Jillian Fox · Colette Alexander ·
Tania Aspland   *Editors*

Teacher Education in Globalised Times

Local Responses in Action

Springer

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Australian Teacher Education Association

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Chapter 1
'Third Wave' Politics in Teacher Education: Moving Beyond Binaries

Colette Alexander, Jillian Fox, and Tania Aspland

Abstract Teacher educators live and work in a highly complex world that is mediated by multi-layered political, social and educational arenas. While education typically falls with the jurisdiction of nations or states, the influence of globalising factors and forces on teaching, teachers and teacher education is steadily increasing. The shrinking of the globe through the movement of people and ideas continues to intensify in response to technological advances including social media. This chapter provides an analysis of the influence of global trends on the local work of teacher educators. Globalisation is defined and the contestations that emerge at the intersection of the global with the local and the political with the educational are discussed. Historical influences of global forces in teacher education are explored and explained as two 'waves', the first focused on providing sufficient quantities of teachers, and the second shifted focus to the quality of teachers, teaching and teacher education. It is proposed that teacher education needs to enter a 'third wave' to effectively respond to contemporary global political contexts. This new model describes the political work of teacher educators as productive, personal, possessive, pragmatic and philosophical. It considers how teacher educators can respond to political agendas whilst working towards educationally and socially responsible educational practice for all learners. The model is applied to thinking about the projects included in the book, *Teacher education in globalised times: Local responses in action*, to bring to light the deeply significant political work being undertaken across global-local boundaries.

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1   Introduction

This chapter introduces the book *Teacher education in globalised times: Local responses in action*, and provides critical commentary on the influence of multi-layered political contexts that surround the work of teacher educators worldwide. It commences with a discussion about what is meant by 'globalised times' and definitions of globalisation. The chapter then explores/highlights the consequences of globalising forces on education and how local policy and practice in teacher education is impacted by and responsive to these forces. Binaries that juxtapose political with educational goals and agendas and elicit contestations between and within the global and local arenas are identified and analysed. The chapter then proposes a model for 'third wave' political action as foundational to shaping the future of teacher educators' work as teachers and researchers. The model considers how teacher educators can and do embrace intentional political work that responds to political agendas whilst working towards educationally and socially responsible practice for all learners. Finally, the chapter uses the model to articulate the importance of the local stories that are richly described in each of the remaining chapters in this book. The goal is to bring to the surface the often tacit political activity that underpins teacher educators' work and draw out its significance for teacher education at the global level.

2   Globalisation and Teacher Education

Globalisation has radically transformed the world creating an inter-connected and inter-dependent economy. The escalation of a global economy has driven competition among many nations changing the social, political and economic landscapes and educational systems within these nations (Stromquist & Monkman, 2000). In recent times globalisation has been labelled as 'the most over-used term in the current political lexicon' (Zajda, 2015, p. 4). Yet due to its competing interpretations and usages, defining it is problematic. Different authors from a range of disciplines have described globalisation as a process, a condition, a system and also a phenomenon. The vast number of interpretations of globalisation has been accompanied by a considerable body of literature especially since the late twentieth century.

Whilst there has been significant recent publicity surrounding globalisation the phenomenon dates to the first century when luxury products from China started to appear in Rome. Throughout history, surges of globalisation crossing the scientific and industrial revolutions have foregrounded the twenty-first-century digital-driven era of globalisation called 'Globalization 4.0' (Vanham, 2019). Attention to twenty-first-century conditions and contexts feature in many definitions identifying economic, political and technological drivers of globalisation and economic, political, social and cultural manifestations.

Globalisation is defined by the Peterson Institute of International Economics (2019) as, 'the growing interdependence of the world's economies, cultures, and

populations, brought about by cross-border trade in goods and services, technology, and flows of investment, people, and information'. In its simplistic sense globalisation refers to the widening, deepening and speeding up of global interconnection but due to its complexity, globalisation definitions vary. For example, Burbules and Torres (2000, p. 29) suggest globalisation is 'the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa'. The change in notions of geography and national boundaries is an important concept that can be recognised throughout many of the chapters presented forthwith. For Robertson (1992), the concept of globalisation is associated with recreated notions of space, 'Globalisation as a concept refers both to the compression of the world and the intensification of consciousness of the world as a whole' (Robertson, 1992, p. 8). In the twenty-first century, globalisation is unique due to rapid acceleration of cross-border movements of capital, labour, people, goods, knowledge and ideas enhanced by technological advancements. Despite a lack of clarity on the nature or definition of globalisation, it is agreed that the substantial connectedness of the world has created challenges for education and teacher education (Aydarova & Marquardt, 2016). Research agendas associated with education and teacher education include policy issues, curriculum issues, evaluation and assessment systems, pedagogical practices, initial teacher education, professional learning, partnerships, quality in education, equity and inclusive practices, student outcomes and many other connected topics.

Education plays a critical role in responding to, promoting, enhancing and critiquing the impact or influences of globalisation. Education practices, trends and policy are especially connected and influenced in a knowledge-based technologically enhanced world where twenty-first-century skills are critical to functioning in society. Teacher education plays a pivotal part developing the teachers who ultimately influence the shaping and reshaping of society through sustained engagement with students and communities. It is widely accepted that the academic and professional standards of teachers constitute a critical component of the essential learning conditions for achieving the educational goals of a nation. Yet there is a scarcity of teacher education policies and practices written from a global perspective (for exceptions, see Bruno-Jofre & Johnston, 2014; Paine, Blömeke, & Aydarova, 2016). Globalisation movements have significant bearing on the education landscape as we shall witness in the narratives that unfold in this book.

2.1 Movement

Movement is a key dimension of globalisation and has significantly transformed teacher education (Paine, Aydarova, & Syahril, 2017). The movement of students across borders and into culturally diverse contexts is a well-known dimension of globalism and often referred to as 'people flow' (Freeman, 2006). Not only are school students migrating, but teachers are also moving across borders and must be prepared to teach in culturally varied classrooms. According to the Organisation for Economic

Co-operation and Development (OECD) between 1990 and 2017, the total number of international migrants grew from 153 to 258 million people, an increase of 69% (OECD, 2019). This movement increases the challenge of social heterogeneity in classrooms and 'inequality of opportunity can translate into disparities in well-being, and drive political and social unrest' (OECD, 2019, para. 4).

Globalisation also entails the movement of ideas. Not only are ideas of best-practice in curriculum and pedagogy being shared locally but education policies and standards are circulating and linking the globe through networked connectivity. Digitalisation and twenty-first-century innovations have spurred a sharing of pedagogies, curriculums, assessment modes and data. Global networks of teachers and teacher educators share ideas and innovations across borders adapting ideas, teaching methodologies and theories in their own countries. International assessments, such as Programme for International Student Assessment (PISA), and international organisations that create and influence policy and build data sets including OECD, and United Nations Educational, Scientific and Cultural Organization (UNESCO), also frame teachers, teaching and teacher education in global ways (Robertson, 2012). Therefore, globalisation's relevance to teacher education is not only the result of the physical movement of materials and people but the exchange or transporting of ideas and the growth of international, transnational or even so-called global perspectives on teaching and teacher education with national and international entities.

Movement and the conditions created within and across movements have impacted on the professional work of teachers and teacher educators. Positively, the result of movement has supported the creation and building of best-practice and evidence-based knowledge, research, policies and practices. However, increased movement has also potentially created centrally influenced and at the same time bifurcated practice environments. In these climates, the professional understanding of the nature of teacher education is being fundamentally politicised, at both the levels of policy and practice.

2.2 Contested Binaries

Over the years, two perspectives have surfaced that conceptualise the realities of globalisation and the relevant problems for education. Wang, Lin, Spalding, Odell and Klecka (2011) discuss the relevance of an economic imperative perspective (Zhao, 2010) and the critical resistant perspective (Burbules & Torres, 2000). Advocates of the *economic imperative perspective* assume that a nation's edge is its workforce. A workforce that can develop new ideas and solve problems successfully, collaborate and communicate with other people effectively, and adapt and function flexibly in different contexts and environments is necessary (Stromquist, 2002). The report on *Transforming Teacher Education* (Gopinathan et al., 2008) points to changes shaped by globalisation that create economic and market pressures on teacher education as skills needed for the next generation change. New expectations, accountability demands and fiscal constraints create economic imperatives (Paine, 2013). As such,

one of the prime responsibilities of teachers is to prepare a nation's future workforce with the necessary knowledge and qualities. Teachers are often seen as unprepared to meet this responsibility (Tatto, 2007). Teacher education has an essential role to play in preparing teachers and as such, shoulders responsibility for this perceived lack of preparedness for contemporary contexts. In response, current political reforms in Australia are driving a push towards graduate outcomes and graduate take-up into the workforce as significant key performances indicators for universities and teacher preparation faculties.

The *critical resistant perspective* positions the role of education as developing a socially just and equitable society which can respond to global capitalism. Global capitalism is seen as reducing a nation's education system to simply a subsector of its economy negatively impacting on individual's outcomes (Apple, 2001; McLaren & Farahmandpur, 2001). From this perspective, critical to a nation's education system is the capacity to prepare its citizenry to be 'committed to social justice and human rights; acquire the critical consciousness, necessary knowledge, and skills to participate actively in the democratic process; and build solidarity in opposition to global capitalism' (Wang et al., 2011, p. 116).

The critical resistant perspective is often situated in opposition to the economic imperative perspective. But in fact, these two perspectives sit alongside each other responding to different aspects of the globalisation phenomena. A global and intercultural outlook is central to the critical resistant perspective—that education shapes lives (Barrett et al., 2014; UNESCO, 2014, 2016). Globally competent individuals can understand and appreciate different perspectives and world views, interact successfully and respectfully with others, and take responsible action toward sustainability and collective well-being (OECD, 2019). A competitive workforce (a requirement of the economic imperative perspective) must have the skillset and knowledge base to examine local, global and intercultural issues. Intercultural capacities, communication skills, socially equitable behaviour and ability to engage and interact within diverse teams are keys to success in many jobs and will remain so as technology connects people locally and across the globe. Nations need competitive workforces that have twenty-first-century mindsets promoting an inclusive and sustainable world. Hence, the two imperatives must co-exist together if either agenda is to be achievable.

3 'Third Wave' Teacher Education

As established above, core globalising factors or human activities have been happening over millenia (Bordo, Taylor, & Williamson, 2003). As such, globalisation is not an ahistorical concept. The premise of this text acknowledges, celebrates and interrogates how educators in local contexts mediate globalising factors and forces in contemporary teacher education. Equally important is an awareness of how the weight of globalisation in education is influenced and mediated by historical responses to globalising factors and forces. This is particularly pertinent in contexts, such as Australia and New Zealand, where histories of colonialism and neo-colonialism enforce

oppressive and exploitive forms of globalisation on Indigenous communities. A contemporary illustration of which is the borrowing of globalised policies and practices in standardised testing and measures of attendance as evidence of meeting educational outcomes as part of the Australian government's *Closing the Gap* initiatives (Commonwealth of Australia, 2020).

It is not possible, nor is it desirable, in this chapter to provide a complete history of the influence of globalisation on teacher education. Rather, observations of historical trends are conceptualised. For this purpose, a metaphor of historical waves is used to elaborate observed trends. The metaphor of historical waves originates in feminism and is often attributed to Lear's 1968 article *The Second Feminist Wave* (Hewitt, 2010). While this metaphor is not without limitations, it remains useful for articulating distinguishable trends representing different agendas and outcomes that build upon each other over time. The wave metaphor has also previously been applied to understanding global trends in the marketisation and consumption of coffee (Guevara, 2017; Hassard, 2017). It is this use of historical waves that is appropriated here to explain trends in teacher education. To explore applicability, reference will be made to the authors' local Australian context; exploration beyond this context is not possible in this chapter and is acknowledged as a limitation of this discussion.

The three waves of teacher education are illustrated drawing on the three waves of coffee trade. Worldwide 'first wave' coffee trade has its roots in Arabia in the thirteenth century when local Arabs first captured the market with roasted and boiled coffee beans that enticed drinkers with its flavour and stimulant properties (Avey, 2013). While the seventeenth century saw growth in coffee trade and consumption across Europe, the 'first wave' of globalised coffee consumption was ostensibly initiated by the Boston Tea Party of 1773 and resulted in the mass commodification of coffee. The development of pre-roasted and then 'instant' coffee across the nineteenth and early twentieth century contributed to coffee becoming an international household commodity (Avey, 2013; Guevara, 2017). This 'first wave' coffee was focused on providing enough quantity at an affordable price to maximise consumption and profit. Ostensibly, it did so at the cost of the quality of the coffee and the experience (Hassard, 2017).

The 'first wave' of teacher education, like the first wave of coffee, is concerned with the provision of sufficient teachers to meet the educational needs of learners. This need for teachers and by relationship teacher education grew from the seventeenth century onwards as the social and political ideal of universal and compulsory education for all spread across global borders. Within the Australian context, the idea of universal and compulsory education was part of the colonial agenda that gave rise to the beginning of teacher education in the Australian context in the late nineteenth century (Hyams, 1979). Early teacher preparation focused on the provision of sufficient quantity of teachers to meet local demand that relied on an apprenticeship model designed to ensure that trainee teachers achieved an academic standard just above that expected of students (Aspland, 2010; Hyams, 1979). This 'first wave' of teacher education remained relevant in Australia late into the twentieth century. Across this period, the duration, level and complexity of teacher preparation provided was directly related to fluctuating demands for teachers. Typically, when demand was

high the length the level of teacher preparation provided was reduced to meet that demand (Alexander, 2016).

At the global level, this 'first wave' of teacher education is still relevant given the implications of UNESCO's *Education for All* project for working towards the *Millennium Development Goals* (UNESCO, 2015). While this is often assumed to only be an issue for low- and middle-income countries (LMIC) with under-developed educational systems, there is growing concern about the provision of sufficient qualified teachers across many countries in hard-to-staff rural, remote and urban communities and in hard-to-staff subject areas, such as the sciences, technologies, engineering and mathematics (STEM) and languages. Contemporary politically-driven initiatives in school-based teacher preparation that offer shortened, technicist or skill-based approaches to teaching and learning may still operate in the guise of first wave teacher education.

The 'second wave' of coffee production and consumption was initiated in the mid-twentieth century with the development of specialty coffee. This wave focusses on bringing quality coffee to a competitive market (Avey, 2013). It does so by protecting economic advantage through strategies such as secret or specialty blends and squeezing costs. Second wave coffee is focussed on the capacity to sell quantity to an increasingly discerning market. The increasing demand for quality coffee gave rise to diversified techniques for roasting and brewing being developed in specialised coffee businesses, in which Australia's café culture has been a world leader (Hassard, 2017). It also saw the rise of organisations and standards for measuring coffee quality, such as the Specialty Coffee Association (SCA) and its 100-point scale (Guevara, 2017). In case you were wondering, a coffee needs to score 80 points or above, to be graded as 'specialty'. Interestingly, the rise of 'second wave' coffee has supported the rise of national and international specialty brands for the consumer, but this is not reflected in rising benefits and profits to producers and the communities they support.

The 'second wave' of teacher education bears strong similarities to second wave coffee with its turn from quantity towards quality. In Australian teacher education, the quality turn can be traced back to the 1960s when government reviews first considered the possibility of an over-supply of teachers (Martin, 1965). Policies shifted focus from meeting demand for teachers towards improving the quality of teachers. Federal intervention wrestled the teachers' colleges out of the direct control of state-based education departments, the justification being that teacher preparation needs to be independent of employment-based drivers for quality to become the focus (Fomin, Bessant, & Woock, 1986; Kyle, Manathunga, & Scott, 1999). At the same time, regulatory control of initial teacher education commenced, albeit in only one state, with the Board of Teacher Education (BTE) introducing accreditation in Queensland in 1973 (BTE, 1979). The discourse of quality and narratives of reform for improving quality has been a continuous voice across the ensuing years. The most recent iteration being the TEMAG review (Craven et al., 2014) and its calls

for the measurability of quality through reforms for measuring program impact, testing literacy and numeracy, and ensuring readiness through a teaching performance assessment.

There is also evidence of the turn towards the quality and the measurability of educational outcomes across international borders. This is seen is the increasing focus of local governments on globalised data and comparisons, such as PISA testing and other OECD reporting, as key drivers in policy agendas (Aloisi & Tymms, 2017). In many contexts, education policy 'borrowing' within a comparative, competitive environment has promoted agendas designed to lift outcomes to measure up with top-performing countries without consideration of local context (Steiner-Khamsi & Waldow, 2018). These political agendas that pursue quality education as measurable by international and standardised testing do so at the cost of education as a human endeavour with goals for the good of all participants across their entire educational experience (Biesta, 2009).

The impact of these trends on the work of teacher educators cannot be underestimated. On one side, it is easy to fall into the trap of becoming busy with someone else's political agenda. This is evident in the hegemonic research, teaching, accreditation and leadership work of teacher educators either overtly or tacitly related to political reviews, such as TEMAG (Craven et al., 2014) in the Australian context. On the other, is the temptation towards critical argumentation that focuses on what is not possible and not appropriate that can be, and often is, framed as the ramblings of 'out-of-touch' academics. As with coffee, the rise of the quality agenda in education and teacher education with a human cost to teachers, learners and communities has prompted an alternative 'third wave'.

"Third wave" coffee operates in a psychic-cultural space that purposefully connects human experience across the life of the coffee. It is found in artisanal coffee houses that connect drinkers directly with farmers through narratives of ethical and sustainable trade (Guevara, 2017). It focuses on quality and craftmanship that links rich and meaningful local experiences across global borders, thereby shrinking the psychic and cultural difference between participants across the coffee experience (Hassard, 2017). It does so through intentional economic activity that promotes the ethics of sustainability and social justice for all participants in the chain from the producer to the consumer. It has also given rise to innovations in the blending, roasting and brewing of coffee in pursuit of 'sweetness, complexity, and distinctiveness' (Guevara, 2017). While 'third wave' coffee still uses the standard for 'specialty' coffee, it has extended the conception of quality from only being related to a measure of the product to a conception of quality as a deeply ethical and collective experience for all participants in the process.

Similarly, 'third wave' teacher education must move beyond the busyness of standards and measures of the quality of education, teachers, teaching and teacher education. 'Third wave' teacher education needs to link political and educational participants and agendas across the lived experience of educational practice. This requires a politically savvy teacher educator who is mindful of the ethical and social consequences of their work for all participants in education. Pivotal to this work is an appreciation of the narratives that humanise the purposes and practices of education

by placing teachers and learners at the centre of the education process. 'Third wave' teacher education is grounded in political mindfulness in pursuit of social justice for all learners. We are proposing that this is conceptually a way forward for thinking about the process of twenty-first-century teacher education within local contexts in pursuit of socially just and globally responsive education for all.

4 Enacting 'Third Wave' Teacher Education

This book illustrates the activity of 'third wave' teacher education. It provides local narratives of educational policy and practice as integrally connected to implications, issues and agendas surrounding globalising forces in teacher education. The intent is to draw out the shared potential of these stories in responding to these issues in other contexts. In doing so, it is seeking to make our tacit knowledge of the political work of teacher education an overt practice (Polanyi, 1962). It acknowledges that the work of teacher educators is deeply political whether we recognise it or not (Cochran-Smith & Lytle, 2004; Cochran-Smith et al., 2017). Part of that work is to become politically astute, so that we are aware of the layers of jurisdictional knowledge and power that underpins agendas in our local context. Without this, we risk becoming complicit in the hegemonic forces that support particular ways of knowing, doing and being as teacher educators (Bourdieu, 2010). The result being teacher educators busy themselves with projects and pedagogies that they might not have otherwise pursued without realising why they are doing so.

'Third wave' teacher education is overtly aware of political agendas and actively political in its pursuit of education for all. We are proposing here a model for thinking about the political work of teacher educators as 'third wave' action in teacher education. Figure 1, 'Third wave' political action in teacher education, presents five characteristics of the political work of teacher educators. These are that political work is productive, personal, possessive, pragmatic and philosophical.

These characteristics describe the purposeful action in and for teacher education towards meeting the educational ambitions of diverse globalised local communities. These conceptions of the political work of teacher educators are made overt in the narratives of local policy and practice found in this book. As such, this text serves as an illustration of these characteristics in action. While each project or story demonstrates many of these characteristics, we have sought here to identify the strength of each project for illustrating the work of each characteristic. The work of teacher educators in current times is both political and, in many cases, personal. However, in the current contexts of teaching and teacher education continually coming under extensive scrutiny across the world, the politicising of every facet of teaching turns our gaze as educators to the political work that we are required to do if we are to retain control over our professional domains of expertise.
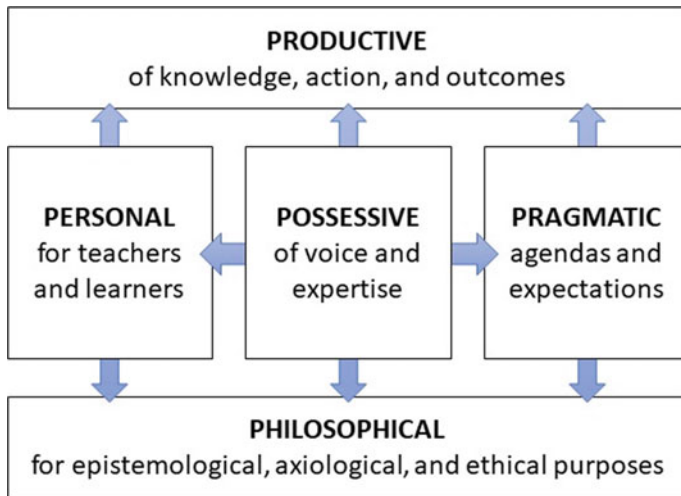
Fig. 1 "Third wave" political action in teacher education

4.1 Political Work as Productive

The political work of teacher educators across jurisdictions needs to productively respond to many agendas beyond the educational. Teaching and teacher education is encompassed by economic motives, regulatory necessities, community critique, technological tensions of change, internationalisation of the industry and political representations and agendas. Teacher education can become the 'fall guy' for many of society's troubles and this results in increased scrutiny and pressure towards politically driven reforms. Yet there is also a sense of success and celebration as we struggle with the contestations that face us daily and at the same time we produce great outcomes for all.

In the work of Mills and Bourke (Chap. 2), we witness an example of a growing critique of a national policy in Australia that impacts of the formation of teachers and teacher education programs. This policy calling for a primary specialisation mandates that all primary teacher graduates are now required to demonstrate a specialisation in a key curriculum area, in this case science. Political interventions resulting from the TEMAG reforms (Craven et al., 2014) dictate new forms of work for primary teachers, with little or no consultation with the profession. The authors adopt a productive and innovative lens to ascertain how pre-service teachers as policy receivers experienced the introduction of new ways of working as teachers. The small-scale study illuminates multiple perspectives from the participants in response to what is largely seen as a political intervention. The authors purport that the primary specialisation, while helpful in some respects of formation, should be contested in its current form.

In another policy dictate of a global nature, UNESCO (2018) has disseminated the *ICT Competency Framework for Teachers* highlighting the necessity for digital

literacy to become the cornerstone of all teacher education programs. Farrell and Marshall (Chap. 3) remind us that students, early in their teacher preparation program, experience a form of shock or confrontation concerning the desired ways of integrating technology into their learning repertoires, and they seek role models to scaffold them through the difficult journey. This research is set in Ireland, yet the call for productive support for teachers, teacher education students and academic staff in learning how to use technology is a universal one, particularly when technology is inextricably linked with assessment. This case study focuses on the challenges inherent in the adoption of an ePortfolio in field work that resulted in enabling the development of successful communities of practice led by teacher education students as they build their digital competencies together with teachers and university academics. The study generates significant insights for the global community.

The movement of students across national borders to study at university level is a global phenomenon that is coming under increased scrutiny in regard to economic and educational risks. Whilst government policy everywhere, particularly in Australia, encourages universities to grow an international presence, their motive is essentially economic, not educational. Richards, Emery and France (Chap. 4), in the context of New Zealand, examine the experiences of one international student cohort through the lens of learner engagement. The analysis includes both the perspectives of teacher educators and teacher education students, a key focus being that of adjustment. The deep insights elicited from this study, using Tauawhitia research methodology, confirm that the economic policy imperative falls prey to the deep, professional and responsive relationship that emerges as highly adept teachers engage with international adult learners academically, pedagogically, socially and culturally. Lessons learned here reflect teacher educators' drive to keep students at the forefront of their labour and navigate around policy in productive ways that benefit all stakeholders.

The juxtaposition of relational educational sensitivity with rational educational policy in the movement of students is also witnessed in the chapter conceptualised by Cacciatollo, Lang and Kidman (Chap. 5). In this case, Australian students engage in learning to become a teacher in an international placement context, financially supported by the Australian government's New Colombo Plan (NCP); a policy with strong political intent, designed specifically to build better relations in the Asian region. This chapter traces the mindshifts (Arnold, 2015) and movements of thought and emotion experienced by Australian students in a specific international context, no doubt an aspiration of those who designed the policy. However, the authors also identify the tensions, challenges and anxieties that accompany a teacher formation experience in an international setting designed to enhance knowledge and understanding of cultural constructs, pedagogical responsiveness and social justice. Of significance is the discussion regarding the politics of discomfort experienced by some students and the ways in which staff and students addressed dilemmas.

4.2   Political Work as Personal

Central to all teacher education programs at the level of implementation is the relational dimension. The profession of teaching is shaped by knowledge, and capacities but the core of all teaching work is deeply personal and involves relationships amongst significant players. In this book the personal is evident in every chapter. It necessarily must be by the very nature of our work albeit situated in a diversity of local communities. Evidence is produced here from authors across the globe that sustains the argument that the political work of teacher education is personal. As students engage in lectures, tutorials, simulated clinics, teaching rounds and work-integrated learning, new identities evolve based on socio-political, socio-historical and socio-cultural positioning and repositioning. The reconstitution of selves is lived out differently by all and it is vital that the voices of pre-service teachers, teachers and teacher educators are invited into the conversation so that authentic narratives can be heard, as is demonstrated forthwith.

