaps reflecting a growing appreciation from students of the advantages of this mode of study and their confidence of equity in the learning experience. These findings are consistent with the ten-year evaluation of

online higher education in the United States which reported a steady rise in the confidence of students, providers and employees that an online degree is equivalent or better in relation to the student experience and graduate outcomes (Allen, Seaman, Poulin & Straut, 2016).

Contemporary Pedagogy in the Online Environment

There was consensus that the move into online ITE had, for the first few years at least, ensured resources such as educational designers and developers to support academic staff as they transitioned to a new mode of delivery. This period of time focussing on online pedagogy and practice enabled the development and implementation of strategies that represent more contemporary understandings of learning and teaching. The teacher educators described numerous examples of innovative and engaging activities provided for online students, including simulations, interactive webinars, student-led discussion forums, collaborative website development, and other constructive, participative activities. Building learning communities, connecting online and practical experiences, and encouraging strong student-to-student interactions were all identified as strongly desirable and achievable with careful design.

Online really opens up to us what we can actually do with our teaching practice, and actually improve what we can do with our teaching practise. The staff who are excited by it see that they can use all sorts of different tools and extend the way that we're actually teaching, and therefore, what they're also hoping our teachers, you know, our students, will do with their students. (Lorraine, Institution J)

When responding to the question around best practice in online pedagogy, interviewees often nominated a social-constructivist approach, along with descriptors such as 'applied', 'active', 'engaged' and 'connected':

I think you have to have a learning community. There has to be an opportunity for students to participate in the learning process rather than just consume pre-made content. I think there has to be an intimate link between their practise and their theoretical knowledge. It's really easy in an online space to focus in on theory or theoretical constructs rather than the practise of teaching; and a good online ITE programme will enable students to have a balance that actually promotes practise, or that inter-relationship between the two. (Karen, Institute H)

Many of the students studying from regional and remote areas were reported as already working or volunteering in schools, and this enabled them to connect their studies to the 'real' classroom authentically and immediately:

They can do it in their community and at the same time they're immersed in the school culture, they're immersed in the education paradigm and yet learning also from the academic perspective as well. (Cameron, Institute B)

This approach aligns with the body of work around applied learning (Downing, 2015) and authentic learning (Herrington, Reeves & Oliver, 2010) which emphasise the importance of creating online learning environments that link to real world activities and the demands of the workplace. The pedagogical approach in teacher-education carries an additional responsibility as it must provide a model for future practice as well as enabling effective learning. As Bruner (1996) warns: "Pedagogy is never innocent. It is a medium that carries its own message" (p. 63). His words are a reminder to teacher-educators that a traditional content-led approach may

communicate a message, even if unintended, that objective knowledge can be carved into neat units and delivered to diverse students. To respond to the challenges identified by Bruner and build the skills of graduates to engage collegially in discussions about teaching and learning, teacher-educators must feel comfortable in that role themselves. There is, however, limited evidence that this assumption that can be made (Korthagen, 2010; Loughran, 2006). Rather, the associated literature abounds with examples of teacher-education students being encouraged to understand, accept and assimilate particular pedagogical approaches and educational theory whilst experiencing the modelling of a different approach from their lecturers (cf., Darling-Hammond, 2005; Loughran & Berry, 2005; Russell & Loughran, 2007). Students may not feel comfortable talking to their teachers about the apparent contradiction, so the mantra of ‘do as I say, not as I do’ runs a risk of being adopted by those students, and the cycle is likely to continue when they begin their own careers as teachers (Nolan, 2014).

Online Pedagogy Positively Influencing On-campus Pedagogy:

Notably, participants reported that pedagogical approaches in the online mode of study were positively influencing on-campus pedagogy:

A lot of the affordances that we've learned about through being in the online space have fed in to what people are doing in their face-to-face units. If you looked now you would see a lot less difference and that would be largely because what's been happening online has now been brought into what's happening on campus. The Blackboard unit for the face-to-face delivery will look very, very similar because we realised that the kinds of supports, the kinds of scaffolding, the kinds of signposting, all those things that have been necessary for our online students, guess what? They really help the face-to-face students as well. (Vera, Institution P)

The influence of the online environment appears to have encouraged, in some institutions at least, a move away from the traditional approach (such as lectures and tutorials) to one that was considered more engaging and likely to model the type of classroom teacher that providers were aiming to graduate:

There has to be an opportunity for students to participate in the learning process rather than just consume pre-made content. I think there has to be an intimate link between their practise and their theoretical knowledge. (Karen, Institute H)

Successful online activities also seemed to motivate lecturers to introduce similar activities with on-campus students, increasing the online component of the blended courses: “we do face to face stuff, but we also encourage them to get online...that’s where a lot of the interaction is happening” (Lorraine, Institution J). This often led to the two cohorts ‘mixing’ and adding further value to the student experience.