Willis and Gibson (Chap. 6) focus on the emotional dimensions of the personal. They highlight significant insights into the emotional work identified by early career teachers in their role as assessors in a digital environment. Links with the earlier chapter by Farrell and Marshall are strong. In Willis and Gibson, three groups of early career teachers were invited to reflect in general terms about their experiences as assessors using *GoingOK*. This research method generated a set of narratives that are analysed within the chapter through the lens of abductive reasoning. The findings highlight concerns about how such data can be manipulated by policy teams for purposes beyond the original intent. Of significance, the chapter details the importance, from the perspectives of early career teachers, of using the data to enhance student learning. As the narratives unfold, it is exciting to read how this methodology can be used to synthesise the key emotions of beginning teachers, particularly the emotional labour they experience in relation to the multifaceted dimensions of assessment. This chapter contributes to an emerging argument that learning to manage emotional work is core to success as an early career professional and identifies new areas of focus for local and global actions for teacher educators and initial teacher education program design.

White and McCallum (Chap. 7) focus on teacher emotions from a different but equally important perspective as they ask questions about the adoption of a well-being framework with pre-service teachers. In a global policy environment of evidence-based practice, the Australian authors argue for an evidence-informed approach focusing on teacher wellbeing. Following a brief critique of policy and literature, the authors describe their research project in one Australian teacher education faculty. They present an innovative two-step approach to wellbeing that uses appreciative inquiry and a *Carpe Diem* process for teacher formation in the twenty-first century. This local initiative generates new insights for all teacher educators addressing the important dimensions of well-being, confidence and preparedness, belonging and engagement. This is important political work for teacher educators – a catalyst to

new ways of thinking about teacher formation in a highly regulated environment where the personal can oft times be overlooked.

The reshaping of personal identities throughout teacher education is complex. Students fall under the gaze of teacher educators in university settings and their performances are critically assessed by many 'authorities' throughout their workplace learning episodes. Policy reform can also become a further determinant of the scrutiny of pre-service teacher capacities. Governments worldwide are introducing new policies for ensuring public confidence in teacher graduates through various culminating assessments. This interplay between policy reform and teacher identity is the focus of the work of Burke, Selling and Nelson (Chap. 8) in Australia. The chapter reports on the perspectives of one group of pre-service teachers required to complete a mandatory Literacy and Numeracy Benchmark Test prior to graduation. The authors adopt complexity theory (Morgan, 2008) to examine the perspectives of students and position the voices of students in a context of increasing public concern about the quality of teacher graduates. The impact of the benchmark testing on the personal is having an adverse effect on many students, some experiencing high degrees of stress. This chapter questions the political intent of this policy reform and highlights how the change to one system can have unintended consequences that were not expected nor accounted for at the level of policy design. This work foregrounds the importance for teacher educators to claim possession of their field and speak out to policy makers regarding the impact of their decisions and the potential deleterious long-term effects it may have on pre-service teachers' emerging identities.

4.3   Political Work as Possessive

This dimension of teacher educators political work calls on the global community to take possession of their discipline, their profession and their voices as the experts in their own field demanding commitment to inclusive and responsive practices within teacher education.

The voices of teacher educators and other experts can be witnessed in the chapter presented by Hoyte, Singh, Heimans and Exley (Chap. 9) in the context of Australia where an inquiry into the status of the teaching profession was enacted in late 2018–2019. In a complex and uncertain political environment in Australia, the inquiry was initiated and delivered by the then coalition government just prior to a commonwealth election. Over ninety submissions were received and many witnesses presented at national hearings, passionately describing and critiquing the nature of teachers' work in Australia. This chapter focuses specifically on an analysis of the submissions made by teacher education faculties. It presents far greater insights into the problematic status of the profession than the final report presented by government, particularly through the lens of 'quality'. The critique offered raises many questions from the voices of teacher educators around the interplay of policy, professional practices and power in teacher education and teaching in Australia. In doing so, it commends expert

teacher educators for contesting the hegemonic discourse that underpins conceptions of teacher quality in Australia.

Lalwani and Fox (Chap. 10) also consider the role of teacher educators' voices on global issues and practices in education. Their chapter focuses on the global growth of International Baccalaureate (IB) programs and implications for pre-service and in-service teacher education. It revisits the well-accepted proposition that teacher education programs founded and built on best practices will prepare globally aware teachers, renew teachers' knowledge and pedagogy, deepen their understanding and advance their skills as capable 21st century practitioners. Further they argue, in the context of IB programs, that to do so teacher education must be research-rich and evidence-rich. What is of significance in this chapter is the empirical revelation that, despite the increasing numbers of schools and universities taking up IB programs, there is a dearth of research or evidence to support the trend. The chapter calls for teacher education to maintain awareness of global trends in education and to explore research possibilities across emerging initiatives.

The chapter written by Knight (Chap. 11) considers the significance of taking possession of voice within our local contexts and in respect to Indigenous cultures and communities. This piece shares 'the ways in which pūrākau-a-iwi (local, traditional narratives), coupled with a growing understanding of Te Tiriti o Waitangi (The Treaty of Waitangi—TTOW) can help teachers and educators to develop, re-awaken, or retain their local identity' in the context of Aotearoa New Zealand. The adoption of a Kaupapa Māori approach using informal and semi-structured kōrero (dialogue) facilitated research that was culturally, socially and educationally sensitive and responsive. The author critiques the impact of globalisation on many facets of Indigenous culture, language, and lifestyle in a manner that is rich and respectful of first people's worldviews, whilst identifying the oppression of colonisation and globalisation and the resulting alienation from their cultural roots. Of significance to this book, Knight shares the narratives of pre-service teachers and experts, giving voice to their perspectives on the ways in which 'te ao Māori' (the Māori world) has influenced their identity as a teacher and how this has shifted through the course of their studies. Deep insights are gained through the voices of students and experts regarding the place of Indigenous cultures as central to teacher education programs and the importance of valuing diverse worldviews as teacher identities evolve in bilingual and multicultural settings.

The chapter by Chan and Ritchie (Chap. 12) continues the discussion about the implications of superdiversity on teachers in Aotearoa New Zealand. The authors focus on critiquing a set of policy documents that shape early childhood teacher education programs in Aotearoa, a country with a superdiverse population. This chapter reflects on the diverse nature of multicultural societies in a similar manner to Knight above. However, the interrogative focus in this chapter highlights a series of contradictions that are evident across policies that claim to value biculturalism within a context of superdiversity. A sophisticated, critical methodology is revealed which in itself is instructive. Of significance is the call for teacher education programs to be more inclusive and culturally responsive to both global and local knowledge in the process of teacher formation in superdiverse contexts. The analysis is insightful for

all teacher educators across diversifying international educational communities, in support of socially just, responsible and transformative educational outcomes for all. While terminology may differ, the works of Knight together with this chapter capture the necessity for a strong political call for inclusive practices in teacher education in Aotearoa New Zealand that provide key insights for teacher education globally.

4.4 Political Work as Pragmatic

The political work of teacher educators needs to take account of and mediate contradictions and binaries to maintain a focus on what is working to meet political, social and educational agendas. Contradictions of this type are evident in many of the practices within teacher education programs both locally and globally. Several chapters in this book consider what is possible, achievable and outline the pragmatics of progress through the contradictions and dilemmas as opposed to what is the ideal. For example, professional practice, field experience, work-integrated-learning or 'prac' is deemed to be the highlight and the ideal of teacher preparation programs. This is generally an uncontested notion with teachers, pre-service teachers, teacher educators and politicians as well as bureaucrats calling for 'more prac' or 'more money for longer pracs'. The pragmatics of why all stakeholders want 'more prac' is varied and largely under-theorised. Large-scale empirical evidence to support the demand is not evident despite a relentless array, over time, of small-scale case study research. In this next section we are privy to the political work that teacher educators are engaging in to take account of and mediate contradictions and binaries to maintain focus on what is working through school-university partnerships to meet political, social and educational agendas.

Green, Eady and Tindall-Ford (Chap. 13) examine the contradictions from the perspective of mentor teachers and ask questions about what motivates school teachers to support university partnerships. They auger a proposition that suggests a solution. Despite the politicisation of the practical component of initial teacher education programs and the over-regulation of work-based learning, participant involvement in school-university partnerships is grounded in teachers' professional commitment and coupled with a strong professional learning culture of their school. The authors also argue the validity of case research in building a deeper understanding an innovative third space, school-university partnerships, particularly in the politicised space of initial teacher education.

Sheehan (Chap. 14) focuses on a different model of teacher preparation that includes a year-long component of work-integrated learning with the specific purpose of addressing the theory-practice divide. As with Green et al., this chapter highlights the importance of the ethical leadership of mentor teachers in ensuring successful school-university partnerships. Of significance is the political work of teacher educators as they take account of and mediate contradictions and binaries that emerge throughout the initial teacher education course, across the university context and the field. However, the teacher educators do not do so in isolation. Rather, the school

and university are pragmatic partners in resolving issues, concerns and contradictions, reducing the divide into an integrated holistic learning opportunity for all as a community of practice. Methodologically this chapter is also of interest as it uses case-based research that is designed to identify threshold experiences that contribute to learner-practitioners developing vocational capability, an innovative orientation to teacher education research.

Walker, Morrison, Beltman and Morey (Chap. 15) make a further contribution to the critique of work-integrated learning as a central component of initial teacher education programs. Their chapter addresses a different problem, the understanding of the key components of work-integrated learning within online delivery mode. This is a domain of study that has limited empirical research on which to base a reliable assessment. This chapter raises some very important questions for teacher educators moving towards online pedagogy for a variety of educational, political and economic reasons.

In the completely different context of Uganda, Arinaitwe, Williamson and Kilpatrick (Chap. 16) report on the mediation of contradictions and barriers associated with recruiting teachers into rural, isolated or hard to staff schools. In this chapter, the authors are writing in a context where there is an increasing number of students due to the introduction of universal education, but there is a teacher shortage particularly in the hard to staff rural areas. This is an international problem of teacher supply and interesting insights can be gained as to ways of managing contestations that emerge as policy and practice possibilities collide in order to meet political, social and educational agendas. The authors refer to the phenomena of policy subversion by head teachers in rural schools in Uganda. While cognisant of the government policy to employ teachers on merit, head teachers and their communities prioritise action and outcomes and effectively work around policy to ensure all students have access to teachers despite their location. When teachers cannot not be found for rural areas through the merit system, local authorities make community-based decisions to fill classes with temporary teachers, known as home-grown teachers. While the home-grown teachers are deemed by government to be poorer teachers, local teachers and parents value home-grown appointments whose values are more closely aligned to their own community.

In taking yet another unique focus on the pragmatic political work of teachers, McPhail and Rata (Chap. 17) examine the global tension between generic outcomes-based curricula and knowledge-based approaches to curriculum design. An innovative model of curriculum design is proposed that brings coherence to learning communities and yet allows for diversity across contexts. The process of dealing with the dilemmas faced by teachers at the level of curriculum deign in contemporary contexts is analysed with a practical set of recommendations articulated that will be of interest to many readers.

4.5 Political Work as Philosophical

The political work of teacher educators needs to purposefully engage with knowledge, values and ethics in pursuit of the great project of education as core to the progression of socially just and sustainable outcomes globally and locally. This final set of chapters raises significant questions for all. The challenges we must take in our political work should be thought through carefully from philosophical, epistemological and practical standpoints.

The chapter presented by Fujimura and Sato (Chap. 18), enlightens the reader by way of policy analysis from the landscape of teacher education in Japan. The authors take a comparative approach, particularly in relation to professional practice, academisation of teacher education and the impact of global trends on local practices. In terms of a synthesis of international trends, this chapter is highly instructive. Philosophically, it proposes a process of policy 'learning' as an alternative to the global political trend of policy 'borrowing'. The narrative around confluence of the international practices with local values and dispositions throughout the complex processes of teacher development is equally enlightening with a key proposition foregrounding the significance of national identity, history and culture, and the local in moving forward.

Barr and Askell-Williams (Chap. 19) also look to international futures policies in rethinking teacher formation for the twenty-first century and beyond. The focus of this chapter is on epistemic cognitions and reflexivity. Some clear links with the work presented by Farrell and Marshall (Chap. 3) are evident in relation to the policy frameworks that are impacting on teacher preparation programs, particularly those with a futures lens. The review of literature provided by Barr and Askell-Williams may prove to be provocative for many readers. The authors' analysis will challenge teacher educators and policy writers to think deeply about how to enable epistemic reflexivity as integral to futures-oriented teacher formation programs at the pre-service and ongoing professional learning levels.

In the culminating chapter of the book Arnold, Manton, Schutt and Seddon (Chap. 20) reveal the complexities and complications inherent in the interplay of policy and teacher professionalism from global, national and local perspectives and how these are played out in the context of the quality agenda. This chapter offers rare and complex insights into theorising the reconstituting spaces of teachers' work through the highly contestable policies and practices of professional partnerships. The shifting relations between universities, schools and government policies regarding teacher education are analysed from the perspectives of the personal, the political, the pragmatic and the professional. This intricate critique reminds all teacher educators that they must continue to purposefully challenge historical and contemporary knowledge, values and ethics that have shaped teacher education either by professional choice or policy regulatory mandate. This final chapter raises serious questions for consideration by the global/international community of teacher educators and prioritises our collective responsibility to take our political work forward from philosophical, epistemological and practical standpoints.

5   Conclusion

Education and teacher educators are responding to the challenges, dilemmas, ambiguities and tensions inherent in the interplay of globalisation, ideation, creation and development (Sahlberg, 2004) as evidenced by the productive, personal, possessive, pragmatic and philosophical narratives in this book. The academy has researched, agitated and engaged in rigorous debate in the global context to ensure robust, contemporary, evidence-based perspectives inform teacher education and the chapters in this book are testimony to that political action and enliven the model of 'third wave' political action in teacher education.

Teacher educators and the research community through their political actions provide not only the evidence but momentum assisting governments and policy makers to make informed decisions related to globalisation, teaching, and teacher education. As we engage in the 'third wave' we are energised by the voices of teacher educators underpinned by essential socially equitable, just and sustainability agendas. The chapters of *Teacher Education in Globalised Times: Local Responses in Action* provide illuminating stories, evidences and critiques, and most importantly challenge our ways of thinking, being and doing. Grab your coffee, sit back and enjoy!

References

Alexander, C. (2016). *Reforming the reform of teacher education: A critical grounded theory of a social approach to change and continuity* (Unpublished doctoral thesis). University of Adelaide, Adelaide, Australia. Retrieved from https://digital.library.adelaide.edu.au/dspace/bitstream/2440/101568/2/02whole.pdf.

Aloisi, C., & Tymms, P. (2017). PISA trends, social changes, and education reforms. *Educational Research and Evaluation, 23*(5–6), 180–220.

Apple, M. W. (2001). Markets, standards, teaching, and teacher education. *Journal of Teacher Education, 52*(3), 182–196.

Arnold, (2015). *Tracing the mindshift in preservice teachers: learning landscapes* (Unpublished doctoral dissertation). Victoria University, Melbourne, Australia.

Aspland, T. (2010). Teacher education in Australia: Twisting and turning into the twenty-first century. In K. G. Karras & C. C. Wolhuter (Eds.), *International handbook on teacher education worldwide: Issues and challenges for teacher profession* (Vol. 2, pp. 789–810). Athens: Atrapos Editions.

Avey, T. (2013, April 8). The caffeinated history of coffee. Retrieved from https://www.pbs.org/food/the-history-kitchen/history-coffee/.

Aydarova, E., & Marquardt, S. K. (2016). The global imperative for teacher education: Opportunities for comparative and international education. *FIRE: Forum for International Research in Education, 3*(1).

Barrett, M., Byram, M., Lázár, I., Mompoint-Gaillard, P., & Philippou, S. (2014). *Developing intercultural competence through education*. Strasbourg: Council of Europe Publishing.

Biesta, G. (2009). Good education in an age of measurement: on the need to reconnect with the question of purpose in education. *Educational Assessment, Evaluation and Accountability, 21*(1), 33–46.

Board of Teacher Education (BTE). (1979). *A brief account of its activities 1971–1978*. Board of Teacher Education (BTE): Unpublished paper.

Bordo, M. D., Taylor, A. M., & Williamson, J. G. (2003). Introduction. In M. D. Bordo, A. M. Taylor, & J. G. Williamson (Eds.), *Globalization in historical perspective* (pp. 1–10). Chicago: University of Chicago Press.

Bourdieu, P. (2010). *Distinction: A social critique of the judgement of taste* (R. Nice, Trans.). London: Routledge (Original trans. published 1984).

Bruno-Jofré, R., & Johnston, J. S. (Eds.). (2014). *Teacher education in a transnational world.* Toronto: University of Toronto Press.

Burbules, N. C., & Torres, C. A. (2000). An introduction to globalization and education. In N. C. Burbules & C. A. Torres (Eds.), *Globalization and education: Critical perspectives* (pp. 1–26). London: Routledge.

Cochran-Smith, M., & Lytle, S. L. (2004). Practitioner inquiry, knowledge, and university culture. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, & T. L. Russell (Eds.), *International handbook of self-study of teaching and teacher education* (pp. 601–649).

Cochran-Smith, M., Baker, M., Burton, S., Chang, W., Carney, M. C., Fernández, M. B., et al. (2017). The accountability era in US teacher education: Looking back, looking forward. *European Journal of Teacher Education, 40*(5), 572–588.

Commonwealth of Australia. (2020). *Closing the gap: Report 2020.* Department of the Prime Minister and Cabinet. Retrieved from https://ctgreport.niaa.gov.au/sites/default/files/pdf/closing-the-gap-report-2020.pdf.

Craven, G., Beswick, K., Fleming, J., Fletcher, T., Green, M., Jensen, B., & Rickards, F. (2014). *Action now: Classroom ready teachers.* Retrieved from http://www.studentsfirst.gov.au/teacher-educationministerial-advisory-group.

Fomin, F., Bessant, B., & Woock, R. R. (1986). *Co-ordination and control: Victorian teacher education 1970–1982.* Melbourne: Melbourne College of Advanced Education.

Freeman, R. B. (2006). People flows in globalization. *Journal of Economic Perspectives, 20*(2), 145–170.

Gopinathan, S., Tan, S., Fang, Y., Devi, L., Ramos, C., & Chao, E. (2008). *Transforming teacher education: Redefined professionals for 21st century schools.* Singapore: National Institute of Education.

Guevara, J. (2017, April 17). What is "Third wave coffee", & how is it different to specialty? Retrieved from https://www.perfectdailygrind.com/2017/04/third-wave-coffee-different-specialty/.

Hassard, C. (2017, August 14). What exactly is 'third wave' coffee and how is Australia paving the way? Retrieved from https://theupsider.com.au/third-wave-coffee-and-how-australia-is-paving-the-way/1766.

Hewitt, N. (2010). Introduction. In N. Hewitt (Ed.), *No permanent waves: Recasting histories of U.S. feminism.* New Brunswick, NJ: Rutgers University Press.

Hyams, B. K. (1979). *Teacher preparation in Australia: A history of its development from 1850 to 1950.* Hawthorn, VIC: Australian Council for Educational Research.

Kyle, N., Manathunga, C., & Scott, J. (1999). *A class of its own: A history of Queensland University of Technology.* Alexandria, NSW: Hale & Iremonger.

Martin, L. H. (1965). *Tertiary education in Australia: Report of the Committee on the future of Tertiary Education in Australia to the Australian Universities Commission.* Canberra, ACT: Govt. Printer.

McLaren, P., & Farahmandpur, R. (2001). Teaching against globalization and the new imperialism: Toward a revolutionary pedagogy. *Journal of Teacher Education, 52*(2), 136–150.

OECD (2019). *Trends shaping education 2019.* Retrieved from http://www.oecd.org/education/trendsshaping-education-22187049.htm.

Paine, L. (2013). Exploring the interaction of global and local in teacher education: Circulating notions of what preparing a good teacher entails. In X. Zhu & K. Zeichner (Eds.), *Preparing teachers for the 21st Century: New frontiers of educational research.* Berlin: Springer.

Paine, L., Aydarova, E., & Syahril, I. (2017). Globalization and teacher education. In D. J. Clandinin & J. Husu (Eds.), *The SAGE handbook of research on teacher education* (pp. 1133–1148). Thousand Oaks, CA: Sage.

Paine, L., Blömeke, S., & Aydarova, O. (2016). Teachers and teaching in the context of globalization. In D. H. Gitomer & C. A. Bell (Eds.), *Handbook of research on teaching* (5th ed., pp. 717–786). Washington, DC: AERA.

Peterson Institute for International Economics. (2019). *What is globalisation? And how has the global economy shaped the United States?* Retrieved from https://www.piie.com/microsites/globalization/what-is-globalization#group-Credits-and-Sources-RjKrFhm3hT.

Polanyi, M. (1962). *Personal knowledge: Towards a post-critical philosophy*. London: Routledge.

Robertson, R. (1992). *Globalization: Social theory and global culture*. London: Sage.

Robertson, S. (2012). Placing teachers in global governance agendas. *Comparative Education Review, 56*(4), 584–607.

Sahlberg, P. (2004). Teaching and globalization. *International Research Journal of Managing Global Transitions, 2*(1), 65–83.

Steiner-Khamsi, G., & Waldow, F. (2018). PISA for scandalisation, PISA for projection: The use of international large-scale assessments in education policy making—an introduction. *Globalisation, Societies and Education, 16*(5), 557–565.

Stromquist, N. P. (2002). Education as a means for empowering women. In J. Parpart, S. Rai, & K. Staudt (Eds.), *Rethinking empowerment: Gender and development in a global/local world* (pp. 22–38). London: Routledge.

Stromquist, N. P., & Monkman, K. (Eds.). (2000). *Globalization and education: Integration and contestation across cultures*. Lanham, MD: Rowman & Littlefield.

Tatto, M. T. (Ed.). (2007). *Reforming teaching globally*. Oxford, UK: Symposium Books.

UNESCO. (2014). *Global citizenship education: Preparing learners for the challenges of the 21st century*. Paris: UNESCO.

UNESCO. (2015). *Education for all 2000–2015: Achievements and challenges*. Paris: UNESCO.

UNESCO. (2016). *Global education monitoring report*. Paris: UNESCO.

UNESCO. (2018). *ICT competency framework for teachers V03*. Paris: UNESCO.

Vanham, P. (2019). *A brief history of globalization.* Retrieved from: https://www.weforum.org/agenda/2019/01/how-globalization-4-0-fits-into-the-history-of-globalization/.

Wang, J., Lin, E., Spalding, E., Odell, S., & Klecka, C. (2011). Understanding teacher education in an era of globalization. *Journal of Teacher Education, 62*(2), 115–120.

Zajda, J. (Ed.). (2015). *Second international handbook on globalisation, education and policy research*. The Netherlands: Springer.

Zhao, Y. (2010). Preparing globally competent teachers: A new imperative for teacher education. *Journal of Teacher Education, 61*(5), 422–431.

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Chapter 2
Primary Specialisation in Australian Education: Pre-service Teachers' Lived Experiences

Reece Mills and Theresa Bourke

Abstract The positioning of teacher quality as a global problem in primary education has led to the introduction of primary specialisation in Australian teacher education programs. In this chapter, we adapt Ball, Maguire, and Braun's (How schools do policy: Policy enactments in secondary schools. Routledge, Abingdon, OX, 2012) theorisations around policy enactment and Clandinin and Connelly's (Narrative inquiry: Experience and story in qualitative research. Jossey-Bass, San Francisco, 2000) narrative inquiry space as an innovative approach to make visible five Master of Teaching (Primary) pre-service teachers' experiences as they complete a new science specialisation. In doing so, we give voice to these participants as 'policy receivers' who are rarely heard in the policy process. Findings reveal 14 themes around the material, interpretive, and discursive facets of primary specialisation policy enactment. A number of challenges are described that contest primary specialisation in its current form and recommendations are suggested for moving the policy agenda forward.

1 Introduction

It is suggested that Science, Technology, Engineering and Mathematics (STEM) knowledge and practices are necessary for the economic advancement and social well-being of nations across the globe. Since societies must innovate and adapt to uncertain futures, there needs to be a STEM skilled workforce and citizenry capable of using disciplinary knowledge to problem solve. Globally, however, declining participation in post-compulsory STEM education at school and university may hinder the realisation of this aim (Henriksen, 2015; Timms, Moyle, Weldon, & Mitchell, 2018). There are variable long-term and short-term enrolment trends in Australia,

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the UK, and the US (Dobson, 2018; Higher Education Statistics Agency, 2019; National Science Board, 2018). In Australia specifically, there has been continuous decline in the number of high school students selecting post-compulsory science and mathematics education in the past two decades (Kennedy, Lyons, & Quinn, 2014). According to Kennedy et al. (2014), in the 20 years from 1992 to 2012, Year 12 participation in almost all science and mathematics subjects declined. While there are many possible explanations for this trend, one explanation that has gained traction in educational policy is poor quality STEM instruction in the formative primary years due to inadequate teacher preparation (Teacher Education Ministerial Advisory Group [TEMAG], 2014).