Enhancing Partnerships with Schools through Professional Experience

An integral part of every teacher-education program is the practicum component, which for Australian ITE programs is a minimum of 80 days (or 60 days for post-graduate programs) of placement in a school environment. The practicum placement is also known as Professional Experience (PE). Generally, these placements are dispersed over the course, and take place in

the form of block placements at host schools for periods of two weeks or more (in some cases, students spend an entire semester on placement). Historically, ITE students are visited while on placement by their university lecturers, and their assessment is undertaken by their supervising teacher in the school (often referred to as a colleague teacher, or CT) as well as university staff.

Interviewees reported how online ITE, with a large number of students living interstate or in regional areas, has challenged traditional processes in organising and monitoring placements in schools. The teacher educators explained how their universities are organising placements for students who they have never actually met face to face, and in schools where university staff have not met the colleague teacher. They described how their institution has, in some cases, also shifted responsibility to the students to organise their own placement; a practice that has raised concerns related to administrative control and quality assurance, but those operating in this space highlight the advantages:

In so doing they [the students] establish some really, really valuable relationships with schools. They show themselves to have initiative, to be very engaged in what it is that they need to do, they get an opportunity to actually think about, 'Well, why am I to approach this school? What is it about that school that might give me what I need in terms of my development and my course?' It demands a deeper engagement rather than just, 'I'm being sent here'. (Vera, Institution P)

Interviewees described that logistical challenges that emerge with physically visiting remote students on placement, explaining that greater responsibility is often given to the CT to assess the students' capabilities, supplemented with the technology-enhanced communication (such as video conference calls) between the students, CTs and university staff. This has raised some concern from teacher-educators in relation to the validity, reliability and appropriateness of assessment, leading to some providers insisting that the students attend campus for their final semester, and undertake their final placement in a school local to the university:

It could be that if they're in regional and remote areas, that those teachers, whether or not we call them supervisors or whatever, are generally less experienced and may not know, or have sufficient experience to know, what is a good standard and what isn't... When students go through real schools that we know, rather than somewhere we don't know, supervised by people we know, then we know that if they got through that then they're okay. (Sam, Institution O)

Conversely, other interviewees noted the advantages of remote and regional placements, such as potentially addressing staff shortages in those areas, and the affordances of technology to assure effective communication with the CT and the student. Indeed, it appears that for some institutions the challenges of remote placements have fostered stronger connections and partnerships with schools and improved the pedagogical value of the PE component of the course:

We really work in with our schools, our partner schools, and it's a partnership in terms of they, the partner schools and ourselves, we have an agreement of what we would like our pre-service teachers to exit as... Because we don't have the luxury of calling all our students back on campus and conducting focus groups...so it's about coming to a shared agreement, a shared understanding, and a lot of dialogue in the development. (Doug, Institution C)

We're looking at the ways that we are integrating the time the students are spending in that practical classroom, out in the classroom. And how that works

in with what we're doing with them, with what they're doing with the online or face to face at the university. (Lorraine, Institute J)

The manner in which many teacher educators described the PE approach and structure, regardless of the particular model adopted by the university, appears to respond to the Commonwealth Department of Education's (2014) recommendations for better partnerships with schools and a greater focus on purposeful practicum placements that facilitate and evidence students' progression towards the desired graduate capabilities. Indeed, the long-standing call from scholars such as Darling-Hammond (2006, 2008, 2013), Mayer (2014), Korthagen (2010) and Loughran (2006) for closer connections between the theory and practice of teacher education appears to have been responded to across the nation.

Classroom Readiness of Online ITE Graduates:

There was unanimous agreement that the graduates from an online ITE program were just as likely to be 'classroom ready' and gain employment as a teacher as those students attending campus: "It needs imagination, it needs a different way of thinking, but no, I don't have any concerns" (Andrea, Institution A). Most participants considered that the students would have had a quite different experience than an on-campus student, but the end result was much the same. Representative of the general view, Karen (Institute H) suggested that:

There's very little difference between the face-to-face, versus the online, versus the blended student, and their engagement in the workforce. I think that comes down to the characteristics of the student rather than the characteristics of the programme, or how it was presented.

As discussed earlier, several respondents pointed out that the characteristics that online students needed in order to succeed in their studies, such as resilience, effective time-management, problem solving and such like were also likely to contribute their classroom readiness and effectiveness as a teacher. It was noted that along with these characteristics, the success of the students remains dependent on high quality teaching and learning experiences:

The good students, the ones who are pretty good with task management and all these things, do really well. I don't think that the mode is so important. I think the quality of teaching, and the resources that they have, and the scaffolding that we are trying to provide, is more important. (Mandy, Institution K)

Many participants identified the Professional Experience component as the key aspect that ensured that all students were assessed appropriately in relation to the developing classroom readiness and eventual graduate achievement. Representative of the comments in relation to this was Rosie's:

I think my hunch would be that it would be relatively equal, in terms of their confidence, and their feeling of preparedness. They all see the big challenge and the main challenge being how they can enact their learning on placement. In that sense their experience is equitable. On campus and off campus students are the same, you know, kind of range of placement experiences and same days. That sort of thing. They've all had the same opportunity to test themselves. (Rosie, Institution I)

One teacher educator described how their institution has been monitoring the post-course experience of their students and expressed absolute confidence in their online graduates:

We can say with confidence that the course-weighted average of online graduates is slightly higher than that of our on-campus graduates and that their employment rate is also greater. (Vera, Institution P)

Focus area 3: Concerns and challenges in online ITE

Although the focus of this paper is purposefully on the affordances of online ITE, the interviews revealed a number of long standing concerns and challenges that are important to acknowledge. Firstly, many of the interviewees described negative reactions from staff when programs moved into an online mode of study, including resignations and retirement. Others described what could be considered as conditional agreement on the provision of adequate resources and support. For those providers with a long history in distance education, the move to online was smoother. Overall, there was a common theme that while many staff might prefer a fully face to face environment, the move to online was considered inevitable and attention turned to how to approach it constructively:

Okay, so I think all of them, with a few exceptions, would prefer some face-to-face contact with their students. Some do so reluctantly, do the online environment, particularly with the graduate entry degrees, but others recognise the valuable nature of such degrees and perhaps...what's the phrase... shed a tear at the start that it's not face-to-face, but then go forth and do teach quite well. (Doug, Institution C)

A second concern related to the suitability of online provision in ITE programs (as opposed to higher education more generally). Interviewees described resistance on the basis that teaching is a very personal and relational discipline, and that the online environment could not facilitate the types of interactions and engagement necessary for students and staff. Concern was raised in regards to the development, assessment and evaluation of those skills and attributes.

A third issue that emerged in the interviews revolved around the challenged of modelling effective teaching practice. Some interviewees noted that it was not possible to model actual teaching practice, while others acknowledged the challenges of doing so in an explicit and effective manner.

Resourcing for both technological and pedagogical skill development was a fourth concerning issue that emerged in the interviews. Interviewees described how that often there is an initial provision of resources in the form of educational developers, technology experts and experienced online educators but this support dwindles after a few years to a state where staff either manage without much support or look to their peers for help when needed. Both pedagogical and technical support and advice was valued by staff, with a strong recognition of the importance of not replicating the face to face approach in the online mode.

Interviewees acknowledged that a fifth concern related to the significant time needed to create and maintain effective online learning environments. There was broad agreement that offering online delivery goes hand in hand with extending the support provided to students, in recognition of the likelihood that students are juggling study with work and often family commitments. Again, for those providers who have been providing distance education for decades this was well-established knowledge, but for others it appeared academics were still

adjusting to different expectations. For example, for those new to online teaching, responding to students outside normal campus hours was a new and perhaps not welcome expectation.

Conclusion

This research project involved 19 teacher educators from 18 universities, representing almost every provider of ITE in Australia with over 100 online students. Such willingness to share experiences, aspirations, challenges and potential research interests was in itself a somewhat surprising finding. Every teacher educator interviewed was keen to know of others' experiences too, and it felt like a community of passionate educators was forming, wanting the best experience for all students and for their future careers as teachers. This paper has purposely focussed on the affordances that emerged from the interview data, in order to appropriately acknowledge the confidence of teacher educators that online ITE can indeed represent best practice and meet the rigorous national accreditation standards. Of course, the study has a number of limitations: there was only one method of data collection, only one representative from each institution was interviewed (with the exception of one provider) and there was no differentiation in terms of the forms of online study (fully online, blended, etc.) offered or length of time providing online ITE.

Yet there was a clear message that online ITE can not only match on campus delivery but is also able to respond to some of the urgent calls for ITE in Australia, including attracting students with the attributes and characteristics likely to see them succeed as teachers, enabling students to experience contemporary approaches to learning and teaching, building stronger partnerships between schools and universities, and helping address the teacher shortage in rural and regional areas.

Although not discussed in this paper, future research priorities were well captured by the teacher educators. Aligned with Government priorities, longitudinal studies of graduates as they progress in their careers is needed, as is further investigation into the student experience in online ITE courses and exploring the technologies that are most effective in developing capabilities. As this project represented the first part of a large scale analysis of online ITE in Australia, we hope to make our contribution to some of the areas identified by teacher educators and perhaps, as is often the case in the research process, uncover more areas that are ripe for further investigation.

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