Primary teachers are perceived to face several challenges enacting quality science education in particular. It is suggested that pre-service/in-service teachers may have underdeveloped science content knowledge (Nixon, Smith, & Sudweeks, 2019) and lack confidence in their ability to teach science (Palmer, Dixon, & Archer, 2015). In turn, science may receive minimal instructional time in the primary classroom (Brobst, Markworth, Tasker, & Ohana, 2017; Poland, Colburn, & Long, 2017). Additionally, teachers may experience difficulty enacting effective instructional approaches such as scientific investigations, which require substantive time and effort to plan and teach. Teachers may therefore rely on less demanding, transmissive forms of instruction (Flückiger, Dunn, & Stinson, 2018). Other challenges teachers may face include seeing the relevance and importance of science to the real world or other curriculum learning areas, supporting students' motivation and enjoyment learning science, and science being under-resourced in schools in terms of learning materials and equipment (van Aalderen-Smeets, Walma van der Molen, & Asma, 2012).

Due to these perceived concerns, Australian pre-service teachers are now required to graduate with a 'specialisation' in a learning area that may include science (Australian Institute for Teaching and School Leadership [AITSL], 2017a). The aim of this chapter is to explore the lived experiences of five primary pre-service teachers as they completed the first offering of a science specialisation at a large metropolitan university in Australia. First, this chapter outlines the background for this study, including the broad policy context and science specialisation modules/activities that were developed. Then, the academic literature around subject specialisation in primary schools is summarised. Next, the theoretical/methodological framework for the study is outlined. This framework adapts Ball et al.'s (2012) theorisations around policy enactment and Clandinin and Connelly's (2000) narrative inquiry space as an innovative approach to make visible pre-service teachers' lived experiences with specialisation. Interview data were analysed to answer the key research question for this study: *How did pre-service teachers experience the enactment of a science primary specialisation at one Australian university*? From these findings, the authors comment on the challenges and contestations of this policy direction and make recommendations for the future.

2 Background

2.1 Policy Context

The most recent review of education in Australia, *Action Now: Classroom Ready Teachers* (TEMAG, 2014), recommended that primary pre-service teachers are equipped with an area of specialisation such that they have additional expertise in a learning area. This policy direction is manifested through the Australian Institute for Teaching and School Leadership's (AITSL) Program Standard 4.4 in the 2015 *Standards and Procedures for Accreditation of Initial Teacher Education Programs in Australia* (updated 2018). The criteria included *expert content knowledge*, *pedagogical content knowledge*, and *highly effective classroom teaching* (AITSL, 2015). Guidelines for accreditation state "the primary specialisation Program Standard deliberately does not specify the model that programs use to deliver primary specialisations" (AITSL, 2017a, p. 3). However, it is expected that primary teachers with a specialisation will have a positive impact upon students' attitudes, engagement, and achievement in the learning area, as well as the capability to effectively share their expertise with other teachers (AITSL, 2017b).

2.2 Science Specialisation Modules/Activities

The university where this study took place trialed primary specialisations in 2017/18 for Master of Teaching (MTeach) pre-service teachers. The final science specialisation represents an action learning cycle and comprises seven online modules with corresponding assessment artefacts (Table 1). The amalgam of the modules culminates in the delivery of a science professional learning experience for in-service teachers. Pre-service teachers' progression through the modules was self-paced alongside science curriculum and professional experience units.

3 Literature Review

A systematic review of the literature by two of the current authors (Mills, Bourke, & Siostrom, 2020) proposed a tripartite way of thinking about subject specialism in primary schools: (1) instructional coaches, (2) specialist teachers, and (3) generalist teachers with a specialisation (see Fig. 1). Here, we are focused on the latter, described as a generalist teacher with additional expertise perhaps through interest, formal qualification, or direction from the principal. Quite often this approach manifests as team-teaching, where teachers share students or learning area/s where they feel most comfortable. Although we delineated the tripartite model, our search of the literature revealed slippage in terms and hybrid ways of working where educators may move

Table 1 Description of the specialisation modules/activities

Module	Description	Assessment artefact
1. Content knowledge	Conduct in-depth research about a topic from the Australian Curriculum	Infographic and audio-recorded scientific explanation
2. Review	Reflect upon experiences learning science and how they shaped your thinking about a science specialisation	Science teaching philosophy statement
3. Identify	Review literature to identify a problem/challenge or opportunity in primary science	Annotated bibliography
4. Plan	Design a professional learning experience for in-service teachers that addresses an identified problem/challenge or opportunity	Presentation slides, notes, and resources
5. Enact	Deliver a professional learning experience on practicum	Signed statement of undertaking
6. Evaluate	Collect evidence of impact of the professional learning experience	Annotated evidence of impact

(continued)

Table 1   (continued)

Module	Description	Assessment artefact
7. Reflect	Reflect upon your experience completing the modules and your current thinking about a science specialisation	Critical self-reflection and amended science teaching philosophy statement
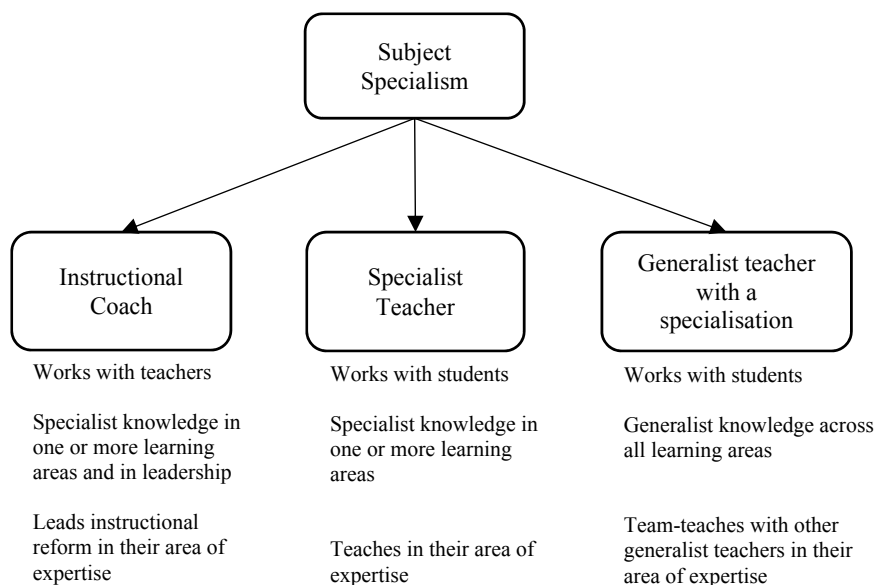
Fig. 1   Approaches to subject specialism (from Mills et al., 2020)

between these roles. For example, teachers may be given time release from classes to carry out roles such as delivering professional development, which is more typical of an instructional coach. For further details about the broader literature on subject specialism see Mills et al. (2020).

4   Theoretical/Methodological Approach

Here Ball et al.'s (2012) theorisations around policy enactment are positioned within Clandinin and Connelly's (2000) narrative inquiry space, both of which will now be explained. According to Ball et al. (2012) policy enactment consists of three facets—the 'material' (or contextual), 'interpretive', and 'discursive'. The material

facet describes how contextual factors influence policy. In this study, the material details the concrete experiences of five MTeach students as policy receivers completing the science specialisation modules. The interpretive facet describes how policies are interpreted and translated by those involved in the policy process. Here we describe how pre-service teachers' felt about completing the modules, as well as their interpretations of what it means to be a teacher with a specialisation. Finally, the discursive facet describes how policy is thought about, spoken about, and acted upon. In this inquiry, this facet concentrates on pre-service teachers' discursive positioning.

In order to glean a more detailed view of pre-service teachers' experiences, these facets were positioned inside a narrative inquiry space (Clandinin & Connelly, 2000). This space borrows from the Deweyan idea that experiences are made up of situations (contexts/environments), continuity (past/present/future), and interactions (personal/social). Figure 2 represents this three-dimensional space, allowing inquiry to progress in four directions—inward, outward, backward, and forward. Inquiry inward and outward refers to personal and social conditions respectively, while inquiry backward and forward has a temporal dimension—the past, present, and future.
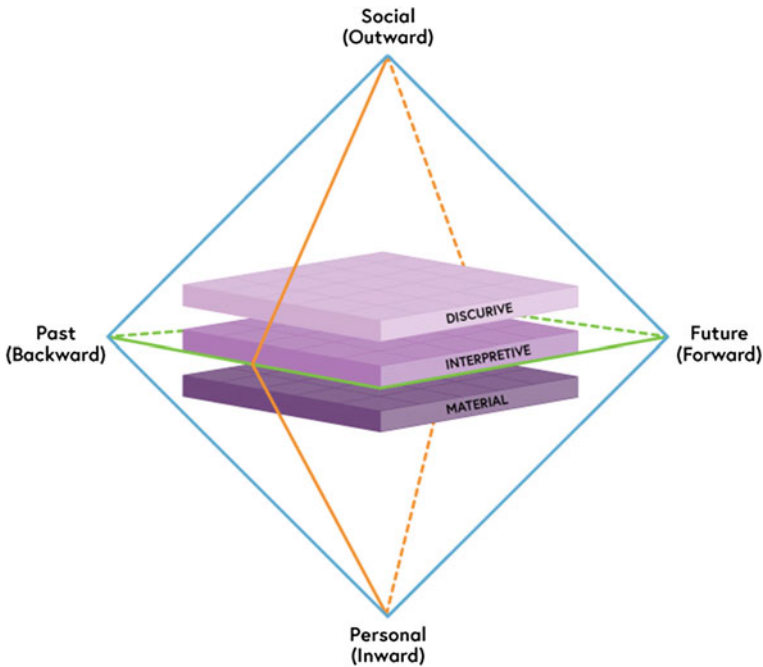
Fig. 2 Policy Enactment Inquiry Space

4.1 Participants and Data Generation and Analysis

The participants in this study were first-year MTeach (Primary) pre-service teachers ($n = 5$) who gave informed consent to participate. Each participant was assigned a pseudonym for confidentiality (Catherine, Daniel, Jackie, Julie, and Maryanne). Further details on the participants are shown in Table 2.

Semi-structured interviews for around 45 minutes were conducted face to face with the participants. Guided by our *Policy Enactment Inquiry Space*, questions asked pre-service teachers to look inward (e.g., What do you understand by subject specialisations?), outward (e.g., How is the science specialisation talked about by the pre-service teachers in your course?), backward (e.g., Why did you choose science as your area of specialisation?) and forward (e.g., What kind of impact do you envision having on student engagement and learning in science, and how have the online modules contributed to your ability to achieve this vision?) about their lived experiences of primary specialisations. Interviews were transcribed verbatim for data analysis.

We conducted a thematic analysis (Braun & Clarke, 2006) in Nvivo to analyse the interview data. In doing so, we first familiarised ourselves with the data by reading and re-reading the interview transcripts. Next, we independently assigned segments of text an initial code that was representative of its meaning, paying attention to commonalities and contradictions in the data. Then we collaboratively compared, re-worked, and refined our initial codes until we were confident they accurately represented the pre-service teachers' experiences completing the specialisation modules. We used our *Policy Enactment Inquiry Space* as a framework to sort the codes into broader themes. To do this we considered whether the data concerned the material, interpretive, or discursive facet of policy enactment, then considered the interactions (personal/social) and continuity (past/present/future) in the data. The final codes were sorted into 14 themes. In presenting our findings, we privileged the use of direct quotes from pre-service teachers as policy receivers, thus giving them voice in the policy process (Ball et al. 2012).

Table 2 Participant information

Participant	First degree	Enrolment mode	Full time/Part time
Catherine	Social science	Online	Part time
Daniel	Physics	Face-to-face	Full time
Jackie	Medical science	Online	Part time
Julie	Journalism	Face-to-face	Full time
Maryanne	Nutrition and dietetics	Face-to-face	Part time

5 Findings

Table 3 provides a summary of the themes that emerged in the *Policy Enactment Inquiry Space*. We present the data by describing pre-service teachers' material, interpretive, and discursive experiences looking inward (personal), outward (social), backward (past), and forward (future).

5.1 Material Findings

The material facet focused on pre-service teachers' lived experiences, including the content of the specialisation modules/activities and the context within which they were conducted. Seven themes were evident in our analysis—*knowledge*, *time*, *delivery mode*, *timing*, *past experiences*, *qualifications*, and *relevancy*. The first three themes—*knowledge*, *time* and *delivery mode*—relate to inward (personal) experiences. The fourth theme—*timing*—relates to outward (social) experiences. The fifth and sixth themes—*past experiences* and *qualifications*—concern looking backward (past) and the final theme—*relevancy*—concerns looking forward (future). Each of these themes is now elaborated.

5.1.1 Material—Looking Inward (Personal)

Knowledge. The first theme relates to enhanced knowledge, including content and pedagogical content knowledge. Three participants (Catherine, Jackie, Julie) described the specialisation modules positively, indicating enhanced content knowledge and confidence in teaching science. Catherine, for example, explained that, "… in creating the infographic I have upped my content knowledge and I can see where everything kind of sits now… and I feel a lot more confident because of it". Julie echoed this sentiment, noting that "… having the content you can answer students' questions [and] you're a bit more confident". However, Daniel and Maryanne had a contrasting view. For Daniel, "… there was very little science content in both [the science curriculum unit] and the specialisation". He explained creating the

Table 3 Themes generated from data analysis

Frameworks	Inward (personal)	Outward (social)	Backward (past)	Forward (future)
Material	Knowledge Time Delivery Mode	Timing	Past Experiences Qualifications	Relevancy
Interpretive	Confusing	Valuable	Transformative	Visionary
Discursive	Concern—Novice/Expert	Concern—Novice/Expert	Perceived Difficulty	Employability

infographic and audio-recorded scientific explanation "… didn't really extend [his] content knowledge at all". Maryanne noted there was "not enough focus on science" and "there should be a slightly higher expectation" of science content knowledge. Therefore, pre-service teachers' opinions on the amount and level of science content knowledge were divided.

In terms of pedagogical content knowledge, all five pre-service teachers agreed that the modules enhanced their knowledge about pedagogical approaches. This is exemplified in the following quote from Jackie: "it [the specialisation] gave me a greater understanding… into teaching science to children". Julia noted how she developed a repertoire of science teaching strategies completing the specialisation, saying "I can use… different pedagogies to teach science it doesn't have to be through transmission". She noted that her new practices were "supported by evidence" because "the online modules provided research literature showing what works in science teaching". Three pre-service teachers shared their newfound understanding from the specialisation about inquiry-based learning and science investigations (Jackie, Julia, Maryanne), play-based learning (Julia), and coding and robotics (Julia). Enhanced pedagogical content knowledge, therefore, appeared as a strength through the online modules. Nevertheless, Daniel noted that while the specialisation was helpful in firming up his pedagogical approach in science, it did not deliver the level of expert knowledge he was expecting, and he acknowledged that he would have to continuously develop this as a teacher.

Time. All five pre-service teachers found the modules/activities time-consuming, which they described as a constraint to completing the specialisation. Catherine indicated the modules took much longer than she expected: "They were supposed to take four hours … but [it took] sixteen hours". Jackie also described the modules took "a fair bit of time to complete". Maryanne explained that, for her, administrative processes like learning how to use presentation and audio-recording software were the most time-consuming aspects. She recalled how she had to learn to merge multiple documents to PDF format in order to submit her assessment. Jackie described that her science teaching would have benefited from more time to work though the specialisation: "I think my understanding would have been deeper and I would have felt a lot more confident". The implication here is that because the activities, including administrative tasks, took a long time to complete, pre-service teachers may have felt rushed and did not spend time to meaningfully understand the subject matter.

Delivery mode. Pre-service teachers received the modules with mixed feelings. While Jackie and Julie appreciated the layout of the *Articulate RISE* modules, Catherine and Maryanne found the independent and online delivery offered both affordances and challenges. Jackie and Julie agreed the modules were "easy to follow" and "user friendly". Catherine described the modules as "absolutely perfect" but also felt isolated completing them independently from coursework. She suggested "having a community [e.g. online discussion board in BlackBoard] would be really useful". Maryanne described the modules as "fabulous" but also identified the online delivery as a challenge, describing how "it's [the specialisation] not explicitly interwoven so there's not a set time [to complete the modules] really within your course". These comments show that the intended flexibility afforded by self-paced online modules

did not always have the desired effect and that perhaps there could be more explicit links between the specialisation and regular coursework.

5.1.2   Material—Looking Outward (Social)

Timing. Four pre-service teachers (Catherine, Daniel, Jackie, Julie) identified competing assessment due dates as a challenge in completing the specialisation modules. Catherine noted "towards the end [of semester] it was just so hectic to get it [assessment] done". Julie explained "the constraints were from more external factors of the course like other subjects and stuff taking priority". When prompted to elaborate on this sentiment, she explained "… the specialisation … due date fell in between a couple of assignments" and some of her friends "dropped out a couple of days before it [the assessment] was due". This means pre-service teachers were juggling the specialisation on top of their regular MTeach coursework and had to make decisions about what assessment items to prioritise. Since the specialisation is a course requirement graded at Satisfactory/Unsatisfactory, it seems that this was assigned a low priority or pre-service teachers simply chose to withdraw from the modules.

5.1.3   Material—Looking Backward (Past)

Past experiences. Three pre-service teachers (Catherine, Jackie and Julie) chose the science specialisation based on their past experiences of school science. Their negative experiences in particular were a strong motivation to choose science. Jackie described "I chose based mainly off my own experience [at school]". She recalled her science education "was out of a textbook" and there was "not a lot of inquiry" and "not a lot of experimentation". Jackie recalled how "the teacher would write things up on the board" and students "didn't really do much". Julie echoed this sentiment, stating she "picked science … in high school … but had a really bad science teacher so … dropped out". She explained further "… when I learnt science it was more transmission … so the teacher just talked, and we wrote notes." These pre-service teachers wanted to do better for future generations of children who had an interest in science. Julie explains this viewpoint: "I sort of chose it [the science specialisation] because I felt I want to be a good science teacher and get kids excited about science".

Qualifications. Two pre-service teachers (Daniel and Maryanne) chose the science specialisation because they had formal qualifications in science related fields. Daniel has a degree in physics and previously worked in a microbiology and chemistry laboratory, whereas Maryanne has a degree in nutrition and dietetics and currently works as a dietitian. Maryanne expressed why she chose the science specialisation in her comment "I think it makes sense … to go with my strength". For these pre-service teachers, it made sense to capitalise on their formal qualifications.

5.1.4 Material—Looking Forward (Future)

Relevancy. For three pre-service teachers (Catherine, Jackie and Maryanne) who were enroled part time, the relevancy of the specialisation subject matter when they graduate (i.e., four years later) was of concern. This was particularly true of the professional learning presentation for in-service teachers (Modules 4 and 5). Maryanne's comment illustrates the pre-service teachers' concern: "I need to continually update this [presentation] over the time period between now and when I deliver it … because I want it to be a professional development opportunity not something that is dated". This shows the pre-service teachers were worried about the currency and innovativeness of the professional learning presentation into the future because they wanted it to be well-received by teachers.

5.2 Interpretive Findings

Four themes were evident as to how the pre-service teachers viewed specialisations, and their future role as a teacher with a specialisation. These views were *confusing*, *valuable*, *transformative*, and *visionary*. The first theme—*confusing*—relates to inward (personal) experiences, while the second theme—*valuable*—relates to outward (social) experiences. The *transformative* theme concerns looking backward (past) and the *visionary* theme concerns looking forward (future).

5.2.1 Interpretive—Looking Inward (Personal)

Confusing. The five pre-service teachers knew little about primary specialisations and had differing views about the role of a teacher with a specialisation. This is epitomised in Jackie's response to being asked what she knew about primary specialisations: "I don't know a lot about it sorry". Daniel viewed the science specialisation as a means to help him "become a better science teacher" and "lead by example". Maryanne, on the other hand, specified that for her, "[science] will be my area that I am responsible for having expertise in". She elaborated on what this meant by giving examples of the types of activities she might be involved with, which included "reviewing what's already there [science education broadly]", "planning and sequencing of lessons", and "a role in the professional development of that particular area for teachers". Although Jackie did not know a lot about the science specialisation, she described how this might "take the workload off generalist teachers". This suggests she believed she might be solely responsible for teaching science within and across year levels. Together these comments suggest a general lack of understanding about the definition of a teacher with a specialisation and what their role and responsibilities may be in schools.

5.2.2   Interpretive—Looking Outward (Social)

Valuable. One pre-service teacher (Julie) noted how other people told her the science specialisation was of value. Julie spoke to a friend who works as a school administrator who advised her to choose science: "She said people want science teachers … even in the primary school". Julie also spoke about how STEM is always in the media and portrayed as necessary in school science. She described that "It's kind of everywhere and they [media] always talk about bringing it in the classrooms". In this case, other people's perspectives informed Julie's view about the value of the specialisation.

5.2.3   Interpretive—Looking Backward (Past)

Transformative. Three pre-service teachers' (Catherine, Daniel, Jackie) view of learning in science transformed as a result of their engagement with the specialisation. Daniel recalled how "I came into science sort of thinking it was going to be very traditional … in the way that I was… taught". The science curriculum unit, however, challenged his perceptions. Daniel elaborates by suggesting he now knows to "get the kids to be engaged and active and ask questions" and "then … bring in the science behind it". When Jackie was asked about the extent to which she has changed the way she thinks about school science, she responded with, "dramatically". Jackie explained that "… my experience of science was that it was just basically out of a textbook … I was pleasantly surprised to see how hands on it was". The notion that children have existing conceptual frameworks about how the world works was a major insight for Jackie: "… how students' beliefs are taken into consideration into creating a program I guess to teach them… that's opened my eyes quite a lot." For Catherine, "a big moment" that changed the way she viewed learning in science was understanding "there is a continuum, or a progression, and you are working [teaching] towards a big idea". These are important realisations for pre-service teachers who will graduate with a specialisation in science that show their developing view of learning from a constructivist perspective.

5.2.4   Interpretive—Looking Forward (Future)

Visionary. All five pre-service teachers held positive visions for their future science teaching. At interview, Jackie and Maryanne commented on their intention to incorporate inquiry-based approaches in their science teaching and acknowledged the importance of building upon young children's natural curiosity about the world around them. Jackie spoke about "connecting" with students and wanting to "learn about my students and know what their interests are and try and create their learning around that". The pre-service teachers' viewpoint is summed up by Maryanne who described her future science teaching as "organised chaos" and remarked that inquiry-based science is "the biggest thing I want to impact".

5.3 Discursive Findings

The three themes in the discursive facet that focused on pre-service teachers' positioning are *concern—novice/expert*, *perceived difficulty* and *employability*. The *concern—novice/expert* theme relates to both inward (personal) and outward (social) experiences. The *perceived difficulty* theme concerns looking backward (past) and the *employability* theme concerns looking forward (future).

5.3.1 Discursive—Looking Inward (Personal)

Concern—novice/expert. Four pre-service teachers (Catherine, Jackie, Julie, Maryanne) were concerned that the science specialisation positions them as both novice (i.e., beginning teacher) and expert (i.e., teacher with a specialisation). Catherine noted "the term [specialisation] is very sticky for me". She described "coming in as a person who wants to learn yet being an expert in something seems really confused". The pre-service teachers' concern arose from the requirement to deliver a professional development presentation to in-service teachers on their professional experience placement. Pre-service teachers described the prospect as "nerve wracking" (Jackie) and "terrifying" (Julie), and one pre-service teacher (Maryanne) questioned whether she would have the capability to impact another teacher's practice. Alongside this, it is also unknown how experienced teachers might feel about the prospect of graduates leading professional development. This is shown in the next theme.

5.3.2 Discursive—Looking Outward (Social)

Concern—novice/expert. The novice-expert discourse was also evident looking outward with pre-service having mixed beliefs about whether schools will share their personal concerns. While Catherine and Maryanne were concerned about how they would be viewed by other teachers, Jackie and Julie were optimistic about this. Catherine described that she felt "insecure" because "the last thing they [in-service teachers] want to hear from a newbie is how to do it [teach science]." She commented "I don't imagine it's going to go down well". Maryanne shared this view and expressed her concern that "I don't know how well regarded or seriously I would be taken." In opposition to this perspective, Jackie described "I think having that extra support … would be a good thing for them [schools]." Similarly, Julie thought schools would respond positively to beginning teachers with a specialisation in science. She noted how she saw "the younger teachers … sort of coming through [university] and leading it [science education]" while she was on professional experience. This novice/expert binary permeated these pre-service teachers' views around specialisations and emerged as a serious concern.

5.3.3 Discursive—Looking Backward (Past)

Perceived difficulty. This discourse was evident in Catherine's description of how her school science teacher privileged high performing students, which impacted on her decision to choose science as her area of specialisation. Catherine explained "the teachers were only teaching toward males or high, high performing students." For Catherine, this discursive practice positioned science as a subject with specialised knowledge that only some people can do, which led her to lose her "passion" for science. This discourse also arose in Maryanne's description about why or why not pre-service teachers chose the science specialisation. She described searching for other students studying the specialisation at the first science workshop and how she was met with the response: "No, are you kidding me? No, I'm not doing that … it's just too hard" (Maryanne). This indicated pre-service teachers had already decided science was too hard, or specialised, before they had even engaged with the subject matter.

5.3.4 Discursive—Looking Forward (Future)

Employability. Three pre-service teachers (Catherine, Daniel, Jackie) thought a science specialisation would make them more employable as a graduate teacher. Catherine described the specialisation as her "selling point" and Daniel explained how he thought it would give him an "advantage" over candidates who did not have the same qualification. Jackie also shared this view. She commented on how "there is a lack of students going into the STEM careers after they graduate high school, so I think that having the teachers that are able to really encourage that from a young age … that will be more employable". Although Daniel thought the science specialisation was advantageous, he considered "those who do literacy and numeracy as specialisations might initially have an advantage over those of us who do science" due to the current emphasis on standardised testing of these areas. What is clear from these remarks is pre-service teachers have strong beliefs that the science specialisation will impact their future employment.

6 Discussion

From our findings, which described pre-service teachers' material, interpretive, and discursive experiences looking inward (personal), outward (social), backward (past), and forward (future), a number of positives and negatives arose. In terms of the material facet, some pre-service teachers supported the online module approach. Others, however, commented on not having enough time to deeply engage with the modules, being disconnected from the broader MTeach course, as well as competing assessment due dates. A further material consideration was pre-service teachers'

knowledge. All pre-service teachers' believed that their pedagogical content knowledge was enhanced by undertaking the specialisation in science, as they learnt about a range of evidence-based science teaching approaches. However, in terms of content knowledge, pre-service teachers had contrasting opinions mainly due to the level of expertise they brought to the specialisation in the first place. This raises the challenge of how to pitch the level of content knowledge needed to prepare graduates from diverse backgrounds in the four science disciplines—biology, chemistry, Earth and space science, and physics—across all primary year levels. In this study, the three pre-service teachers with non-science backgrounds found the level and amount of content knowledge sufficient, whereas the two pre-service teachers with science degrees expected this to be more in-depth. This raises another challenge about how pre-service teachers choose an area of specialisation—should pre-service teachers have a prior degree in their area of specialisation and/or be encouraged to choose based on their strength, or are their past experiences or personal interests acceptable motives? These challenges are closely related to how the role of a teacher with a specialisation is interpreted.

In terms of the interpretive facet, pre-service teachers in this study appeared to be confused about the role of a teacher with a specialisation. While Daniel's view of the specialisation was close to AITSL's intent, other participants thought they might conduct work closer aligned to a specialist teacher (i.e., teaching science within or across year levels) or an instructional coach (i.e., delivering professional development to in-service teachers). Lack of a clear definition presents a challenge for all stakeholders in the primary specialisation space. This is unsurprising given that the notion of a teacher with a specialisation has not been well explicated in policy (Bourke, Mills, & Siostrom, 2019). That said, some pre-service teachers in this study did interpret the primary specialisation as valuable and transformative for the future.

Discursively positioning beginning (i.e., novice) teachers as experts and leaders also raises challenges. Pre-service teachers in this study shared concerns about being positioned in this way, believing they may experience resistance from their colleagues because they lack classroom experience. According to AITSL, teachers with a specialisation may have the capability to integrate science across other learning areas, critique science curriculum and programs, and facilitate science learning transitions from pre- to primary and primary to secondary schooling (AITSL, 2017b). These appear to be tasks more aligned to a Head of Curriculum role and seem commensurate with Highly Accomplished and Lead teachers (AITSL, 2015). Other challenges within the discursive facet relate to the perceived difficulty of science. If young children see science only taught by a teacher with a specialism, this may reinforce the perceived difficulty of the discipline. Nevertheless, some pre-service teachers in this study did see the science specialisation as making them more employable.

Having outlined the challenges present in the data, we reflect upon and make recommendations about primary specialisation moving forward. First, if the aim of specialisation is that pre-service teachers have more education in a priority learning area like science, university faculties should have more flexibility with course content and design. Second, other models such as specialist teachers or instructional coaches

adopt a 'less is more' stance, meaning that teachers have responsibility for planning and teaching in one learning area only (e.g., Markworth, Brobst, Ohana, & Parker, 2016). A primary specialisation does not encourage this standpoint as specialists are also supposed to be generalists. Third, if a teacher with a specialisation is responsible for leading teams of teachers in science education, then having an interest in science may not affect instruction and learning in a meaningful way. Our vision is that pre-service teachers need to have a genuine strength in their area of specialisation, including the capability to lead the design, implementation, and evaluation of science teaching innovations. Our fourth recommendation is that primary specialisation is offered as a postgraduate pathway because research in science teacher education from the US shows that science content knowledge develops alongside a teacher's experience (Nixon et al., 2019). This is especially relevant to beginning teachers, who develop and refine their content knowledge for up to approximately 10 years after commencing their career (Nixon et al., 2019). Finally, we recommend further development of the roles and responsibilities of a teacher with a specialisation so that preparation in initial teacher education can be enhanced and these educators can be more impactful in schools. This requires research to identify successful and contextually relevant approaches to knowledge specialism in the primary school to find out what practices are impactful for student achievement, engagement, and participation in science education.

7 Conclusion

In response to the overarching research question for this study *How did pre-service teachers experience the enactment of a science primary specialisation at one Australian university?* It becomes clear that even though pre-service teachers felt positively about the science specialisation, their collective experiences indicate the need to further consider how the primary specialisation is enacted and the challenges that arise from this new change to the way primary educators are prepared. By adapting Ball et al.'s (2012) theorisations on policy enactment and Clandinin and Connelly's (2000) narrative inquiry we formulated a *Policy Enactment Inquiry Space* to make visible the ways in which pre-service teachers as policy receivers experienced the science specialisation. There were 14 themes related to pre-service teachers' material, interpretive, and discursive lived experiences of primary specialisation personally, socially, and in the past and future. Of most significance in our findings is: the lack of consensus among pre-service teachers about the definition and ways of working of a teacher with a specialisation; the inclusion of specialisation in pre-service teacher education rather than as a postgraduate qualification in its own right; and the discursive positioning of pre-service teachers as novice/expert. In response to the challenges raised in this study, there appears to be the need to consider alternatives to the perceived problem of quality primary science education and post-compulsory enrolments in science/STEM. An emerging body of evidence suggests that primary

specialisation should be contested in its current form (e.g. Bourke et al., 2019; Mills et al., 2020) and further research in this space is warranted.

Glossary

Primary specialisation A policy direction introduced in Australian initial teacher education programs from 2019 onwards that mandates additional education of pre-service teachers in a priority learning area of national significance (e.g. English/literacy, mathematics/numeracy, and science)

References

AITSL [Australian Institute for Teaching and School Leadership]. (2015). Standards and procedures for accreditation of initial teacher education programs in Australia. Retrieved from https://www.aitsl.edu.au/tools-resources/resource/accreditation-of-initial-teacher-education-programs-in-australia—standards-and-procedures.

AITSL. (2017a). Guideline: Primary specialisation. Retrieved from https://www.aitsl.edu.au/tools-resources/resource/guideline-primary-specialisation.

AITSL. (2017b). Primary specialisation: Graduate outcome stimulus paper. Retrieved from https://www.aitsl.edu.au/tools-resources/resource/primary-specialisation—graduate-outcomes-stimulus-paper.

Ball, S., Maguire, M., & Braun, A. (2012). *How schools do policy: Policy enactments in secondary schools*. Abingdon, OX: Routledge.

Bourke, T., Mills, R., & Siostrom, E. (2019). Tracing the origins of primary specialisation in Australian education policy: What's the problem represented to be? *Australian Educational Researcher*.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Brobst, J., Markworth, K., Tasker, T., & Ohana, C. (2017). Comparing the preparedness, content knowledge, and instructional quality of elementary science specialists and self-contained teachers. *Journal of Research in Science Teaching, 54*(10), 1302–1321.

Clandinin, D., & Connelly, F. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco: Jossey-Bass.

Dobson, I. (2018). STEM in Australia: The statistical patterns of university science and technology in the twenty-first century. Retrieved from http://www.acds.edu.au/wp-content/uploads/sites/6/2018/10/ACDS-STEM-in-Australia-Final28-10-18.pdf.

Flückiger, B., Dunn, J., & Stinson, M. (2018). What supports and limits learning in the early years? Listening to the voices of 200 children. *Australian Journal of Education, 62*(2), 94–107.

Henriksen, E. (2015). Improved participation in science, technology, engineering and mathematics (STEM): What does it mean and why is it needed? In E. Henriksen, J. Dillon, & J. Ryder (Eds.), *Understanding student participation and choice in science and technology education*. Dordrecht: Springer.

Higher Education Statistics Agency. (2019). What do HE students study? Retrieved from https://www.hesa.ac.uk/data-and-analysis/students/what-study.

Kennedy, J., Lyons, T., & Quinn, F. (2014). The continuing declined of science and mathematics enrolments in Australian high schools. *Teaching Science, 60*(2), 34–46.

Markworth, K., Brobst, J., Ohana, C., & Parker, R. (2016). Elementary content specialization: Models, affordances, and constraints. *International Journal of STEM Education, 3,* 1–19.

Mills, R., Bourke, T., & Siostrom, E. (2020). Complexity and contradiction: Disciplinary expert teachers in science and mathematics education. *Teaching and Teacher Education, 89*, 1-12.

National Science Board. (2018). *Science and engineering indicators 2018.* Retrieved from https://www.nsf.gov/statistics/2018/nsb20181/.

Nixon, R., Smith, L., & Sudweeks, R. (2019). Elementary teachers' science subject matter across the teacher career lifecycle. *Journal of Research in Science Teaching, 56*(6), 707–731.

Palmer, D., Dixon, J., & Archer, J. (2015). Changes in science teaching self-efficacy among primary teacher education students. *Australian Journal of Teacher Education, 40*(12), 27–40.

Poland, S., Colburn, A., & Long, D. (2017). Teacher perspectives on specialisation in the elementary classroom: Implications for science instruction. *International Journal of Science Education, 39*(13), 1715–1732.

TEMAG [Teacher Education Ministerial Advisory Group]. (2014). Action now: Classroom ready teachers. Retrieved from https://docs.education.gov.au/node/36783.

Timms, M., Moyle, K., Weldon, P., & Mitchell, P. (2018). *Challenges in STEM learning in Australian schools: Literature and policy review*. Melbourne, VIC: Australian Council for Educational Research.

van Aalderen-Smeets, S., Walma van der Molen, J., & Asma, L. (2012). Primary teachers' attitudes towards science: A new theoretical framework. *Science Education, 96*(1), 158–182.

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Chapter 3
The Interplay Between Technology and Teaching and Learning: Meeting Local Needs and Global Challenges

Rachel Farrell and Kevin Marshall

Abstract Digital literacy is a cornerstone of all teacher education programmes, the significance of digital tools in teaching and learning now universally recognised. This case study reports on the development of a digital portfolio in initial teacher education as a mechanism towards documenting learning, fostering reflection and building key digital competencies both at the individual teacher and wider school community level. In so doing, it sought to glean insights into how learning and pedagogical knowledge development of student teachers can be supported by the development of digital portfolios while on school placement in collaboration with cooperating (host) teachers. Through an analysis of interviews with 10 student teachers, 10 co-operating teachers, 10 university tutors and a review of the reflective diaries of 10 student teachers our findings supports the view that while there is a need for investment of time and resources, digital portfolios can facilitate a more inclusive teaching and learning environment, foster collaborative practice between student teachers and co-operating teachers and deepen school-university partnerships.

1 Introduction

The impact of globalisation on teacher education has been profound. Teachers are positioned at the very centre of a global movement to equip students with the necessary skills of creativity, critical thinking and problem-solving to enable them to engage as global citizens. Higher education institutions, industry partners and policy makers have responded differently to the challenges of globalisation, advocates arguing for its potential to democratise education through technological advances,

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internationalisation, market forces and harmonisation initiatives, critics arguing that it deepens inequality and fosters corporatization (Giroux, 2002).

It is now widely accepted that the ultimate goal of learning in a global society is the acquisition of 'adaptive expertise' (Timperley, Ell & Le Fevre, 2017) or 'adaptive competence,' i.e. the ability to apply meaningfully learned knowledge and skills flexibly and creatively across different contexts. While schools are key sites for the building of adaptive competences (De Corte, 2012), including the competences to embed digital technology in teaching, learning and assessment (UNESCO, 2018), a recent OECD report (2015, p. 3) notes that 'the reality in our schools lags considerably behind the promise of technology.' While there is an expectation that teachers are proficient in the use of digital technology, in the classroom, the reality is that this is not always the case (Tondeur, Pareja Roblin, van Braak, Voogt, & Prestridge, 2017). Furthermore, while teachers regularly report their own use of digital technology, they often restrict its use to preparation rather than exploring it as a pedagogical tool (Slaouti and Barton, 2007). The narrow use of digital technology by novice teachers in particular may be attributed to the 'praxis shock' or 'transition shock' that they encounter when entering the profession (Korthagen, Loughran, & Russel, 2006). Admiraal et al. (2017) suggest that novice teachers need role models for technology integration on two levels: Teacher educators modelling how technology can be used effectively in subject teaching and cooperating teachers acting as role models and mentors for pre-service teachers by integrating technology in their subject teaching. However, the dearth of positive role models at teacher education institutions as well as on school placement has been found to limit student teachers' capacity and currency in becoming digitally literate (OECD, 2010). Provision of continuing professional development for teacher educators (Kelchtermans, Smith, & Vanderlinde, 2018) is fundamental to developing digital competence, as is collaboration with leading experts including those from industry (Zipke, 2018).

Digital literacy is a cornerstone of all teacher education programmes, the significance of digital tools in teaching, learning and assessment now universally recognised. As Starkey (2019, p. 16) notes 'the agenda underpinning initial teacher education research is evolving as digital tools are introduced, integrated or infused into schooling and education systems.' In the Irish context, there is a real commitment to exploring ways in which digital tools such as eportfolios can enhance teaching and learning across the continuum of education (Brown et al., 2017). Informed by the UNESCO ICT Competency Framework for Teachers (UNESCO, 2018) which underlines the role of technology in transforming education and in contributing to sustainable development (UNESCO, 2015; OECD, 2018, 2019), the Irish Digital Learning Framework (DES, 2017) provides a comprehensive set of digital competencies for teachers. Building on the Digital Strategy for Schools (DES, 2015, p. 31) and mapped to Looking at Our Schools (DES, 2016), this framework highlights the need to 'develop teachers' knowledge, skills and confidence to embed ICT more into their pedagogy and practice. Ireland's latest OECD PISA (Programme for International Student Assessment) report notes an underuse of digital technology for school subjects by students in Ireland (inside and outside of class) compared to the corresponding averages across OECD countries. Exploring how digital devices are used

in classes, students in Ireland reported that across selected subjects (English, Science, and Mathematics), it was mainly the teacher who used digital devices in the classroom. Principals' views on the capacity of their schools to enhance teaching and learning through digital technology were also less favourable in Ireland than on average across the OECD. In particular, principals in Ireland highlighted access to technical support or assistance, the availability of effective professional resources for teachers to learn how to use digital technology, and the skill levels of teachers (and time for planning) as challenges to successful integration of digital technology in teaching and learning (ERC, 2019).

2 Value of Digital Portfolios in Initial Teacher Education and Beyond

The origins of the portfolio concept dates back to the eighteenth century when the Italian word 'portafoglio' described a 'case for carrying lose papers' used by artists, musicians, writers, and architects to carry, protect and show their work (Bryant & Chittum, 2013). For countless generations paper-based portfolios have served the purpose of collecting evidence that is collated by people who are active participants in their own learning, to convey their learning journey over time and to demonstrate their abilities (Barrett, 2010). Digital portfolios (also known as eportfolio, efolio, webfolio, etc.) essentially constitute an electronic version of a paper-based portfolio, created in a digital environment, and can include text, images, audio and video material (Barrett, 2010). In the early 1990s, digital portfolios evolved, exploiting the technologies of the digital revolution, in tandem with the emergence of learner-centred and constructivist approaches to teaching, learning and assessment. The potential offered by evolving technologies has enabled eportfolios to 'go beyond the limits of paper-based portfolios' (Theodosiadou & Konstantinidis, 2015, p. 18) and has triggered a move towards the use of multi-modal approaches to portfolios in education. Growing attention within the higher education landscape on quality and on the measurement of learning through outcomes-based assessment has further increased eportfolio practice in higher education around the world (Eynon & Gambino, 2017). A growing body of evidence suggesting that eportfolio-based assessment enables students to integrate their learning and make connections between modules in an authentic and meaningful way (Buente et al., 2015; Eynon & Gambino, 2017; Morreale, Van Zile-Tamsen, Emerson, & Herzog, 2017), as well as fostering a sense of community and collaboration with peers (Barbera, 2009; Bolliger & Shepherd, 2010), while at the same time empowering students to learn in a self-regulated way (Alexiou & Paraskeva, 2010; Jenson, 2011; Nguyen & Ikeda, 2015) have all contributed to the move towards eportfolio-based teaching and learning.

3 Context: Digital Strategy and the Embedding of ePortfolios in Irish Education

The merits of technology-supported assessment (Laborda, Sampson, Hambleton & Guzman, 2015) as one mechanism for supporting student learning and assessment across the curriculum has prompted deep engagement with digital technology across the education system in the Irish context. Schools across Ireland now have access to a range of digital technologies that can be used for formative (developing student learning) as well as summative (evaluating student learning) assessment. In line with the requirements of *Looking at Our Schools* (DES, 2016), the use of digital technologies can help schools to gather information about students' learning from multiple sources and teachers can use this data to design more appropriate student learning activities. The Department of Education and Skills (DES) In Ireland has already explored the use of digital portfolios (eportfolios) through the European funded EUfolio project (2013–2015) and they now believe that there is potential to extend their use for primary and post-primary students (DES, 2015). The Digital Strategy for Schools (DES, 2015) also acknowledges that computer-based assessment is becoming a core part of PISA. In the 2015 PISA assessment, Irish students were assessed on their collaborative problem-solving skills, using computers for the first time. Furthermore, for the first time a parent/guardian questionnaire was administered and principals completed digital, rather than paper versions of the background questionnaires (ERC, 2014, p. 33).

Acknowledging the necessity to acquire relevant and essential ICT knowledge and skills, the DES also recognise that teachers will need to have access to professional development, on an ongoing basis, throughout their career. This is particularly pertinent in the area of ICT, where technology changes at a rapid pace. With the growing need for proficiency in the use of digital technology across the continuum of education in Ireland and elsewhere, the DES has resourced their largest national teacher support services the Professional Development Service for Teachers (PDST) to be one of the leading enablers to drive the Digital Strategy for Schools by supporting schools to effectively integrate ICT into teaching, learning and assessment and providing advice and support to the Department on the implementation and impact of the Strategy. There is a specific objective set out in the Digital Strategy for Schools under Theme 1: Teaching Learning and Assessment using ICT where the PDST has a specific role "To promote the use of digital portfolios (eportfolios) for primary and post-primary students" (DES, 2015, p. 27). Furthermore, the Strategy notes that "teachers can gather and record evidence and reflect on ongoing learning throughout their career by collating this evidence in a teacher professional (paper or digital) portfolio" (DES, 2015, p. 31).

Yet, despite the very clear commitment to the use of eportfolios across second-level, there is an absence of explicit government policy in relation to the adoption of eportfolios in higher education. This contrasts starkly with the policy context in the U.K., U.S., Australia and New Zealand. In Ireland, the National Strategy for Higher

Education to 2030 sets out ambitious aims for higher education to widen participation, increase student numbers, improve retention and become much more flexible (DES, 2011). As a result, the National Forum for the Enhancement of Teaching and Learning was created in 2012, with a key objective to build the digital capacity of Irish higher education. In Teaching and Learning in Higher Education: *A Road Map For Enhancement in a Digital World 2015- 2017* the National Forum's report recommends that Ireland 'develop a consistent, seamless and coherent digital experience for students in Irish higher education and actively engage with students and teachers to develop their digital skills and knowledge' (National Forum for the Enhancement of Teaching and Learning, 2015, p. ix).

While there is growing evidence that eportfolio-based learning has the potential to support many of Ireland's strategic higher education objectives, to date there has been minimal engagement by Irish higher education institutions (Baird, Gamble & Sidebotham, 2016; Eynon & Gambino, 2017; Lambe, McNair, & Smith, 2013; Morreale et al., 2017) with this mode of learning. It is evident that traditional forms of assessment still prevail in Irish higher education; however, there are signs that a growing number of Irish higher education institutions are beginning to engage on some level with digital portfolios. Using an eportfolio to document student experience while on school placement is an emerging area of research within the portfolio landscape and, as evidenced in this study, can promote reflective practice and a culture of collaboration. Digital portfolios provide the link between learners' social and personal experiences and their academic and work-related aspirations, and as such represent a powerful tool for documenting and managing one's own learning over a lifetime in ways that foster deep and continuous learning (Jenson & Treuer, 2014).

4 Case Study

This case study reports on the development of an eportfolio in initial teacher education as a mechanism towards documenting learning, fostering reflection and building key digital competencies both at the individual teacher and wider school community level. It is based on interviews with 10 student teachers, 10 co-operating (host) teachers, 10 university placement tutors and an analysis of the reflective diaries of 10 student teachers. A purposive sample was selected from an open call to students who had a willing co-operating teacher and an interest in developing resources, tutorial videos and digital portfolios. Selection took cognizance of Goodson & Sikes' (2010) observation that 'adequacy is dependent not upon quantity but upon the richness of the data' (p. 23). Thus, the number of participants in the study was small.

Research participants were provided with information on the research project before the interview. They were again provided with this documentation at the time of interview and asked to sign a consent form. Each individual was interviewed once, each interview lasting approximately one hour. If consent was given, interviews were recorded and in the absence of consent, field notes were taken. Transcripts were

thematically analysed and coded. Participants were allocated pseudonyms in order to ensure confidentiality and the dialectical features of the interview data were preserved in line with best practice in reporting qualitative data research (MacNaghten & Myers 2004; Rapley, 2004).

The data analysis followed a grounded theory methodology (Glaser & Strauss, 1967; O'Donoghue, 2018). It involved analysis of interview transcripts to generate substantive theory 'grounded' in the data provided by the participants through semi-structured interviews conducted using guiding questions to prompt discussion. The value in this process was the flexibility it provided to respond to and explore participants' responses (Punch & Oancea, 2014), especially as the interviews progressed and themes being generated could be explored further.

Using an inductive analysis, three main themes emerged from the research in relation to the interplay between technology and teaching and learning: the creation of a more inclusive teaching and learning environment; the fostering of collaborative practice between student teachers and co-operating teachers and finally the deepening of school-university partnerships.

5   The Creation of a More Inclusive Teaching and Learning Environment

Participants generally believed that engaging in the development of a digital portfolio fostered a more constructivist pedagogical orientation (DES, 2015) which in turn fostered a more inclusive teaching and learning environment. A number of participants commented on this, particularly evidenced through the development and use of resources to support teaching and learning:

> I gained more confidence in creating my own differentiated content and facilitating students to do the same. Collaboration and creativity around the development of resources meant that the students and I were working together, on an equal level per se, as co-learners, co-inquirers (Student Teacher A).

Student Teacher B observed:

> I felt this kind of real integration of technology to support teaching and learning transformed the classroom. It created a much more inclusive environment, at all levels, both for me and the students. Technologies like Microsoft Teams or Google Classroom helped me distribute notes, homework, resources and facilitate things like group projects and differentiation. All of this meant that the whole atmosphere in the classroom was more interactive, more collaborative and more inclusive.

Interestingly, a number of student teachers aligned their courage to use new technologies with their perceived rapport with a particular class and their expectations around issues with classroom management and with supporting pupils with additional needs:

> I feel very confident in my use of technology, but I am always careful to try new technologies with a class that I have a good relationship with (Student Teacher D).

Immersive Reader in One Note has opened up a whole new world to students with dyslexia (Student Teacher C).

Co-operating teachers echoed the view of student teachers that technology, used effectively, fostered a more inclusive teaching and learning environment:

I noticed the kids stepped up their engagement with the curriculum because they were comfortable and engaged with the approach being employed. Technology, because it was being used sensitively and creatively, certainly increased their level of engagement and deepened their understanding and interest, particularly those kids with additional needs (Co-operating Teacher D).

University placement tutors also commented on the way in which the use of technology promoted a more inclusive teaching and learning environment:

I felt the technology used by the student teacher in the classroom allowed for a more inclusive teaching and learning environment, as those pupils who had difficulties with traditional methods of teaching and learning were provided with a more open, accessible way into the curriculum. The technology thus for many pupils levelled the playing pitch (University Placement Tutor G).

Comments from student teachers' reflective diaries also supported the view that technology, used effectively, created a more inclusive teaching and learning environment:

I notice Martha is more engaged and seems more at ease when we are using technology rather than textbooks (Student Teacher F).

The kids, especially those who find Maths challenging, seem to relax more into it when they are using their devices (Student Teacher H).

The majority of participants, student teachers, co-operating teachers and university placement tutors, were of the view that technology supported a more inclusive teaching and learning environment, and while data was not gathered from the pupils, it is evident in the student teachers' reflective diaries that they believed the pupils also supported this view.

6 Fostering of Collaborative Practice Between Student Teachers and Co-operating Teachers

Engaging in the use of digital portfolios fostered collaborative practice between student teachers and co-operating teachers. Initially the technology enabled student teachers to use alternative modes of reflection that empowered them to identify and map out their own development. This reflection by necessity required a critical dialogue with their co-operating teacher:

Because I was recording much of what I was doing, it provided a better means of sharing it with my co-operating teacher and this impacted on the overall delivery of the material in the class (Student Teacher G).

I hated typing up reflections as part of the end of my lesson plans but when I switched to blogging I actually began to enjoy reflecting as it was more like me telling my story on a daily basis and it felt more empowering as opposed to an exercise I had to do for an assignment. I also liked the fact that my placement tutor could dip in and look at what I was saying and comment on how I was doing. It made me feel like my reflections were more real (Student Teacher B).

I was very flattered when my student teacher shared their blog with me. It made me feel that my opinion was valued and I was very happy to take the time to give constructive feedback on some of the areas they were talking about. As time went on the blogging actually became routine and almost like our planning platform (Co-Operating Teacher E).

The development of digital portfolios also allowed for the sharing of resources and reflections with ease, both within subject specialisms and across subjects promoting a cross-curricular approach.

I can share these templates with cooperating teachers and fellow students (Student Teacher J).

My student teacher was great at sharing resources and was very helpful in showing me how to create some nice quizzes and games using very simple and free online tools (Co-operating Teacher B).

The use of digital portfolios also upended the typical co-operating teacher/student teacher hierarchy, positioning the student teacher to mentor the co-operating teacher in the use of technology to support teaching and learning:

Some of my cooperating teachers are struggling with using technology in their subject area. They have asked me to present some ideas during our subject department meetings. A few of us have started working collaboratively on PowerPoint Presentations – the teachers could not believe how easy it is to do this! (Student Teacher A).

I was delighted to be able to show my cooperating teachers how to use the shared settings in both Google Drive and One Drive. We have now set up a shared folder so that we can share resources and collaborate on planning lessons and units of work across a number of subjects (Student Teacher I).

I really enjoyed working with my student teacher this year more so than any other year, as I found that there was something in it for me. I got to learn how to use some really useful and interesting digital tools relevant to my subject in a very targeted and non-threatening way (Co-operating Teacher F).

These findings align with the growing body of evidence which points to the way in which distributed leadership empowers student teachers to take the lead in the area of digital technology while on school placement (Murphy, 2020).

7   Deepening of School-University Partnerships

The use of digital portfolios not only allowed for the sharing of student teachers' expertise with co-operating teachers, but it enabled the building of communities of

practice at a broader school level, thus bridging the perennial school-university dyad. This was achieved incrementally by student teachers gaining confidence over the year to not only help individual teachers but entire subject departments and in time whole staffs as evidenced by this one student teacher's experience:

> One co-operating asked me to sit down with him and teach him how to use basic ICT for pedagogy. Then the principal asked me to work with different subject departments to show them how to set up a digital portfolio. I also set up an after-school club for teachers who wanted to learn more about using digital technologies in their classroom. I am now on the ICT committee in school and I have been asked to present on the use of Microsoft Teams at the next staff meeting. I cannot believe that as a student teacher that this much confidence has been placed in me (Student Teacher B).

Co-operating teachers were keenly aware of the way in which their work with their own student teacher had a ripple effect across subject departments and the wider school community:

> I am delighted with my student teacher this year. They have been such a help to me in getting used to using ICT in the classroom. I never really understood the concept of a digital portfolio until they showed me theirs, and I have shared this with my fellow teachers, many of whom are now embedding this in their own teaching. As a school, we have really benefitted from the expertise this particular student teacher has brought, particularly in the area of technology (Co-Operating Teacher B).

Furthermore, university placement tutors noticed a change in attitude of placement schools regarding the value of skills learned in the university setting.

> The principal called me into ask me about the digital portfolio project in the School. They said that it was the first time in ages that they felt that the effort of taking on a student teacher was worth it as they felt they were getting something back. It is great to see such positivity towards the students and it is great to see the work being done by the university being valued by the school (University Placement Tutor B).

This data thus supports the view that the expertise student teachers can offer schools in relation to their digital competence can assist in fostering reflective practice at a whole school level and bridge the perennial theory/practice divide (Harford & MacRuairc, 2008).

8 Conclusion

While research into the use of digital portfolios is limited in the Irish context, this small-scale study supports the view that digital portfolios can support a more inclusive teaching and learning environment, foster collaborative practice between student teachers and co-operating teachers and deepen school-university partnerships. While challenges did present including the resource-intensive nature of this intervention, the investment of time and the difficulties faced by schools with a poor technological infrastructure, the collaborative nature and reach of this intervention as well as its capacity to democratise the teaching and learning environment provide a powerful argument for testing the study on a larger scale.

References

Admiraal, W., van Vugt, F., Kranenburg, F., Koster, B., Smit, B., Weijers, A., et al. (2017). Preparing pre-service teachers to integrate technology into K–12 instruction: Evaluation of a technology-infused approach. *Technology, Pedagogy and Education, 26*(1), 105–120.

Alexiou, A., & Paraskeva, F. (2010). Enhancing self-regulated learning skills through the implementation of an e-portfolio tool. *Procedia Social and Behavioral Sciences, 2*(2), 3048–3054.

Baird, K., Gamble, J., & Sidebotham, M. (2016). Assessment of the quality and applicability of an e-portfolio capstone assessment item with a bachelor of midwifery program. *Nurse Education in Practice, 20,* 11–16.

Barbera, E. (2009). Mutual feedback in e-portfolio assessment: an approach to the netfolio system. *British Journal of Educational Technology, 40*(2), 342–357.

Barrett, H. C. (2010). Balancing the two faces of ePortfolios. *Educação, Formação & Tecnologias, 3*(1), 6–14.

Bolliger, D. U., & Shepherd, C. E. (2010). Student perceptions of eportfolio integration in online courses. *Distance Education, 31*(3), 295–314.

Brown, M., McNamara, G., O'Hara, J., O'Brien, S., Poole, P., & Burns, D. (2017). *Evaluation of the PDST ePortfolio initiative: Formative Assessment using ePortfolios*. Dublin: EQI.

Bryant, L., & Chittum, J. (2013). ePortfolio effectiveness: An (ill-fated) search for empirical support. *International Journal of ePortfolio, 3*(2), 189–198.

Buente, W., Winter, J. S., Kramer, H., Dalisay, F., Hill, Y. Z., & Buskirk, P. A. (2015). Program based assessment of capstone eportfolios for a communication BA curriculum. *International Journal of ePortfolio, 5*(2), 169–179.

De Corte, E. (2012). Constructive, self-regulated, situated, and collaborative learning: An approach for the acquisition of adaptive competence. *Journal of Education, 192*(2–3), 33–47.

DES. (2011). *National strategy for higher education to 2030: Report of the Strategy Group*. Ireland: Department of Education and Skills.

DES. (2015). *Digital strategy for schools 2015 to 2020: enhancing teaching, learning and assessment.* Ireland: Department of Education and Skills.

DES. (2016). *Looking at our school: A quality framework for schools*. Ireland: Department of Education and Skills.

DES. (2017). *Digital learning framework*. Ireland: Department of Education and Skills.

Educational Research Centre (2014). Cosgrove, J., & Cartwright, F. Changes in achievement on PISA: The case of Ireland and implications for international assessment practice. *Large Scale Assessment in Education 2*(2).

Educational Research Centre (2019). McKeown, C., Denner, D., McAteer, S., Shiel, S., & O'Keeffe., L. Learning for the future: The performance of 15-Year-olds in Ireland on reading literacy, science and mathematics in PISA. (2018). *ERC*. Dublin: DCU.

Eynon, B., & Gambino, L. (2017). *High impact eportfolio practice*. Sterling: Stylus.

Giroux, H. (2002). Neoliberalism, corporate culture, and the promise of higher education: The university as a democratic public sphere. *Harvard Educational Review, 72,* 425–464.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory*. Chicago, IL: Aldine.

Goodson, I., & Sikes, P. (2010). *Life history research in educational settings*. Buckingham, UK: Open University Press.

Harford, J., & MacRuairc, G. (2008). Engaging student teachers in meaningful reflective practice. *Teaching and Teacher Education, 24*(7), 1884–1892.

Jenson, J. (2011). Promoting self-regulation and critical reflection through writing students' use of electronic portfolio. *International Journal of ePortfolio, 1*(1), 49–60.

Jenson, J. & Treuer, P. (2014). Defining the E-Portfolio: What it is and why it matters. *Change: The Magazine of Higher Learning, 46*(2), 50–57.

Kelchtermans, G., Smith, K., & Vanderlinde, R. (2018). Towards an 'international forum for teacher educator development': an agenda for research and action. *European Journal of Teacher Education, 41*(1).

Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education, 22*(8).

Laborda, J. G., Sampson, D. G., Hambleton, R. K., & Guzman, E. (2015). Guest editorial: Technology supported assessment in formal and informal learning. *Journal of Educational Technology & Society, 18*(2), 1–2.

Lambe, J., McNair, V., & Smith, R. (2013). Special educational needs, e-learning and the reflective eportfolio: implications for developing and assessing competence in preservice education. *Journal of Education for Teaching, 39*(2), 181–196.

MacNaghten, G., & Myers, G. (2004). Focus groups. In C. Seale, G. Gobo, J. F. Gubrium, & D. Silverman (Eds.), *Qualitative research practice* (pp. 65–80). London: Sage.

Morreale, C., Van Zile-Tamsen, C., Emerson, C. A., & Herzog, M. (2017). Thinking skills by design: A capstone eportfolio to promote reflection, critical thinking and curriculum integration. *International Journal of Eportfolio, 7*(1), 13–28.

Murphy, G. (2020). Exploring principals' understandings and cultivation of leadership at all levels during initial teacher preparation school placement. *International Studies in Educational Administration, 47*(2).

National Forum for the Enhancement of Teaching and Learning in Higher Education. (2015). Teaching and learning in Irish higher education: A roadmap for enhancement in a digital world 2015–2017. In *Teaching and Learning*. ie, Published September 8, 2015, Last Accessed March 28, 2020. https://www.teachingandlearning.ie/publication/teaching-and-learning-in-irish-higher-education-a-roadmap-for-enhancement-in-a-digital-world-2015-2017/.

Nguyen, L. T., & Ikeda, M. (2015). The effects of eportfolio-based learning model on student self-regulated learning. *Active Learning in Higher Education, 16*(3), 197–209.

O'Donoghue, T. (2018). *Planning your qualitative research thesis project: An introduction to interpretivist research in education and the social sciences*. London: Routledge.

OECD. (2010). *Are students ready for a technology-rich world? What PISA studies tell us*. Paris: OECD Publishing.

OECD. (2015). *Students, computers and learning: Making the connection*. Paris: OECD Publishing.

OECD. (2018). *Global competency for an inclusive world*. Paris: OECD Publishing.

OECD. (2019). *Trends shaping education*. Paris: OECD Publishing.

Punch, K., & Oancea, A. (2014). *Introduction to research methods in education* (2nd ed.). London: SAGE.

Rapley, T. (2004). Interviews. In C. Seale, G. Gobo, J. F. Gubrium, & D. Silverman (Eds.), *Qualitative research practice* (pp. 15–33). London: Sage.

Slaouti, D., & Barton, A. (2007). Opportunities for practice and development: Newly qualified teachers and the use of information and communications technologies in teaching foreign languages in English secondary school. *Journal of In-service Education, 33*(4), 405–424.

Starkey, L. (2019). A review of research exploring teacher preparation for the digital age. *Cambridge Journal of Education, 26,* 1–20.

Timperley, H., Ell, F., & Le Fevre, D. (2017). Developing adaptive expertise through professional learning communities. In A. Harris, M. S. Jones, & J. B. Huffman (Eds.), *Teachers leading educational reform: The power of professional learning communities*. Abingdon: Routledge.

Theodosiadou, D., & Konstantinidis, A. (2015). Introducing e-portfolio use to primary school pupils: Response, benefits and challenges. *Journal of Information Technology Education: Innovations in Practice, 14,* 17–38.

Tondeur, J., Pareja Roblin, N., van Braak, J., Voogt, J., & Prestridge, S. (2017). Preparing beginning teachers for technology integration in education: ready for take off? *Technology, Pedagogy and Education, 26*(2), 157–177.

UNESCO. (2015). *Transforming our world: 2030 Agenda for sustainable development*.

UNESCO. (2018). *ICT competency framework for teachers* V03.

Zipke, M. (2018). Preparing teachers to teach with technology: Examining the effectiveness of a course in educational technology. *The New Educator, 14*(4), 342–362.

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Chapter 4
Internationalisation of NZ Tertiary Education: Supporting International Students' Adjustments to Learner-Centred Education

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Abstract As international tertiary student populations in New Zealand have rapidly increased, research was undertaken to provide authentic insights into the challenges faced by international students and their teachers. Based on narrative approaches and semi-structured interviews, qualitative research was undertaken over one year with 12 international graduate and postgraduate students, and 10 teachers of international students. The researchers consciously challenged their cultural assumptions and framed their research approaches through bicultural lens as they used Māori values to guide their interactions with participants and the valuing of participants' stories of experience (kōrero). As the research grew as an entity, it was a place where stories were shared, valued and woven together to create strength and support. With a focus on supporting international students' transitions to learner-centred education, this discussion explores these kōrero, in terms of challenges and satisfactions expressed by international students, students' academic adjustment challenges as reported by lecturers, and lecturers' advice to those teaching international students. Together these understandings helped to clarify the roles and responsibilities of tertiary educators and students in terms of fostering effective andragogical practices and culturally supportive environments for international students and their teachers.

1 Introduction

Ranking sixth on the world knowledge economy index in 2012, New Zealand is an attractive option for international students. As such, Institutes of Technology and Polytechnics (ITPs) have enjoyed a 17% increase of international students between

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2014 and 2015, and a further 5% in 2016 (Education New Zealand, 2016, 2018). While New Zealand aims to provide "world class, responsive and student-centred" education (New Zealand Government, 2018, p. 10), learner-centred education is not the model for all nations, and international tertiary students and their teachers may experience challenges as they acclimate scholarly and social practices to meet the expectations of learner-centred approaches that are premised on active-learning, critical thinking and student engagement.

The globalisation of education is big business, and the economic and social value for students, educators and host countries is well documented (for example, Allen, 2018; Wu, Garza, & Guzman, 2015). At the same time, it is up-close-and personal for those who experience education as international students, domestic peers and teachers. Research-based data from many countries report on international students' challenges and adjustments and, to a lesser extent, faculty members' challenges and adjustments to teaching international students (Jin & Shenghua, 2019). Such findings may be used to critique and update policies and practices in adult education. At the same time, at local levels it is important that the voices of key stakeholders are accessed and acknowledged in culturally appropriate ways, to inform ongoing improvements to international students' programs, delivery and support. Thus, in recognition of the challenges faced when teaching and supporting international students, a research project was undertaken with twelve international graduate/postgraduate students, and ten lecturers within one New Zealand ITP. Research-based insights helped to clarify the roles and responsibilities of tertiary educators and students in terms of fostering effective andragogical practices and culturally supportive environments for international students and their teachers.

2   International Students' Adjustments to Learner-Centred Education

The New Zealand code of professional standards for the teaching profession requires teachers to "develop learning-focused relationships with learners, enabling them to be active participants in the process of learning" (Education Council, 2017, p. 20). Learner participation is a key theme within New Zealand education, and assumes that effective learning-focused approaches will empower individuals to actively participate. However, as Australian researchers Bunn and Lumb (2019) point out, there is a tendency to assume that individuals will "have the capacity to rationally choose pathways that will maximize their own interests" without consideration of the ways in which the education systems "reproduces trajectories of disadvantage and advantage" (p. 7). Therefore, the responsibility for learner-engagement, and the development of international students' agentic capabilities to participate in learner-centred education should be a relational one, that acknowledges the many conditions and relationships within educational environments. Research-based findings provide some insights into the complexities of supporting international students' adjustment to learner-centred

education. The following discussion briefly considers cultural notions of effective tertiary education, the well-being of international students that may contribute to their acclimation to learner-centred education, and the importance of student-teacher interactions in student experience. Consideration is also given to roles and responsibilities for learner-engagement.

2.1 Cultural Models of Effective Tertiary Education

Effective education is, by necessity, flexible, fluid and evolving, as it meets the needs and aspirations of communities and nations. Moreover, social, cultural and historical ways of knowing and being influence how education is enacted and experienced. In New Zealand, we posit, effective tertiary education not only expands students' knowledge, it also develops their skills and attitudes as critical thinkers, self-directed learners and inquiring minds. As such, Socratic, reflective questioning processes that evaluate assumptions, beliefs and knowledge are favoured as teaching approaches in Western education (Panko, 2015; Zhu & Bresnahan, 2018). However, this notion of effective tertiary education may be in sharp contrast with international students' previous experiences and value sets. For example, "contemporary Chinese education tends to comprise repetition, rote learning, and memorization" and students' values may not be focused on ability so much as "exertion of effort and their obligation to bring recognition to their families" (Zhiheng & Brunton, 2007, p. 126). Therefore, teachers should not assume that international students will seamlessly adjust their practices and align their values with learner-focused education.

2.2 Well-being of International Students

The wellbeing of students is integral to their educational adjustments and outcomes and New Zealand was the first nation to introduce a national pastoral care requirement for international students in 2002, followed by the International Student Wellbeing Strategy (New Zealand Government, 2017). Research has recognised that international students' adaptations to their learning experiences and environment effects their sense of belonging (Glass, Kociolek, Wongtrirat, Lynch, & Cong, 2015), personal values (Zhang & Zhang, 2017) and sociocultural well-being (Zhiheng & Brunton, 2007; Zhu & Bresnahan, 2018). For example, in research involving 140 Chinese students across five New Zealand tertiary settings, it was noted that "Chinese students who reported feeling 'unsafe' also struggled to adapt to the learning behaviour in New Zealand classrooms" and this was intensified for those whose English skills limited "interaction with other New Zealand classmates and tutors because they 'feared losing face' from making mistakes" (Zhiheng & Brunton, 2007, p. 134). In American research, which examined how domestic undergraduate students perceived Chinese international students' (CISs) reticence and face concerns, it was reported

that domestic students who valued participation in active-learning *and* had positive attitudes towards CISs were more likely to show liking towards Chinese students (Zhu & Bresnahan, 2018). However, overall, Chinese students' reticence resulted in domestic students' negative perspectives of them.

In research on the personal values and life goals among international students in three New Zealand tertiary institutes, Zhang and Zhang (2017), surveyed 200 international students and interviewed 24. Having found a positive correlation between students' spiritual values and intrinsic goals, they recommended international students' connections with local families and communities, and exposure to interdisciplinary coursework that helped them to "adjust to life and study in a new country, appreciate different cultural perspectives, and develop positive values and life goals" (p. 1512).

Thus, many factors influenced international students' well-being and adjustments to academic life in their host countries, and statistical research with 207 international graduate students at U.S. universities suggested that students' "resilience had the greatest effect on adjustment" (Wang, 2009, p. 22). Recommendations from this research included provision of programs and activities to increase students' resilience levels, and students being mentally and emotionally prepared to encounter adjustment challenges. Also, in the U.S., Wolf and Linh (2019) conducted case studies with eight Chinese nurses who had several years' nursing experience in their home country, and were enrolled in a Master's qualification that was taught in English. Findings revealed that, although challenges diminished over time, listening and academic writing remained difficult, especially as participants were unfamiliar with academic writing styles. The participants' comments suggested that they were active learners and, over time, there was increased use of "social strategies as they frequently sought support from peers, tutors, and professors" (p. 221).

2.3 *The Importance of Student-Teacher Interactions*

As noted, New Zealand teachers are expected to develop learning-focused relationships with learners, which will enable students' active participation in their learning processes. However, relationships between teachers and students cannot be confined to just learning-focused as the nature of interactions between international students and their teachers, not only impacts students' academic performance, but also their well-being and motivation levels. For instance, in U.S-based research, forty international students, representing subgroups of high or low academic preparedness and financial resources, undertook in-depth interviews to illustrate how they made "meaning of personal dispositions, attitudes, and behaviors of professors" and interactions that they perceived had "an educational and developmental impact on their sense of belonging" (Glass et al., 2015, p. 354). Evidence pointed to some students having positive interactions with staff and at crucial times in students' transitions to university and during their academic struggles, "professors who responded with care and concern had transformative effects, both in terms of the students' academic

success but also in a long-term trajectory of their personal ways of knowing and sense of possible selves" (p. 363). However, results also indicated that those students with low academic preparedness and financial resources provided no examples of positive student–faculty interactions.

Postgraduate students' experiences with their research supervisors were also highlighted in research by O'Meara, Knudsen, and Jones (2013). This research, which involved eleven faculty members and ten students, revealed that "the best possible mentoring and advising relationship is one in which the faculty member is a good communicator, is highly socially aware and skilled, has a service orientation, develops others, shows empathy, handles conflict well, collaborates, and has political awareness" (O'Meara et al., 2013, p. 341). Thus, relationships between international students and their lecturers and supervisors, and the skills and attitudes of academic staff impacts students' experiences.

2.4 Responsibilities for Learner-Engagement

As Bunn and Lumb (2019) noted, "part of the difficulty of working with concepts such as engagement and aspiration in education stems from an ontological problem in the constitution of the individual student and the responsibilization of this actor to perform hegemonic forms of educational engagement and aspiration" (p. 9). Likewise, in the New Zealand context, the assumption that international students have the requisite skills to embrace self-directed learning, and are responsible for doing so, is problematic. For instance, in qualitative research with 20 international doctoral students with non-English speaking backgrounds, in three New Zealand universities, the acculturation issues surrounding research supervision was investigated (Li, 2016). Despite these students' general satisfaction with their supervisors, in general "the onus of acculturation and transformation was placed mainly on international students rather than on the supervisors" (p. 756).

In one New Zealand university, Skyrme (2007) undertook longitudinal research that involved 12 Chinese international students who were beginning their studies. In describing the contrasting experiences of two students, in relation to one course and its assessments, it was noted that one student struggled in "the 'DIY' (do-it-yourself) learning expected in the university" (p. 357). Skyrme recommended that teaching staff accepted greater responsibility for providing teacher-led guidance for students within first-year courses. Panko (2015) also pointed out that teachers of international students needed to consider teaching techniques that built on students' current attributes and then gradually transformed their approaches to teaching and learning.

Recommendations from research also acknowledged others with roles and responsivities that can impact on international students' experiences. In terms of domestic students, for example, Zhu and Bresnahan (2018, p. 1629) recommended that, in addition to encouraging Chinese international students to participate in class discussion, staff should help "American students to understand the cultural explanation

of CISs' reticence and to avoid stereotyping based on CISs' reticence." In New
Zealand-based qualitative research, that investigated 12 domestic tertiary students'
attitudes and experiences of learning alongside international students (Kaur, 2019),
recognition was given to positive and negative impacts of culturally diverse classes.
Recommendations from this research included providing peer-mentoring opportuni-
ties between domestic and international students, which would benefit all students,
and lead to deeper interactions and expanded worldviews.

3   Global Issues and Local Level Responses

Thus, research indicates that international students' adjustments to academic life was
multifaceted, and at local levels, teaching staff and others had roles and responsibil-
ities in supporting international student's adjustments to learner-centred education.
Likewise, students' preparedness, resilience, connections with local communities
and ability to engage in active-learning influenced how they may be regarded by
domestic students and staff, and the supportive relationship that may develop.

Our localised research was also informed by our professional interests and skills
in teaching in postgraduate programs, including those with adult teaching endorse-
ments. As such, we considered our assumptions about the nature of effective learner-
centred education and supportive learning environments for international students.
We believed that being responsive and student-centred, required a good understand-
ing of the special nature of working with adults and how to encourage learners'
engagement in learning. Adult-learning theories are sometimes referred to as andra-
gogy, although the principles that underpin this approach are also central to effective
pedagogy. Contemporary theories of andragogy, such as the works of Knowles,
Holton III, and Swanson (2015), recognise the importance of active-learning and
adult students' development of competencies through processes such as critical
reflection and inquiry-based learning. Those who support active-learning approaches
subscribe to the view that "for learning to occur people must not be passive recipi-
ents. Rather, the learner must be actively involved in the learning process" (Friesen
& Scott, 2013, p. 13).

As tertiary educators and researchers, we noted the special nature of teaching
adults. Knowles et al. (2015) suggested that the following can be assumed about
adult learners: Firstly, they needed to understand how the learning was relevant to
them; secondly, they needed to be seen as capable of self-direction; a third point was
that adults brought a wealth of prior knowledge; fourthly, adults' learning orientation
was life-centred and learning must be meaningful and useful. Lastly, adults tended
to be motivated by intrinsic rewards, such as gaining increased job satisfaction, self-
esteem, quality of life or well-being. As we taught international students and engaged
in this research, our beliefs about effective andragogy helped to guide our respectful
interactions with adult learners and research participants.

Adult students' ability to engage in student-centred and self-directed learning cannot be assumed, especially if previous experiences excluded or discouraged innovative or inquiry-based approaches to learning. Yet, in many Western education systems, adults' competencies in self-directed learning was seen as essential, as developing such competencies empowered adults to "adapt accordingly to fluid and complex social contextual changes" (Morris, 2019, p. 57). The review of literature endorsed the view that students, and perhaps especially international students, may need to be guided towards effectively engaging in self-directed and student-centred learning.

4 Our Research: Tauawhitia

A research team, comprising the authors, undertook the research project Tauawhitia to provide authentic localised voices on the issues that concerned graduate and postgraduate international students, and teaching staff in one ITP. The term 'Tauawhitia', which was proposed by the second author, related to Māori values of awhi, which means to embrace and support one another; and also encapsulated the Māori notion of ako, or teaching and learning as a fused and integrated process. As the research grew as an entity, as a place where stories were shared, valued and woven together to create strength and support, the project became known as Tauawhitia. This discussion focuses on some of the findings as related to building better understandings of insiders' views of the challenges and suggestions for supporting international tertiary students' engagement in learner-centred education.

4.1 Research Methodologies

Qualitative research highlights the socially constructed nature of reality, the close relationship between the researchers and what is studied, and the situational constraints that shape inquiry. How social experience was created and given meaning was central to this form of researching (Denzin & Lincoln, 2011). Our approach involved the use of participants' stories, to understand and explain social phenomena; it did so by placing emphasis on processes and meanings that were not rigorously scrutinised or measured in terms of quantity, intensity or occurrence. To this end, data was gathered through facilitated research conversations.

Several key philosophies and perspectives underpinned Tauawhitia's methodologies and research methods. It wove together two key methodologies, which had underpinned the first and second author's previous works—*kaupapa Māori* research principles and narrative inquiry. Together, the researchers explored and shared their own beliefs, and how these translated into research methods.

Firstly, in keeping with the values of the biculturalism, the research was informed by the fundamental precepts of kaupapa Māori. However, we did not claim to be undertaking kaupapa Māori research, for as Graham Smith, an internationally

renowned Māori educationalist, claimed "kaupapa Māori theory provides a space for thinking and researching differently, to centre Maori interests and desires, and to speak back to the dominant existing theories in education" (Smith, Hoskins, & Jones, 2012, p. 11). Thus, while kaupapa Māori research was usually done by Māori, with Māori, the key researchers in Tauawhitia were Māori and Pākehā, who believed that the values underpinning this approach were consistent with their own cultural identities and fostered respect for cultural and national identities. The second author provided guidance and challenged our cultural assumptions throughout the research processes, which was important and relevant when working with culturally diverse participants. We attempted to reflect a kaupapa Māori research framework, "orientated toward benefiting all the research participants and their collectively determined agendas" (Bishop, 1995, p. i). This framework addressed the concepts of initiation, benefits, representation, legitimation and accountability as subsets of power and enabled the establishment of lines of accountability through shared initiation and identification of benefits (Bishop, 1995). These facets of the research method and methodology are now described.

Initiation refers to how the research process began, and whose "concerns, interests and methods of approach determine/define the outcomes" (Bishop, 1995, p. 21). The Tauawhitia research responded to concerns raised by international students, and those who taught and supported them. To foster collaboration, the research team sought the endorsement and involvement of other stakeholders through the establishment of an ethnically diverse research reference group, which included one international student and one lecturer who had non-New Zealand citizenship. Throughout the project, members of this group discussed and refined research methods, data analysis and the nature of interactions with participants.

In terms of benefits, Tauawhitia aimed to speak with clarity, truthfulness and power about staff and international students' learning and teaching experiences and was designed to benefit and inform a cross section of stakeholders within the ITP. It was envisaged that the findings from the research would benefit and inform tertiary level international education locally, regionally, nationally and internationally.

Issues associated with representation and legitimation were considered as the research was graced by the voices of staff and international students. These participants legitimated their own 'voice' (kōrero) in the research. This process involved presenting data back to the participants and asking them, "Is this what you said and is it what you meant—have we represented your kōrero accurately?" While their diverse narratives of experiences become part of the overall picture of student and staff experiences, the experiences of individuals were treated with respect and legitimised as personally important.

In relation to accountability, the researchers were aware that they were in receipt of privileged information, which could be interpreted within overt theoretical frameworks and covert ideological frameworks. As such, care was taken not to distort, make invisible, overlook, exaggerate or draw conclusions, based on assumptions, hidden value judgments or other misunderstandings. Foremost, accountability for research processes and outcomes was to the research participants, and as a representative piece of work, accountability to the tertiary institution was also imperative.

Therefore, the research team ensured that reporting requirements were met and the *mana* (prestige, integrity) of the participants and institute were upheld.

Consistent with these overarching kaupapa Māori philosophies, narrative inquiry approaches were employed as these promoted connectedness and meaningful interactions through *kōrero*. Other research with international students in New Zealand has recognised the value of narrative approaches that prompt and support those who may not be fluent in English. For example, in research that investigated 108 international students' expressions of satisfaction and dissatisfaction with their tertiary experiences, it was noted in follow-up interviews with twenty students that "the use of narrative frames [was] especially effective when dealing with language learners due to the built-in scaffolding that helps students to find the language to say what they want to say" (Ryan, Rabbidge, Wang, & Field, 2019, p. 799). In our own research, narrative inquiry was a form of data gathering that recognised that everyone's narrative was valid and researchers and participants co-constructed understandings through sharing and re-sharing narratives of experience. When designing the prompting questions, and interpreting narratives of experience, consideration was given to where researchers "and their participants [were] placed at any particular moment—temporally, spatially, and in terms of the personal and the social" (Clandinin & Connelly, 2000, p. 95). Thus, it was accepted that all comments were valid, and represented a snapshot of each person's experiences as shared at that time, but also as connected with their past experiences, heritage and aspirations. This awareness of connectedness also resonated with Bronfenbrenner's (2005) notions of the ecological nature of individuals interactions within their immediate environments, which in turn were mediated by the forces of other interrelated systems. This model proved effective in research that explored "how academic advising with international students was shaped by individual backgrounds and environmental influences" (Leaf Zhang, 2018, p. 1764), as it provided deep understanding of individual and contextual factors that influenced students.

Thus, Tauawhitia was informed by the view that students' and staff-members' experiences in tertiary settings were both individual experiences and connected experiences, which were influenced by social forces, such as institutional and political constructs. While these wider spheres had direct and indirect influence on how the participants experienced their tertiary setting, this study begun with, and built on, individuals' stories and the prompting questions, as used in semi-structured interviews (see Table 1), were designed to acknowledge people's past, present and future aspirations and advice. The research questions, which participants had copies of as part of the consent process, also provided insights into how they experienced support services and internationalisation, which was identified in each course outline as teaching and learning that incorporated international perspectives and ensured the identity and culture of all students was embraced within the learning environment.

Table 1 Prompts for research conversations

Key prompts for students	Key prompts for lecturers
What are you enjoying the most about studying here at this tertiary institute? What life events brought you to this place? What have been some of struggles you've had as a student? What has helped you through? Have there been times at this tertiary institute when you have felt proud of being (Filipino/Indian/Nepalese…)? Have there been opportunities when your cultural values and beliefs have been brought into your studies? What support services have you used and/or what do you know about the support services? If you were to give advice to a new international student about being successful at this tertiary institute what would that be?	What are you enjoying the most about teaching international students here at this tertiary institute? What have been some of struggles you've had? What has helped you through? What specific support have you had for working with International students? What support services have you used and/or what do you know about the support services? Can you give some examples of when you included your students' cultural beliefs and values in your learning and teaching practice? If you were to pass on a 'pearl of wisdom' gained from your experience of learning and teaching with international students, what would it be?

4.2   Research Processes and Fieldwork

4.2.1   Ethical Research

In addition to carefully considered research methodologies and underpinning philosophies, ethics approval was gained from the tertiary institute's Human Ethics Committee. Ethical issues such as informed consent, rights to decline, and issues of confidentiality and anonymity were taken into account. Information sheets and consent forms were provided for students and staff, and written consent was obtained prior to undertaking research conversations.

4.2.2   Participant

The seven female and five male students, aged from early 20 to late 40s, were from India, Philippines, Nepal and Eastern Europe and enrolled in graduate or postgraduate qualifications across four faculties. The three female and seven male lecturers taught in undergraduate, graduate or postgraduate programs across three faculties. All were New Zealand residents or citizens and this ethnically diverse group comprised members with countries of origin that included New Zealand, Asia, the United Kingdom and Eastern Europe.

4.2.3 Fieldwork

The research fieldwork was undertaken over one year, and the essence of the participants' stories worked their way back into stories within the field. As such the researchers were not only the recipient of participants' stories, but also part of these stories. This was consistent with narrative inquiry approaches (Connelly & Clandinin, 2006), and seeking and analysing participants' narratives of experiences was both a research method and a process of meaning making. Most notably, as the researchers reflected on the students' stories of experiences this impacted their own teaching approaches, especially in terms of building international students' sense of belonging. Thus, as the next 'generation' of students arrived, the stories of their predecessors prompted pedagogical changes in teacher-learner interactions. These changes, as experienced by the new students became the next part of the narrative and carried forward into the research space.

Alongside these living and evolving stories of experiences were those of the teacher-participants. Their stories were somewhat more static, in that they were not familiar or immersed in the student-participants' narratives of experience. However, academic staff provided insights into the connections and disconnections between their own and the students' stories of experience.

The sense of being part of the research, rather than being researched upon, was essential to fundamental precepts of kaupapa Māori as participants' own voices were legitimised in the research and they participated in kōrero that acknowledged their shared and unique stories and viewpoints. The research participants arranged for a mutually convenient time and place to meet with a researcher. After an initial greeting, each student-participant was asked what he/she enjoyed most about studying at the tertiary institute. This question was asked first in order to connect with the here-and-now and set the scene for prompts to follow, which invited discussion about past experiences, and future projections or aspirations. The sense of their personal stories having temporal dimensions, was in keeping with narrative inquiry approaches (Clandinin & Connelly, 2000).

4.2.4 Data Analysis

Each response was transcribed and checked by the relevant interviewer against their audio files. Participants were also invited to verify the transcripts. Members of the research team met on several occasions, to critically discuss the emerging themes from individuals and across the sample, and how these might be grouped under main themes and subthemes. In many cases respondents' answers to specific questions provided insights into several aspects of their experiences. The prompt regarding the passing on of advice to other teachers or students, provided insights into recommendations from staff for working with international students and for prospective students. A full research report was provided to the ITP, and made available for participants to view.

5 Participants' Stories of Experiences: Challenges, Satisfactions and Advice

Adults orientation to learning tends to be life-centred and related to real-life situation. It was not surprising, therefore, that significant research themes were related to international students' social and emotional journeys as students. When asked what they enjoyed and their struggles, their comments provided insights into their academic adjustments and challenges. Some of these themes are now discussed. This is followed by indications of students' satisfaction, academic challenges as identified by lecturers, and advice for those teaching international students.

5.1 Academic Adjustments and Challenges for Students

International students reported experiencing a number of academic adjustment issues, including understanding what was required of them in terms of participation in learning. While all of the students had completed at least one degree in their home countries, they were relatively unfamiliar with New Zealand education systems and student-centred learning approaches and expectations. Depending on their homeland practices, students had limited experience of academic writing, referencing and summative assessment based on written assignments. One lecturer reported, "I remember the look on their faces when [students] said, "So you mean you want our words, and not the book's words?" And that was enormously important to me because it taught me that they…didn't understand what I was wanting and the way that I had explained it had not helped them."

Therefore, from cultural perspectives, these approaches required some adjustment by students as they were expected to participate in problem-solving, inquiry-based learning, critical discussions and submit written assignments. The disconnection between international students' previous educational experiences and what was expected in the 'Western' tertiary settings, has been observed in other research with international students in New Zealand (e.g., Li, 2016; Ryan et al., 2019; Skyrme, 2007; Zhiheng & Brunton, 2007) and elsewhere (e.g., Allen, 2018; Glass et al., 2015; Leaf Zhang, 2018; Wang, 2009; Wolf & Linh, 2019; Zhu & Bresnahan, 2018). Thus, our local research confirmed that lecturers needed to be aware of these disconnections, and provide appropriate additional support for international students.

While English was a language of instruction in some home countries, for all students it was a second language. In the New Zealand tutorials, students were expected to process complex ideas and interact with others, to clarify ideas and work on group tasks. While students sometimes self-selected homogeneous cultural groupings, which allowed discussions in their first languages, the readings, reporting back and instructions were in English. What complicated matters for many students, was the struggles they had in understanding the New Zealand 'Kiwi' accent. Given that many student-centred learning experiences required students to follow instructions

for task engagement, group work and critical discussions, this adjustment impacted strongly on some students in terms for their confidence levels and verbal contributions. This resulted in reticence to communicate verbally and some students reported having to consciously muster their confidence to speak in English. Verbal interactions were essential in students' acclimation to their host nation, in their academic and day-to-day lives. Yet, students reported that they were reluctant to engage with lecturers, and with locals, which was also noted in other research (e.g., Wolf & Linh, 2019).

All students reported that their decision to study in New Zealand was a significant one, which would enhance their life experiences, and that of their families. However, many students and/or their spouses needed part-time work to support their living and study expenses. Some students without additional family support, reluctantly relied on their families in their home countries to support them, until they were able to find employment. With these pressures, the dynamics of finding jobs, being employed and meeting full-time study requirements, featured strongly as struggles for students. It was evident that, for many international students, the challenges of academic life intermeshed with everyday living challenges.

For several students their downward change of social, professional and/or academic status, affected their sense of self. For example, one older student, who had a respected professional career in India, expressed shame about describing her current employment to her family. Given that most students were previously regarded as highly performing students, including high ranking academic positions in tertiary institutes, it was personally, professionally and academically confronting to struggle with new teaching and learning approaches, localised English and low status employment. All of these factors potentially impacted students' emotional readiness to engage in active-learning experiences, including group discussions and self-directed learning.

In addition, international students were often separated from their families for part or all of their studentship in New Zealand, and some spoke of their isolation and loneliness. For instance, one person spoke of crying at home while struggling with assignments. Perhaps reflecting the difficulty some experienced in understanding the New Zealand accent, or the need to diminish isolation, another participant commented that he/she would have preferred to have learning support as part of a group rather than individually. So, while students were in peer-groups in the learning environment, they had not necessarily created friendships within local communities that helped to support them outside of the educational environments.

5.2   Indications of Students' Satisfaction

Despite challenges faced by students there were strong indications of student satisfaction. Positive comments were made about how their postgraduate studies could be applied to their various professional fields, and some students appreciated their development as critical thinkers. Many students liked the combination of practical

and theory-based learning and easy access to facilities and support systems. They regarded the range of culturally diverse lecturers as a positive feature of their experiences. These responses aligned with principles of effective adult education as the students found the learning relevant, well supported and their learning experiences also expanded other skills, such as critical reflection.

Other indicators of students' positive experiences included the respectful relationships that developed between students and lecturers. Also, students felt they were treated as adults, with courtesy, valued as individuals and their prior knowledge was valued. As noted in other research, relationships between students and lecturers are crucial in the ways international students experiences tertiary education (O'Meara et al., 2013). Students expressed satisfaction with active-learning approaches, where they learnt through having practical experiences. This encompassed using e-services and computers and developing skills through technology-enhanced learning experiences. Many students valued their easy access to their lecturers for academic help, and with whom they could safely share their feelings and emotions.

Thus, when students were asked about what they enjoyed and what struggles they had, their comments provided continued support for their tertiary institute's commitment to internationalisation and sound adult-learning theory and practices. The active-learning approaches, while challenging, were recognised by students as valuable and their positive relationships with lecturers provided some level of safety.

5.3   Academic Adjustments—Challenges Reported by Lecturers

The International students' adjustment to learner-centred education was one of the challenges faced by teaching staff. Some noted that students' prior non-engagement with student-centred learning methods, led to an inability, or unwillingness by some to participate in group work and discussions. Students' prior experiences of assessment systems and criteria for success, which may have been based almost entirely on examinations, impacted on their ability to produce assignments with critical, referenced writing. This situation was of concern for staff and students. In addition, marking of assignments written by students with English as second language was challenging. One lecturer expressed concerns about the authenticity and reliability of student results when students received extensive external support, and therefore, the integrity and credibility of themselves, as markers, and the institution.

Recognising the challenges associated with marking, teaching international students, and supporting engagement in learner-centred activities, some staff suggested that intercultural professional development training should be provided, and one lecturer had found books on teaching international students useful (e.g. Carroll & Ryan, 2005). Some lecturers, who had qualifications in adult teaching, noted the value in utilising andragogical approaches to facilitate students' active-learning engagement.

5.4 Staff Advice to Those Teaching International Students—Recommendations from the Field

Apart from recommending on-going professional development and reading, lecturers had a variety of suggestions for those who taught international students. Seven key themes emerged as follows.

Firstly, teachers needed to actively support students' adjustment to New Zealand's academic and sociocultural environments. Some suggested beginning courses slowly and initially focusing on students' acculturation rather than new learning. In addition, one person said it was important to help the students to feel "confident in learning, confident in their abilities and their reason for being here." Several lecturers commented on using group work to support international students' adjustments, with one suggestion being to mix domestic and international students to support adjustment and confidence to interact with locals. This suggestion acknowledged the importance of building students' communication skills and confidence levels, which were applicable to wider contexts.

The second theme was around expectations. Some recommended that lecturers set clear and explicit expectations of student conduct and academic requirements. Others noted that lecturers must be good role models by, for example, always being on time. It was felt that lecturers should provide clear expectations about assessments and clearly explain every point of the assignments. Lastly, one lecturer suggested having realistic expectations of students and not to expect "fifty students to all become critical thinkers in one month."

Encouraging positive interactions between students constituted the third theme. Most suggested forming learning groups that encouraged meaningful interactions. Suggestions for grouping included forming heterogeneous groups of domestic or international students, or mixed international intercultural groups, or small self-selected groups, which were likely to be culturally homogeneous and provide on-going networks of support. Rather than letting the bonds develop naturally, one person recommended having team games to help build positive relationships.

The fourth theme related to effective teaching strategies and approaches. It was expressed that lecturers should be purposeful in their approaches, aware of their teaching strategies, and be prepared to change as students adjusted to learner-centred approaches. Also, with many students having English as a second language, teachers may have to talk slowly, vary their vocabulary, and assist students to understand learning resources, such as academic readings. The recommendation to slow down and "allow international students more time to formulate their thoughts before speaking" was also noted by Wolf and Linh (2019, p. 222).

Other suggestions related to teaching approaches focused more on the students' roles. It was generally expressed that all students should be prepared to actively participate in tutorials and one lecturer recommended randomly allocating each student a question associated with an upcoming reading so all were prepared to answer a question, if called upon. The lecturer believed that this would motivate all students to be prepared. At the time of the interview, this technique was relatively new, and the

lecturer had yet gauged its effectiveness or impact on students' self-directed learning or participation. Two lecturers noted the value of '*ako*' where students were also teachers: One suggested asking knowledgeable students to explain concepts to other students in their first language and to represent their views in English discussion. Another lecturer encouraged a group member with good English and communication skills to share messages between their group and the lecturer.

Effective assessment procedures featured as a theme, with three suggestions. Firstly, assignments should suit learners' needs, be interesting and fun; and secondly, there should be an early assessment point to access students' understanding and assess prior knowledge, and to provide appropriate feedback to guide their self-directed learning. Lastly, it was necessary to go through *every* point of the assessment tasks and requirements until learners understood.

The final theme, which permeated most teachers' replies, was the need for positive and respectful attitudes towards working with international students. Suggestions included, acknowledging students as individuals, showing each person respect, listening to them, asking questions and always honouring their presence. It was mentioned that it was important to enjoy your teaching and to let this show through as this was likely to promote students' enjoyment of learning. Several people noted the importance of knowing the students and explicitly linking current learning with students' prior knowledge and experiences. One lecturer, who themselves had English as a second language, commented that in deciding how to respond to students' issues one should "imagine what you would need if you were an international student." As such, empathy underpinned interactions with students.

Thus, through their responses in the *Tauawhitia* research those who taught international students demonstrated values associated with *awhi*, showing care and support, and encouraged notions of *ako,* where students and lecturers where in dynamic and dual roles of being teachers and learners. The important roles that lecturers played in the quality of international students' educational experiences were acknowledged by all participants.

6   Implications for Teaching and Learning

Weaving together the narrative threads of international students and lecturers kōrero, it is apparent that students face adjustment issues and that lecturers are aware of these and mitigate these through various strategies. The seven themes that emerged from lecturers' advice resonates with some recommendations in other research. For example, the value of promoting interactions between students, between domestic and international student and between students and lecturers is vital for effective learn-centred education, and Glass et al. (2015, p. 363) note that "inclusive classroom practices and professors' intercultural competence play a critical role in creating a positive campus climate for international students." Likewise, Allen (2018) recognises the importance of "Intercultural education" and actively embracing multiplicity of perspectives and acceptance of difference that "allows each person respectful and

equal recognition, an imperative for students to feel that their cultural identities are acknowledged" (p. 267).

In terms of enhancing students and teachers' classroom experiences, it became clear that teachers need to consciously plan for student success and participation in learner-centred education. This planning can be enhanced by taking into account the special nature of teaching adults and relating this specifically to international students. Firstly, each international student needs to understand how the learning is relevant to him/her; secondly, as adult learners, they need to be seen by others as capable of self-direction and, given their previously academic success that underpins postgraduate entry, this is vital for their sense of belonging and well-being. A third point is that each international student brings a wealth of prior knowledge, and their intercultural experiences and multiple social and cultural perspectives, can be drawn upon to make learning meaningful and interesting for all. Fourthly, adults' orientation to learning is life-centred and related to real-life situations—therefore the learning must be meaningful and useful to them, building on past experiences and with a view of future aspirations. Lastly, adult learners tend to be more motivated by intrinsic rewards, rather than external motivators. For international students, being in their host country is part of their motivation to engage in higher education, and how they experience international education socially and culturally is integral to their motivation to learn, their self-esteem, quality of life and well-being.

Making learning relevant can be challenging when international students come from diverse backgrounds and professions. However, providing real and simulated experiences can help students discover gaps between what they currently knew and what they needed to know. This can be effective in assisting students to see the relevance of the learning experiences, and at the same time encourage them to take responsibility for their own self-directed learning.

Connecting international students' learning experiences to authentic contexts can be motivating, but some students may require extra support in adjusting to new ways of working and interacting. Considering that adult learners have a wealth of experiences, we could ask them to work in groups and propose authentic contexts for their own inquiry-based learning. Also, considering *when* skills and knowledge are most needed by the students, would assist in introducing new concepts and ways of working in a controlled manner. For example, if teaching oral communication skills, contact could be made with local employers and discussions had about the ways an adult might communicate orally when approaching managers or attending interviews.

Teachers should always be respectful of challenges faced by all students, build on their existing skills and encourage and model critical reflective practices. Being and having positive role models is important for the integrity of a safe and supportive learning environment, and also in terms of helping students to adjust to new cultural ways of being. As noted in other New Zealand-based research, tertiary staff should "respect and value the diverse cultural and religious backgrounds and perspectives of students, and insist that respect of this kind governs students' interaction with each other" (Zhang & Zhang, 2017, p. 1514). In addition, respect between learners can be fostered, when learning experiences utilise and build students' skills in sharing and

peer-support. This promotes respect for diversity and inclusion, and assists teachers to access and build on learners' prior knowledge, which in turn promotes international students' fuller and meaningful engagement in their own learning.

Collectively, adult students have a wide range of life skills that can be called upon to contribute to their community of learners. As such, group discussions on topics relevant to the learning outcomes, that draw on the international students' skill sets, can promote authenticity and relevance. For example, simulation exercises, problem-solving activities, case studies and peer-helping activities are ways for students to share and expand their knowledge and skills. A note of caution—the sharing of prior knowledge, which is learner-centred and enjoyed by students, should be starting points and not endpoints. Teaching should to be informed by research and relevant professional practice, and lecturers should thoughtfully introduce new and challenging tasks, information and skill requirements. These more challenging activities contribute towards intrinsic rewards as adult learners develop new skills, and their learning promotes connections with applicable research and professional practices.

Assessments are important and each assignment must be meaningful, linked clearly to the learning outcomes and contribute towards students' personal growth, skills and understandings. Lower level assessment processes, such as recall of facts, figures and lecture notes, may lead to higher grades for some but contribute little to skills and attitudes that lead to intrinsic rewards, associated with personal and professional growth. Assessments are central to quality tertiary education, and if student enjoy their learning through these processes, then teachers are more likely to enjoy their teaching. Also, care should be taken not to over-assess any program of learning, as this may burden students and teachers and diminish engagement in non-assessed learning experiences.

Lastly, while lecturers must be knowledgeable and skilled teachers, if they are the ones doing most of the talking, explaining and transmitting of knowledge, then little learning will take place. Effective teachers plan for success, they know and value their learners and they involve their students in meaningful, active-learning experiences. Good teachers do not need to demonstrate their superior knowledge—it is the learners who must construct understandings. Indeed, the most effective teachers may be those who plan 'behind the scenes' and when the stage of learning is active, they appear to be doing very little, while the students are doing all of the work.

Glossary

Ako To learn, teach, advise
Awhi Embrace and support one another
Kaupapa Māori Māori agenda, Māori approach, Māori ideology
Kōrero To talk, speak(verb); a discussion, narrative (noun)
ITP Institutes of Technology and Polytechnics
Māori Indigenous person of Aotearoa/New Zealand (For Māori terms (see Maori dictionary website: https://maoridictionary.co.nz/))

Mana Prestige, spiritual power, authority (noun)

Pākehā New Zealander of European descent

Tauawhitia Related to Māori values of awhi, which means to embrace and support one another; and also encapsulated the Māori notion of ako, or teaching and learning as a fused and integrated process

References

Allen, S. (2018). Creative diversity: promoting interculturality in Australian pathways to higher education. *Journal of International Students, 8*(1), 251–273. https://doi.org/10.5281/zenodo.1134301.

Bishop, R. A. (1995). *Collaborative research stories: Whakawhanaungatanga.* (Doctor of Philosophy thesis), University of Otago. Retrieved from http://hdl.handle.net/10523/531.

Bronfenbrenner, U. (Ed.). (2005). *Making human beings human: Bioecological perspectives on human development*. Thousand Oaks, California: Sage Publications Inc.

Bunn, M., & Lumb, M. (2019). Education as agency: Challenging educational individualization through alternative accounts of the agentic. *The International Education Journal: Comparative Perspectives, 18*(1), 7–19.

Carroll, J., & Ryan, J. (2005). *Teaching international students: Improving learning for all*. London: Routledge.

Clandinin, D. J., & Connelly, F. M. (2000). *Narrative Inquiry: Experience and story in qualitative research*. San Francisco: Jossey-Bass Publishers.

Connelly, F. M., & Clandinin, D. J. (2006). Narrative inquiry. In J. Green, G. Camilli, & P. Elmore (Eds.), *Handbook of complementary methods in education research* (pp. 477–487). Mahwah, NJ: Lawrence Erlbaum.

Denzin, N. K., & Lincoln, Y. S. (2011). The sage handbook of qualitative research. Sage.

Education Council. (2017). *Our code, our standards: Code of professional responsibilities and standards for the teaching profession.* Wellington, NZ: Education Council.

Education New Zealand. (2016). *New Zealand international education snapshot: 2015 full year report*. Retrieved from https://enz.govt.nz/assets/Uploads/Final-January-August-2015-snapshot.pdf.

Education New Zealand. (2018). *Beyond the economic-How international education delivers broad value for New Zealand* Retrieved from http://www.researchnz.com/pdf/Media%20Releases/2018/Beyond-the-economic-How-international-education-delivers-broad-value-for-New-Zealand.pdf.

Friesen, S., & Scott, D. (2013). *Inquiry-based learning literature review*. Retrieved from https://galileo.org/focus-on-inquiry-lit-review.pdf.

Glass, C. R., Kociolek, E., Wongtrirat, R., Lynch, R. J., & Cong, S. (2015). Uneven experiences: The impact of student-faculty interactions on international students' sense of belonging. *Journal of International Students, 5*(4), 353–367. Retrieved from https://www.ojed.org/index.php/jis/article/view/400/317.

Jin, L., & Shenghua, J. (2019). *Faculty views on international students: A survey study Journal of International Students, 9*(1), 84–96.

Kaur, M. (2019). *Domestic students' attitudes and experiences of learning alongside international students in a tertiary institute.* (Masters of Applied Professional Studies–Adult Teaching, Dissertation), Toi Ohomai Institute of Technology, New Zealand.

Knowles, M. S., Holton, E. F., III, & Swanson, R. A. (2015). *The adult learner: The definitive classic in adult education and human resource development* (8th ed.). New York, NY: Routledge.

Leaf Zhang, Y. (2018). Using Bronfenbrenner's ecological approach to understand academic advising with international community college students. *Journal of International Students, 84*(1), 1764–1782. Retrieved from https://www.ojed.org/index.php/jis/article/view/230.

Li, M. (2016). Developing skills and disposition for lifelong learning: Acculturative issues surrounding supervising international doctoral students in New Zealand universities. *Journal of International Students, 6*(3), 740–761.

Morris, T. H. (2019). Adaptivity through self-directed learning to meet the challenges of our ever-changing world. *Adult Learning, 30*(2), 56–66. https://doi.org/10.1177/1045159518814486.

New Zealand Government. (2017). *The International Student Wellbeing Strategy*. Wellington, NZ. Retrieved from https://www.education.govt.nz/assets/Documents/Ministry/Strategies-and-policies/internationlStudentWellbeingStrategyJune2017.pdf.

New Zealand Government. (2018). *International Education Strategy-He Rautaki Mātauranga, 2018–2030*. Retrieved from https://enz.govt.nz/assets/Uploads/International-Education-Strategy-2018-2030.pdf.

O'Meara, K., Knudsen, K., & Jones, J. (2013). The role of emotional competencies in faculty-doctoral student relationships. *The Review of Higher Education, 36*(3), 315–347.

Panko, M. (2015). *International tertiary students in New Zealand: Cold facts or warm people?* Paper presented at the 2nd International Higher Education Curriculum Design & Academic Leadership Symposium, Hamilton, New Zealand. http://hdl.handle.net/10652/3225.

Ryan, J., Rabbidge, M., Wang, Y., & Field, J. (2019). Satisfiers and dissatisfiers for international vocational education students. *Journal of International Students, 9*(3), 795–814. Retrieved from https://doi.org/10.32674/jis.v9i3.751.

Skyrme, G. (2007). Entering the university: The differentiated experience of two Chinese international students in a New Zealand university. *Studies in Higher Education, 32*(3), 357–372. https://doi.org/10.1080/03075070701346915.

Smith, G., Hoskins, T. K., & Jones, A. (2012). *Kaupapa Māori: The dangers of domestication, 47*, 10–20.

Wang, J. (2009). A study of resiliency characteristics in the adjustment of international graduate students at American universities. *Journal of Studies in International Education, 13*(1), 22–45. https://doi.org/10.1177/1028315307308139.

Wolf, D. M., & Linh, P. (2019). Studying in the United States: Language learning challenges, strategies, and support services. *Journal of International Students, 9*(1), 211–224. https://doi.org/10.32674/jis.v9i1.273ojed.org/jis.

Wu, H.-P., Garza, E., & Guzman, N. (2015). International student's challenge and adjustment to college. *Education Research International, 2015,* 1–9. https://doi.org/10.1155/2015/202753.

Zhang, K., & Zhang, A. (2017). Dare to dream: Personal values, life goals, and international students in New Zealand. *Journal of Religion and Health, 56*(5), 1503–1514. https://doi.org/10.1007/s10943-016-0307-7.

Zhiheng, Z., & Brunton, M. (2007). Differences in living and learning: Chinese international students in New Zealand. *Journal of Studies in International Education, 11*(2), 124–140. https://doi.org/10.1177/1028315306289834.

Zhu, Y., & Bresnahan, M. (2018). "They make no contribution!" versus "We should make friends with them!"-American domestic students' perception of Chinese international students' reticence and face. *Journal of International Students, 8*(4), 1614–1635. https://doi.org/10.5281/zenodo.1467817.

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Chapter 5
Study Abroad Programs: Are They an Effective Tool for Developing a Social Justice Standpoint for Preservice Teachers?

Marcelle Cacciattolo, Catherine Lang, and Gillian Kidman

> *No culture ever developed, bloomed and matured without feeding on other cultures … reciprocal influences and intermingling.*
> (Maria Vargas Llosa, 2010 Nobel Prize in Literature, as cited in Zaidi et al., 2016, p. 1).

Abstract Overseas study abroad programs to Asia are funded by the Department of Foreign Affairs and Trade (DFAT) and offered to Australian undergraduate students. In this chapter we investigate the theme of social justice in teacher education programs through short-term international mobility programs. Research aims reported in this chapter identify the benefits and challenges encountered by preservice teachers when they participate in international study tours. Data findings draw attention to the effects of international study tours on the development of intercultural competency skills for preservice teachers. Preservice teachers articulated the benefit of exposure to a pedagogy of discomfort and its connection to interculturality. In many cases encountering a pedagogy of discomfort (Boler & Zembylas, 2003) created opportunities for 'mindshifts' to occur for preservice teachers. This assisted their movement from an ethnocentric standpoint to an ethnorelative standpoint (Bennett, 2004).

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1   Introduction

Since 2013, preservice teachers in Australia have regularly been invited to participate in short-term mobility programs in Asia. These programs seek to deepen undergraduate students' knowledge of the Indio-Pacific region and are now funded by the Department of Foreign Affairs and Trade through the New Colombo Plan (NCP). An additional aim of the program is to provide students with opportunities in which to see and experience the world, in ways that will enable greater appreciation and insight of Asian cultures. In addition, establishing a heightened sense of cultural competency is a necessary graduate skill needed to work effectively in a multicultural workforce (Beutel & Tangen, 2018; Santoro & Major, 2012). For graduate teachers, who work with culturally and linguistically diverse learners, being aware of their specialised needs is important to the creation of inclusive classrooms (Florian, 2012).

This chapter provides insight into the personal and professional benefits for preservice teachers when they participate in short-term mobility programs (also known as international professional experience and international study tours). It draws attention to the importance of 'tensions' often encountered by preservice teachers when they are confronted with other ways of knowing and being (Hoare, 2013; Lang, Cacciattolo, & Kidman, 2016). The chapter adds to the assertion that challenging overseas experiences can provide leverage for the generation of an ethnorelative mindset (Bennett, 1993, 2009). Moreover, the capacity to be reflexive and self-aware during moments of 'discomforting truths' is a necessary precursor to the development of intercultural competence. In the absence of an inward-looking critical lens, missed opportunities for understanding and dissecting ethnocentric standpoints arise (Cushner & Chang, 2015). Indeed, preservice teacher reflections presented in this chapter provide insight into those qualities and attributes that contribute to transformative mindshifts. The meaning of the term 'mindshifts' is taken from the work of Julie Arnold (2015). In her Ph.D. work that traces mindshifts in 4th year Bachelor of Education preservice teachers, Arnold refers to those 'Aha' and 'Lightbulb' moments, 'where understanding is reached and there comes a sense of recognising the transition; often the process appears seamless, but it has great impact on the learner' (p. 1). In the case of this research, mindshifts are examined in response to preservice teacher movement towards or away from intercultural competency.

2   Context

The Global Education Program (GEP) began in 2013 in Kuala Lumpur (KL) as an initiative that was partially funded by an Australia-Malaysian Institute grant. Since this time there have been 15 iterations involving 418 Australian preservice teachers and 92 Malaysian schools and kindergartens across four states. 28 Australian academics from across 6 universities have also been involved in the GEP. Preservice teachers are placed in mixed-university, but single gender, self-contained hotel apartments. Their

teaching experiences in Malaysian government schools are also in mixed university groupings, with three or four preservice teachers allocated to each school. These kinds of encounters broaden and build preservice teachers' professional and personal networks (Fredrickson, 2004). Collaboration with mentor teachers and school students on curriculum design and effective pedagogical approaches also helps to scaffold and consolidate intercultural competency (Hains-Wesson & Appleby, 2017; Knutson, Miller, & Gonzalez, 2016). Intercultural competency is a core attribute central to the formation of socially just preservice teachers (Garmon, 2004; Gorski, 2009).

Accompanying academics involved in overseas study tour programs have many roles and responsibilities (Lang, Cacciattolo, & Kidman, 2016; Kidman, Lang, & Cacciattolo, 2017). Of great importance is a need to work productively and proactively with their students in ways that encourage intercultural dialogue and respect for cultural difference (Cushner & Chang, 2015; Nguyen, 2017). In the GEP program, academics work with preservice teachers in ways that extend their intercultural competency understandings and skills. They visit pre-service teachers in their schools over the duration of the professional placement and provide culturally appropriate academic guidance where necessary. Preservice teachers generally find that the crowded and under-resourced multi-lingual environments are often a challenge. Teaching large class sizes, exposure to corporal punishment and cross-cultural communication barriers can also cause distress. If left unresolved or unsupported, these kinds of experiences can lead to overwhelming feelings of anxiety. The academics abroad work hard to address issues and discomforting emotions as they arise. Weekly group meetings provide opportunities for debriefing, action planning and inter-cultural dialogue. Preservice teachers also reflect on their experiences, through journal writing that closely examines mindsets that hinder or encourage social justice preservice teacher dispositions.

3 Literature Review

The personal and professional benefits of short-term mobility programs are well documented in the literature (Addleman et al., 2014; Barkhuizen & Feryok, 2006; Brindley, Quinn, & Morton, 2009; Santoro, 2014; Root & Ngampornchai, 2013). Brown (2009) asserts that 'exposure to a new culture has transformative potential' in so far as its ability to 'increase cross-cultural understanding' (p. 504). Experiencing different cultural contexts can also enrich and expand global perspectives and transcultural mindsets (Hol, 2016; Lee, 2011). For preservice teachers, participating in international school placements can add to the 'incorporation of a global dimension to their teaching' (Heyl & McCarthy, 2003, p. 3). This can result in the establishment of culturally responsive teaching practices that best serve the needs of multi-cultural learners (Santoro, 2014). All these elements help to craft and nurture professional teacher identities for preservice teachers entering into the profession (Chinnapan, McKenzie, & Fitzsimmons, 2014; Northcote et al., 2014).

Intercultural competency is intrinsically linked to social justice; one cannot exist without the other. Being able to express empathy across cultures for example is a necessary character trait needed to combat prejudice, racism and hegemonic discourses (Calloway-Thomas, Arasaratnam-Smith, & Deardorff, 2017; Zhu, 2011). Similarly, an ability to appreciate and understand all cultural perspectives, the act of privileging all voices, is a moral and ethical stance against forces that silence others. When individuals choose not to stereotype or marginalise one cultural group above another, they are sensitive of the nuanced ways in which people from distinct cultures think and behave (Cushner & Mahon, 2009). Jackson (2015) also recognises that not all international study tours have a positive effect on students who may return home, 'more ethnocentric and less willing to interact with people who have a different linguistic and cultural background' (p. 92). Intercultural understanding and competence therefore require cognitions and behaviours that embody particular mindsets, hearts sets and skill sets (Guo, 2013; Pusch, 2009). In linking this back to preservice teachers and international study tours, being cognisant of personal attitudes that generate negative cultural stereotypes, is the first step to addressing ethnocentric positionalities. International study tours can therefore provide opportunities for preservice teachers to self-reflect on behaviours and thought patterns that seek to marginalize, undermine or delegitimize alternative cultural beliefs and values (Beutel & Tangen, 2018).

Bennett's (1993) developmental continuum of intercultural sensitivity draws attention to the different ways in which individuals respond to cultural difference. Bennett outlines six distinct phases that an individual must pass through in order to become interculturally sensitive. The six stages are listed below (Fig. 1).

The ethnocentric stage is where an individual believes that his or her culture is superior to others. In this head space, individuals are more likely to display a lack of tolerance or respect for people or groups of people who share different cultural beliefs. As seen in the diagram above, denial, defence and minimisation are core features that make up the ethnocentric mindset. Injustice, xenophobia, social bias, prejudice and racism are common outcomes (Bizumic, 2015; Maeder & Yamamoto, 2015). In contrast, ethnorelativism is a state of thinking and feeling that embraces and appreciates 'otherness' in culturally sensitive ways. Bennett makes the point that 'as individuals move through the continuum there is an increase of cultural awareness, understanding and adjustment' (p. 22). Bennett (1993) notes that progression from the ethnocentric stage to the ethnorelative stage requires a reframing of one's cultural conditioning. It also involves the ability to critique and question internal dialogue that is exclusionary. Bennett's continuum of intercultural sensitivity is used in this

Denial	Defence	Minimisation		Acceptance	Adaptation	Integration
Ethnocentrism				Ethnorelativism		
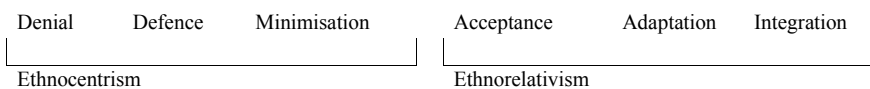
Fig. 1 Bennett's continuum of intercultural sensitivity (*source* modified from Wurzel, 2004)

chapter to make sense of and to explore preservice teacher intercultural mindshifts that occur during their time on the GEP study tour.

The embodiment of a state of anxiety and distress when individuals step outside of their comfort zone is examined closely in this chapter. The writers build on and advance Boler's (1999) notion of a 'pedagogy of discomfort'. They do this by exploring moments of cultural tensions faced by preservice teachers when they participate in international study tours. Of particular importance is how preservice teachers navigate themselves through incidents of intercultural discontent. Boler and Zembylas' (2003) reflections on 'discomforting truths' draw our attention to moments of 'numbness' and 'powerlessness' that often occurs when we are immersed in a different cultural context. In this state of play, tension can arise for the individual when there is a collision between different worlds. Unable to negotiate the fluidity of both worlds, the individual can be quick to adopt a deficit gaze. When this occurs, an ethnocentric shield rises fuelling actions of prejudice and racism.

When subjective realities are destabilised a vulnerable self soon emerges. Exposure to different customs and cultural beliefs can lead to feelings of instability and judgement. This is especially the case when cultural difference is viewed though a deficit lens. Seeing other lived worlds as inferior and substandard to one's own can result in interactions with people that are offensive. Boler and Zembyla (2003) draw our attention to how teachers can use these encounters as openings for examining hidden truths. This is the space where social and cultural transformation is most likely to occur and where shifts to an ethnorelative mindset can evolve. Investigating the impact of intercultural emotional upheaval while on international study tours is the first step to unpacking elements of social justice in teacher education programs.

4   Research Approach

As this research project was concerned with capturing the inter-cultural mindshifts that occurred for preservice teachers on the GEP study tour and their perceptions of this process, an interpretivist paradigm was chosen. An interpretivist paradigm is a qualitative research approach that investigates subjective viewpoints (Bradshaw, Atkinson, & Doody, 2017; Vande Berge, Paige & Lou, 2012). Interpretivism is associated with research that seeks to understand how individuals construct meaning of their lived realities (Leitch, Hill, & Harrison, 2010; Crotty, 1998). An interpretivist methodology also aims to understand how historical, cultural, political and structural forces help shape human experiences (Thanh & Thanh, 2015). Dean (2018) notes that interpretivism is distinct from quantitative research in that it does not focus on finding the answers to objectified truths. Moreover, an interpretivist research agenda is not typically bound by the need to measure causal variables so as to generate statistical data. Instead people's voices, feelings and perceptions are valued. Through inductive reasoning, multiple truths and realties are identified and brought to the surface. What it means to be human, in the midst of varied positionalities, is at the heart of an Interpretivist methodology (Erlingsson & Brysiewicz, 2012).

4.1 Malaysian School Context

The data findings presented in this chapter relate to the different cultural experiences encountered by the preservice teachers during their school placement. Preservice teachers were placed in a range of primary and secondary schools in KL. The religious denominations of these schools varied with some being Christian whilst others were Islamic or non-denominational. There was also one international school in the mix that had a pre-existing partnership with one of the universities.

School sites were located in different parts of KL. This meant that some preservice teachers could walk to their schools while others had to rely on public transport or taxis. It was not uncommon for some preservice teachers to have to leave their hotels at 5.30 am. This is because schools in Malaysia typically commence at 7.30 am and finish between 12.30–1 pm. Some preservice teachers participated in extra-curricular activities after school which meant that their school day did not finish until 3–4 pm. With such early starts and long days, preservice teachers also had to plan for their classes for the next day, participate in GEP debriefing sessions, attend organised cultural activities and participate in EFL (English as a Foreign Language) professional development sessions. Some preservice teachers were invited to traditional Malaysian weddings and to dinners at the homes of their mentor teachers. There were also cultural exchange programs with a local Malaysian University that allowed for intercultural dialogue between staff and students.

4.2 Data Collection Tools

The data was collected in 2015 during one of the GEP study tour iterations. Three universities participated during this time. This study tour cohort was made up of 27 preservice teachers (22 females and 5 males). During the pre-departure meetings, all preservice teachers were invited to participate in the study. They were also advised that their participation was voluntary and that their identities would be de-identified. The participants came from a range of socio-economic backgrounds and were largely under the age of 28 years. This is because the NCP grant will only fund 3% of undergraduate students who are over the age of 28 years.

Consent was obtained by each of the authors from their host institution's ethics committee. The data collected consisted of several elements. In particular the authors focused on the following processes:

In the Moment Reflective Journaling Preservice teachers were required to keep daily reflective journals and participate in weekly discussion groups held every Tuesday while in Malaysia. They were encouraged through prompts and guided questions to engage in a process of reflexive practice as they attempted to make sense of the tensions faced during the Global Education Practicum. Building on the seminal work of Loughran (2016), they were encouraged to share key incidents in an attempt to better understand their practice. Listening to different interpretations of teaching moments

enabled each of them to consider and draw attention to hidden assumptions that influenced their own interpretation of events and incidents.

Return to Experience The base of all learning is the lived experience and the ability to return to this experience allows for further reflection. The preservice teachers were required to submit a final assessment task within one month of returning to the university. These were presented as journals demonstrating how the experience affected pedagogical learning as well as personal growth. This chapter relied upon these journals to give an account of the events as they unfolded. The emphasis was on recalling the events in a form that enabled them to be revisited.

The Re-evaluation of Experiences In this project the re-evaluation of experiences was conducted by the authors. The process of re-evaluation included relating new information to the known information, where relationships and patterns were sought. Bennett's continuum (1993) guided the analysis of the preservice teachers' final reflections, presentations and focus group discussions and informed the data analysis processes as detailed in the next section of the chapter.

4.3 Data Analysis

Thematic analysis is typically favoured in qualitative research and helps researchers to identify patterns in the data collected. A process of thematic coding was used to analyse preservice teacher data (Creswell, 2013; Ryan & Bernard, 2003). Braun and Clarke (2006) identify 6 stages that are involved in thematic coding. These include, familiarising yourself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report. Modelling on Braun and Clarke's thematic analysis stages, the researchers met to discuss the best way forward in analysing their data. They did this by meeting regularly to discuss emergent themes. During this time, they shared key quotes and examples of 'mindshifts' that became visible in their students' work. One author used the NVivo software tool (Richards, 2005) and developed coded nodes associated with the preservice teacher experiences in schools and the wider environment. Nodes created were named: Culture, Diversity, Challenge, Personal Challenge and Growth. Another author came up with the coded themes, Reflective Practitioner, Developing an Activist Mindset and Partnerships. The data were then searched to identify cases and comments where preservice teachers reflected on social justice issues.

Data were grouped under general headings as follows, with examples of preservice teachers' comments that guided the thematic approach:

Culture: Anything related to different social-cultural and religious activities and practices in the classroom or the school. This can relate to students, parents or teachers, such as:

> The culture of the school was quite powerful… There are very high levels of respect paid to adults from the students and the students are very well behaved and well mannered. The generosity of everyone at the school was just incredible.

Diversity: In teaching this often applies to catering for differences in student learning and abilities in the classroom, such as:

> I was just taken back by how there was absolutely no catering for differentiated needs… I mean this in the sense that there was (sic) large class sizes, you were given the information and if you (the student) did not get it you would need to find your own way to catch up. There was no group work or much time for discussion.

Challenge: In respect to how the preservice teachers felt in their professional roles and how they managed it (adjusted):

> For my English class …. I asked the students to write me a creative piece of writing about what they think may happen in the book. This task turned out to be much harder for the students than I had anticipated. After the first lesson I learnt that the students were not used to having creative freedom in the classroom and were too scared to make a mistake. This made me go back after the lesson and reconstruct the lesson.

Personal Challenge: Any change or adjustment or personal challenge mentioned by the preservice teachers, such as:

> Before going into the classroom everybody would remind us to speak slow and clear which I thought I was doing however I did have my mentor ask me at the end of my first lesson "what type of English do you speak?"

Growth: Comments related to personal 'mindshifts', such as:

> This experience has opened my eyes to many new values and ways to teach. The ways that the teachers taught and the students behaviours that I think I would like to adopt into my classroom and then there were things that I experienced that made me question and realise again why I want to be a teacher and what kind of teacher I want to be.

Reflective Practitioner: Insights discussed by preservice teachers that involved reflection in and on action, such as:

> It is important as a pre-service teacher to reflect on every class you teach or observe. I find myself reflecting on what went well and how could I improve on what didn't go so well.

Developing an Activist Mindset: Preservice teacher reflections that demonstrated a desire to embrace and address social justice issues, such as:

> The reason I decided to write about the teaching style of this Chinese school is because I think it is unfairly stereotyped. The teachers know the students better than we do yet we still see ourselves as superior to them just because it is an Asian country. The way we teach in Australia is very innovative but that's because the students know how to respond to it. The teaching in Malaysia is a different type of innovative but it still works and they are still learning regardless of what we believe.

Partnerships: Preservice teacher understandings of the need for collaboration and respectful dialogue when working with school stakeholders, such as;

> As we live in a dynamic world it is essential for every teacher/pre-service teacher to have an understanding of how to teach globally. There are things we may not agree with in the schools but we have to see it as a learning experience

One author immersed herself in the reading and re-reading of journals for meaning to determine emerging themes. Another author used critical incident analysis and reflective practice to identify the underlying issues that provoked strong feelings in preservice teachers about their particular teaching situations.

The next section provides evidence of what the preservice teachers communicated around their perceptions of intercultural competency. At least one third commented on having an intercultural 'mindshift' in their understanding of social justice and the need to add this awareness to their teaching practices in Australia.

5 Data Findings

Four main data themes are presented in this chapter that demonstrate intercultural 'mindshifts' and highlight a growth of social justice awareness for preservice teachers. The four themes are noted below:

- Preservice teacher movement from an ethnocentric to an ethnorelative mindset
- Social Justice and the Reflective Practitioner
- Developing an Activist Mindset
- Partnerships.

In presenting these findings four subsections have been generated to demonstrate intercultural 'mindshifts' and preservice teacher growth of social justice awareness. The final section draws our attention to how preservice teachers demonstrated an activist mindset through engaging in reflection on and in action (Schon, 1996). It also highlights the role of school partnerships in generating effective inter-cultural dialogue between preservice teachers and Malaysian school stakeholders.

5.1 Preservice Teacher Movement from an Ethnocentric to an Ethnorelative Mindset

Overwhelmingly the data drew attention to preservice teacher movement that aligned with Bennett's intercultural sensitivity continuum (1993). Stages of acceptance of difference, adaptation to this difference and then integration of the difference was reported in preservice teacher reflections. The following excerpt from Jenny's journal demonstrates how she has moved to an open and flexible mindset and realises that is important for professional growth:

> From what I have observed and learnt over the placement days I now understand the importance of creating a 'universal' classroom. Creating equal opportunities for every student once they step inside the classroom. Ensuring as a teacher that there is open communication on all levels, and that every student feels they can participate within their own, and others' learning process… The sharing of cultures and in cultural experiences can be extremely rewarding, interesting and create a sense of approachability between student and teacher. (Jenny)

Brenda also reflected that disagreement is also fine, and demonstrates a self-awareness to be open to this in the future:

> I think we often get so caught up in our world that we forget how different others may be. We forget that not everybody agrees with the things we find to be second nature to us as we have always lived by our own rules. When somebody questions me it may not be because of disagreement but instead they may actually need help or reassurance. With saying that, their questioning may be of disagreement and that too is fine….I hope that by having an open mind, my students will too have an open mind and a curiosity about how other people on this same earth can live so differently or so similar to ourselves. (Brenda)

In each of the above comments we can see that the preservice teachers are aware that they have had a 'mindshift' that could contribute to their teaching skillset when they return to Australia. The experience of this teaching placement is recognised as having an ongoing impact on their identity as teachers. There is also an awareness that the Australian way of doing things is not always accepted as the best:

> This practicum has really given me so much that I can take on with me in the classroom. It has allowed me to have an open mind about learning techniques and keeping in mind that not all cultures have the same beliefs and values as myself or of the Australian curriculum. (Denise)

5.2 Social Justice and the Reflexive Practitioner

Too often teachers make assumptions about learning and its connection to materialistic wealth. When working with students who experience social and economic disadvantage, judgements are frequently made about a student's ability to meet the demands of schooling (Norman, 2016). Low teacher expectations can also emerge when students are perceived as lacking the cultural capital needed for academic success. As Dantas (2007, p. 78) explains,

> … the challenge resides in the damaging impact of deficit beliefs and stereotypes about what counts as learning […] combined with the invisibility and disconnect of what diverse students bring as funds of knowledge in classroom assessment and instructional practices.

With the adoption of a deficit teacher lens, marginalised students can be labelled in ways that seek to disadvantage them even further. This is especially the case when a teacher's positionality embodies an ethnocentric mindset (Lang et al., 2016). When working with learners from diverse cultures, preservice teachers may lack a sensitivity surrounding culturally appropriate teaching and learning approaches. Their interactions with students during practicum placements are influenced by their values and beliefs as well as their social identities (Nawrocki, 2015). Exposure to foreign teaching contexts can also bring to the surface taken for granted beliefs of western superiority. We see this in the case of Chrissy below:

> I wanted to experience a different culture, to improve my skills and meet new people. I didn't really set out to question and clarify my own culture, but that is what I found I was doing

after only a few days … I have learnt that possessions are not synonymous with capacity. The boys in my science classes have very little, but that does not necessarily mean they have any less to offer… I cannot wait to return home with a new outlook, not just on my teaching, but also a new perspective about the world. (Chrissy)

Chrissy's narrative draws our attention to an intercultural 'mindshift' that occurs during her international study tour. In her encounter with Malaysian students she experiences a moment of self-realisation a necessary precursor to self-actualization (Maslow, 1943). We see this when she questions her inner beliefs tied to wealth, privilege and success. She soon understands that happiness and wealth is a social and cultural construct that is not generalizable. Further, she comes to realise that a lack of resources is not an indicator of an absence of human flourishing. For Chrissy, this 'mindshift' demonstrates personal and transformative growth. She is committed to remaining open to different cultural viewpoints when she returns to Australia. This is an important quality for the socially just teacher who embraces cultural difference in respectful and inclusive ways.

5.3 Developing an Activist Mindset

Embodying a social justice agenda is interlinked with the role of the activist teacher. The activist teacher acts and thinks in ways that enable others to thrive. Part of this agenda involves questioning those practices and structures that lead to unequal positions of power (Darder et al., 2002). Disrupting and agitating oppressive forces that silence and marginalise individuals or groups of people is central to this cause (Freire, 2007). In the classroom, the activist teacher signifies a willingness to reveal how controlling social forces perpetuate dominant viewpoints. Exclusionary teaching and learning tactics that create barriers for learners to succeed are broken down and exposed.

Addressing perceived schooling barriers required careful dialogue with preservice teachers. Many reacted negatively to instances of corporal punishment. Gender division in physical education classes was another issue that preservice teachers discussed during debriefing sessions. Streaming classes according to academic ability, the treatment of students with additional needs and didactic mentor teaching approaches were also topics that were commonly discussed. Many of these practices created discontent and scrutiny for preservice teachers. One preservice teacher reflected on behavioural management in the following way:

Each country has its own way of managing both classroom and behavioural management. In Australia we are encouraged to provide incentives and reward good behaviour as opposed to punishing negative behaviour. We never use physical punishment and are encouraged to not yell and single out a child in front of his/her peers. In the last week it has come to my attention that classroom and behavioural management are dealt with a lot differently in Malaysia. … While sitting in the staff room there have been multiple occasions where students are brought into see the discipline teacher. The students are often scolded, asked to stand facing a wall for a set period of time, they are smacked on their hands or head with

a cane and are yelled at. I understand that each country has its own management plans, but it has been hard having to witness this when it goes against everything that we have been taught throughout our university course. (Denise)

Another preservice teacher below recognises that as a visitor in a school on a short-term placement she had a lack of power. However, the confronting experience of seeing a student being disciplined helped her to consider alternative ways in which education can be delivered in other cultural contexts:

This [discipline practices] to me seemed like an incredibly unfair and unjustified and sickening use of corporal punishment. This was the most confronting part of my placement to date. I know there is nothing I can do to change this system, but through this I can develop a greater understanding of how some people experience education. (Cherie)

Another preservice teacher commented on how the international placement moved her out of her comfort zone and created a 'mindshift' in her understanding of the profession:

With the benefit of hindsight, I can see that this placement was exactly what I needed for my learning. Most importantly being out of my comfort zone has really helped me with my learning and I found myself loving teaching… I gained a more global perspective about the plight of the people I came in contact with and the different cultures offered me tremendous ability to identify with people outside of my own comfort zone. (Donna)

The experiences narrated above tell us that movement towards the adoption of an ethnorelative lens is often difficult and discomforting; it requires a disciplined mindset that is open to critiquing taken for granted assumptions of heteronormative cultural domains.

5.4   Partnerships

An additional theme to emerge is the role of study tours in extending professional partnerships for both staff and students. Engaging in international practicum involves working in professional networks with mentor teachers and school stakeholders. Some preservice teachers were required to complete an Applied Curriculum Project (ACP) that contributed something new to the school. Some of these extra-curricular activities involved hosting professional development sessions for the mentor teachers on a range of topics that were negotiated by school teams. Other preservice teachers led and developed school concerts that involved cultural dances and songs. A common project task was the development of units of work that favoured both Bahasa and English. Planning, implementing and evaluating these units involved careful discussion with mentor teachers and English language co-ordinators. This led to deliberations around effective EFL pedagogies, inquiry-based models of teaching and culturally appropriate resources that could be implemented for each lesson. Working collaboratively in teams also involved working respectfully with mentor teachers to understand improvements that needed to be made.

The ability to manage constructive critical feedback is important to preservice teacher growth. Too often preservice teachers take a negative view of constructive peer and mentor feedback. Preservice teachers who are able to move beyond this discomfort to a space of inner reflection and conscious self-assessment are more likely to encounter professional growth. We see this in Sally's journal entry below:

> I believe the proof of this personal progression can be seen in the reflection and feedback of both my own criticism and those of my peers and mentors. In these reflections mentioned in my lesson plans, you can see progress and suggestions that show a growing understanding for my circumstances
>
> I believe this extreme situation has given me skills to better my practice in a classroom that may have one or two EAL students, or perhaps even an English speaking student that does not understand what was assumed to be an easy task. This situation and experience has given me… more patience and understanding for students that do not understand what their teacher is saying. (Sally)

Sally's engagement with a professional team allowed her to consider areas of her teaching that needed improvement. She demonstrated an understanding of the need to be patient with EFL learners and is committed to using this insight in her Australian classroom.

Sally's commitment to understanding the needs of EFL students means an altering of mindset. She displayed a willingness to modify her thought processes so that she could adopt more inclusive teaching practices in Australian classrooms. A commitment to social justice begins with this kind of attitude and action in an attempt to enrich and transform the lives of others.

Similarly, in her final reflection, Julie discusses the benefit of working in teams:

> I was able to have my first glance at teaching from an authoritative position and therefore build on my professional pedagogy and discover whom I can and will become as a teacher… I was able to share ideas, resources and experience with my peers at my school, in my friendship group and with my roommate on a daily basis which really fuelled my success in the classroom and helped make the experience so much easier… I was able to build meaningful relationships with not only my mentor teacher but a variety of teachers at my school that helped to build trust and confidence. These relationships allowed both us and the Malaysian teachers to be able to learn, discuss and reflect on different teaching attitudes, techniques and curriculum. (Julie)

Working with colleagues in respectful ways is central to sustaining a level of productivity. Whilst there were some preservice teachers who found it difficult to maintain a team spirit, the majority of preservice teachers managed to do so. For these students, there was a greater level of appreciation for the kinds of skills and behaviours needed to fuel inclusive interprofessional collaboration.

6 Discussion and Conclusion

The examples provided here are a sample of the data provided by our preservice teachers at the end of their placements. Encountering communication barriers in

their classrooms meant that many preservice teachers were in a better position to understand those complexities that often emerge for EFL learners. For those preservice teachers who had never travelled abroad, they soon became aware of the nuanced cultural variances that make up different nationalities. This insight they believed was essential to becoming a transformative teacher who can stand in the shoes of students who come from diverse cultural backgrounds.

Not all preservice teachers had the same experiences. Some preservice teachers found themselves struggling in terms of the context of the experience, and then sought academic support. Others were unable to resolve the cultural discrepancies they faced so were therefore unable to enter into and develop a growth mindset (Dweck, 2017), For example, some of the preservice teachers had 50 students in their classrooms where space was limited. Western student-led pedagogies were difficult to implement and this was exacerbated by the high stakes testing and examinations prevalent in the Malaysian school system. Many preservice teachers also struggled with traditional grammar-based approaches that are typically favoured above the Communicative Language Teaching (CLT) approach. Nikian et al. (2016, p. 7) affirms the challenges faced by many Malaysian teachers when test schools dominate teaching outcomes;

> 'Examination-based system at schools has also been criticized as another reason for the unsuccessful implementation of CLT and for why teachers are still practising the teacher-centered teaching method in Malaysia. Upon analysing the KBSM syllabus, it was found that many grammatical skills are tested in examinations and students have to learn them during the class time to pass exams and obtain good grades'.

What is seen as effective pedagogical approaches is therefore a social construct that differs across cultures. The differing educational values were insurmountable for some of the preservice teachers.

The views presented in this chapter verify the premise that an immersive intercultural experience challenges our preservice teachers to develop a greater understanding of social justice issues. It is quite natural to avoid placing ourselves in situations of discomfort, but when we find ourselves there, we need to be reflective and seek a workable solution—it is sometimes a 'fight or flight' response. By accepting an international practicum these preservice teachers demonstrated a willingness to experience new situations and new learning. However, they did not consciously expect to experience discomfort. During times of discomfort and tension many of the preservice teachers utilised a range of personal resources to cope with the situations at hand. Some relied on peers and the accompanying academics to help make sense of tensions as they arose. Others reflected on their personal mindsets in an attempt to understand how their reactions and actions were hindering or encouraging inclusive teaching practices. Working collaboratively with a team of educators assisted in having a greater understanding of cultural sensitivities necessary for forming respectful and trusting relationships.

A state of agitation and uncertainty, that emerges from feelings of discomfort, is necessary for the emergence of a social activist mindset. This is because a social activist mindset requires an individual to stand in the shoes of others, in empathetic ways, so as to understand how political and social forces perpetuate inequality and

oppression. When preservice teachers are in a state of vulnerability, they are given an opportunity to assess and reassess feelings that arouse a sense of fear and suspicion. In this space preservice teachers interrogate assumptions they have taken for granted that seek to minimise, negate or vilify cultural difference. Such 'awakenings' form a powerful backdrop to create a mindshift towards social justice. Preservice teachers begin to question and interrupt social forces that have assisted in the construction of beliefs that seek to position one cultural group as being superior to another.

In a globalised world, a twenty-first-century teacher must embody specific skills and knowledge that enable all learners to flourish. He or she needs;

> …..to be aware of the global nature of societal issues, to care about people in distant places, to understand the nature of global economic integration, to appreciate the interconnectedness and interdependence of peoples, to respect and protect cultural diversity, to fight for social justice for all, and to protect planet earth – home for all human beings (Zhao, 2010, p. 426).

Overseas study programs can provide graduate teachers with greater insight into how to effectively deal with the complexities of 21st century classrooms. In this space, interculturally competent teaching and learning practices can also be developed, trialled and enhanced. This can assist in the creation of a repertoire of socially just signature pedagogies that fuel inclusion for all learners (Shulman, 2005). Establishing and fostering inclusive classroom practices that embrace multicultural traditions and values is central to the creation of global citizens.

On a final note the authors would like to acknowledge the Australian Government's commitment to enhancing undergraduate student knowledge of the Indo-Pacific region. With the continuation of funded mobility programs, such as The New Colombo Plan (NCP), undergraduate students have access to a range of intercultural experiences. Data findings from this research help to inform academics, undergraduate students and government/policy delegates on pedagogical and curriculum practices that foster ethnorelative mindsets. Data findings can also help to inform accompanying academics on the benefits and challenges that often accompany international study tour programs.

References

Addleman, R. A., Nava, R.C., Cevallos, T., Brazo., C.J., & Dixon, K. (2014). Preparing teacher candidates to serve students from diverse backgrounds: Triggering transformative learning through short-term cultural immersion. *International Journal of Intercultural Relations. 43*, 189–200.

Arnold, J. (2015). *Tracing the mindshift in preservice teachers: Learning landscapes (Unpublished doctoral dissertation).* Melbourne, Australia: Victoria University.

Barkhuizen, G., & Feryok, A. (2006). Pre-Service teachers' perceptions of a short-term international experience programme. *Asia-Pacific Journal of Teacher Education, 34*(1), 115–134.

Bennett, M. J. (1993). Towards ethnorelativism: A developmental model of intercultural sensitivity. In R. M. Paige (Ed.), *Education for the intercultural experience* (pp. 21–71). Yarmouth, ME: Intercultural Press.

Bennett, M. J. (2004). Becoming interculturally competent. In J. Wurzel (Ed.), *Toward multiculturalism: A reader in multicultural education* (2nd ed., pp. 62–77). Newton, MA: Intercultural Resource Corporation.

Bennett, M. J. (2009). Defining, measuring, and facilitating intercultural learning: a conceptual introduction to the Intercultural Education double supplement. *Intercultural Education, 20,* S1–S13. https://doi.org/10.1080/14675980903370763.

Beutel, D. A., & Tangen, D. (2018). The Impact of intercultural experiences on preservice teachers' preparedness to engage with diverse learners. *Australian Journal of Teacher Education, 43*(3), 168–179.

Bizumic, B. (2015). Ethnocentrism. In R. A. Segal & K. von Stuckrad (Eds.), *Vocabulary for the study of religion* (Vol. 1, pp. 533–539). Leiden, the Netherlands: Brill Academic Publishers.

Boler, M. (1999). *Feeling power: Emotions and education*. NY: Routledge.

Boler, M., & Zembylas, M. (2003). Discomforting truths: The emotional terrain of understanding difference. In P. P. Trifonas (Ed.), *Pedagogies of difference* (pp. 110–136). New York, NY: Routledge.

Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research, 4,* 1–8.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3,* 77–101.

Brindley, R., Quinn, S., & Morton, M. (2009). Consonance and dissonance in a study abroad program as a catalyst for professional development of pre-service teachers. *Teaching and Teacher Education, 25*(3), 525–532.

Brown, L. (2009). The transformative power of the international sojourn. *Annals of Tourism Research, 36*(3), 502–521.

Calloway-Thomas, C., Arasaratnam-Smith, L. A., & Deardorff, D. K. (2017). The role of empathy in fostering intercultural competence. In D. K. Deardorff & L. A. Arasaratnam (Eds.), *Intercultural competence in higher education: International approaches, assessment and application* (pp. 32–42). NY: Routledge.

Crotty, M. (1998). *The foundations of social research*. Sydney: Allen and Unwin.

Chinnapan, M., McKenzie, B., & Fitzsimmons, P. (2014). Pre-service teachers' attitudes towards overseas professional experience: Implications for professional practice. *Australian Journal of Teacher Education, 38*(12), 36–54.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.

Cushner, K., & Chang, S. (2015). Developing intercultural competence through overseas student teaching: Checking our assumptions. *Intercultural Education, 26*(3), 165–178.

Dantas, M. L. (2007). Building teacher competency to work with diverse learners in the context of international education. *Teacher Education Quarterly, 34*(1), 75–94.

Darder, A., Baltodano, M., & Torres, R. D. (Eds.). (2002). *The Critical Pedagogy Reader*. NY: Routledge.

Dean, B. A. (2018). The Interpretivist and the Learner. *International Journal of Doctoral Studies, 13,* 1–8.

Dweck, C. S. (2017). *Mindset: Changing the way you think to fulfil your potential*. Great Britain: Robinson.

Erlingsson, C., & Brysiewicz, P. (2012). Orientation among multiple truths: An introduction to qualitative research. *African Journal of Emergency Medicine, 3*(2), 92–99.

Florian, L. (2012). Preparing teachers to work in inclusive classrooms: Key lessons for the professional development of teacher educators from Scotland's inclusive practice project. *Journal of Teacher Education, 63*(4), 275–285.

Freire, P. (2007). *Pedagogy of the oppressed*. NY: Continuum.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical transactions of the Royal Society of London Series B—Biological Sciences, 359*(1449), 1367–1377.

Garmon, M. A. (2004). Changing preservice teachers' attitudes/beliefs about diversity. What are the critical factors? *Journal of Teacher Education, 55,* 201–213.

Gorski, P. C. (2009). Intercultural education as social justice. *Intercultural Education, 20*(2), 87–90.

Guo, L. (2013). Translating global citizenship education into pedagogic actions in classroom settings. *Education Review, 3*(2), 8–9.

Hains-Wesson, R., & Appleby, M. (2017). A perspective on third-party providers and study tour programs: A mixed method study issues. *Educational Research, 27*(3), 435–452.

Heyl, J. D., & McCarthy, J. (2003). International education and teacher preparation in the US. Paper presented at the Conference on *Global Challenges and US Higher Education: National Needs and Policy Implications*. Retrieved June 5, 2010, from http://ducis.jhfc.duke.edu/archives/globalchallenges/pdf/heyl_paper.pdf.

Hoare, L. (2013). Swimming in the deep end: transnational teaching as culture learning? *Higher Education Research & Development, 32*(4), 561–574.

Hol, A. (2016). Students as global citizens: lessons from the international study tour. *International Scholarly and Scientific Research & Innovation, 10*(8), 2640–2644.

Jackson, J. (2015). Becoming interculturally competent: Theory to practice in international education. *International Journal of Intercultural Relation, 48,* 91–107.

Kidman, G., Lang, C., & Cacciattolo. (2017). 'Preservice teachers' international teaching placement: outcomes for the accompanying academic. In A. Fitzgerald, G. Parr, & J. Williams (Eds.), *Narratives of learning through international professional* (pp. 29–45). Singapore: Springer.

Knutson Miller, K., & Gonzalez, A. M. (2016). Short-term international internship experiences for future teachers and other child development professionals issues. *Educational Research, 26*(2), 241–259.

Lang, C., Cacciattolo, M., & Kidman, G. (2016). The Global Education Practicum: perspectives from accompanying academics. *Asia-Pacific Journal of Teacher Education., 45*(2), 145–161.

Lee, J. (2011). International field experience—what do student teachers learn? *Australian Journal of Teacher Education, 36*(10), 1–22.

Leitch, C. M., Hill, F. M., & Harrison, R. T. (2010). The philosophy and practice of interpretivist research in entrepreneurship. Quality, validation, and trust. *Organizational Research Methods, 13,* 67–84.

Loughran, J. (2016). Effective reflective practice. *Journal of Teacher Education, 53*(1), 33–43.

Maeder, E. M., & Yamamoto, S. (2015). Culture in the courtroom: Ethnocentrism and juror decision-making. *PloS one, 10*(9).

Maslow, A. H. (1943). A theory of human motivation. *Psycho-logical Review, 50,* 370–396.

Nawrocki, H. M. (2015). *Positionality and its effects on pedagogy: examining the identity categories of race, class, and gender of english as a second language (ESL) preservice teachers (Unpublished doctoral dissertation).* USA: University of Tennessee.

Nikian, S., Mohamad Nor, F., Rejab, A., Hassan, H., & Zainal, Z. (2016). The challenge in instilling communicative competence in second language learners. *Journal of Advanced Review on Scientific Research, 26*(1), 1–12.

Norman, P. C. (2016). *Teacher attitudes and perceptions of low and high socioeconomic status students (Unpublished doctoral dissertation).* USA: UtahState University.

Northcote, M., Kilgour, P., Reynaud, D., & Fitzsimmons, P. (2014). Engaging in deep cultural learning through the intersection of multiple contexts. *Australian Journal of Teacher Education, 39*(10), 47–58.

Nguyen, A. (2017). Intercultural competence in short-term study abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad, xxix*(2), 109–127.

Pusch, M. D. (2009). The interculturally competent global leader. In D. K. Deardorff (Ed.), *The SAGE handbook of intercultural competence* (pp. 66–84). Los Angeles/London: Sage.

Richards, L. (2005). *Handling qualitative data: A practical guide*. London: Sage.

Root, E., & Ngampornchai, A. (2013). I came back as a new human being: Student descriptions of intercultural competence acquired through education abroad experiences. *Journal of Studies in International Education, 17*(5), 513–532.

Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes. *Field Methods, 15,* 85–109.

Santoro, N. (2014). If I'm going to teach about the world, I need to know the world: developing Australian pre-service teachers' intercultural competence through international trips. *Race Ethnicity and Education, 17*(3), 429–444.

Santoro, N., & Major, J. (2012). Learning to be a culturally responsive teacher through international study trips: Transformation or tourism? *Teaching Education, 23*(3), 309–322.

Schon, D. A. (1996). *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey-Bass Inc.

Shulman, L. (2005). Signature pedagogies in the professions. *Daedalus, 134*(4), 52–59.

Thanh, N. C., & Thanh, T. T. (2015). The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Educational Science, 1*(2), 24–27.

Vande Berg, M., Paige, R. M., & Lou, K. H. (2012). Student learning abroad: paradigms and assumptions. In M. Vande Berg, R. M. Paige, & K. H. Lou (Eds.), *Student learning abroad: What our students are learning, what they're not and what we can do about it* (pp. 3–28). Sterling, VA: Stylus.

Zaidi, Z., Verstegen, D., Vyas, R., Hamed, O., Dornan, T., & Morahan, P. (2016). Cultural hegemony? Educators' perspectives on facilitating cross-cultural dialogue. *Med Educ Online, 21*(1), 33145.

Zhao, Y. (2010). Preparing globally competent teachers: A new imperative for teacher education. *Journal of Teacher Education, 61*(5), 132–142.

Zhu, H. (2011). From intercultural awareness to intercultural empathy. *English Language Teaching, 4*(1), 116–119.

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Chapter 6
The Emotional Work of Being an Assessor: A Reflective Writing Analytics Inquiry into Digital Self-assessment

Jill Willis and Andrew Gibson

Abstract Digital tools are reshaping how we understand assessment and evaluation in educational contexts as they create new forms of digital assessment data. Such data has been critiqued by educational scholars as it is increasingly associated with high stakes accountability, with the computational interpretation and abstraction occurring at a distance from the authors and their learning experiences. This chapter explores an alternative, educative vision for digital tools and the assessment data they collect. It is a case study of how a digital self-assessment tool captured evidence of early career teachers developing their assessment capability. It also positions an innovative digital research methodology within global sociological concerns about digital assessment tools, to consider how they might inform locally meaningful data stories.

1   Introduction

Currently there are few insights about how early career teachers navigate their assessment capabilities within a rapidly changing data driven educational landscape. 20 Early career teachers (ECTs) in three Australian contexts reflected and self-assessed their experiences in their first year of teaching using an online digital reflective writing application called GoingOK.[1] The ECTs self-reflections were recorded in a personal digital journal, alongside a plotline of point-in-time emotional responses to the prompt 'How are you going?' The digital data was analysed in a transdisciplinary process that combined interpretive and computational insights, that together enables pragmatic identification of meaningful data stories. One of the unexpected data stories was about the emotional work of becoming an assessor. This chapter illustrates

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[1]http://goingok.org.

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the relationships between reflective self-assessment and learning to develop assessment capabilities as an early career teacher, and the methodological processes of foregrounding a hidden data story about the emotional work of early career teachers when they are learning to be assessors. The chapter concludes with implications for teacher education in the development of teacher assessment capability, and for local innovations in digital tools and research to address global assessment concerns.

Assessment in education has become strongly associated with accountability and performativity in contexts around the world. Assessment data are used to regulate the practices of teachers, schools and teacher education with concerning consequences such as narrowed curriculum, increased stress, greater time pressures and limited freedom being well documented (Ball, 2003; Klenowski, 2011; Thompson & Mockler, 2016). Instead of a local experience of performance to inform a student and teacher of the next steps in learning, assessment information can quickly become a data package that can travel beyond the local context in national and global systems. The affordances of digital technology enable large data sets to be created, leading to comparisons between educational systems which in turn contribute to educational governance systems that are increasingly networked (Sellar, Rutkowski, & Thompson, 2017). These systems help to create dominant teacher quality discourses of effectiveness, performance and readiness that reflect a rational, scientific approach to education which can lead to a technical form of professionalism (Eacott, 2017; Churchward & Willis, 2019; Bourke, Ryan, & Lloyd, 2016). In this policy context, assessment outcomes play a significant role, becoming part of algorithmic accountability calculations that are often opaque and used for decisions far removed from the control of the original assessment actors. Yet digital data innovations that create performativity discourses, also point to possibilities for disrupting assessment practices to enable small everyday data to generate local, collaborative assessment responses (Cope & Kalantzis, 2016).

Importantly online digital tools also have the potential to enable new local forms of assessment. When pedagogic and computational systems are designed together, there is the potential for digital tools to support teachers and students to collaboratively inquire into learning and reclaim some ownership over assessment decisions. One example is through online digital self-assessment tools that can assist learners to record their own reflective self-assessment over time, and through seeing patterns, engage in self-regulation. The teacher can quickly gather this information, see immediate patterns from a group of students, and make adjustments to their pedagogical practices in response. There are a number of digital tools like online polling software, learning management systems and apps such as Class Dojo that enable such self-assessment activities.

While such digital formats of online formative assessment tools are convenient and easy to use, some with international popularity and reach, they have also raised new questions. Ownership of data and on-selling of data is one concern (Slade & Prinsloo, 2013). When digital tools become ubiquitous, they can also be creating an always-measured sense of self that is fostered throughout childhood through schooling practices as well as wearable devices and digital games (Smith, 2017; Lupton, 2016). It is not yet clear what the extended temporal consequences might be

for authors when aggregated smaller scale assessment performances like digital self-assessments are adopted, as they have an existence long after the events, and might be read by unknown audiences (Williamson, 2016). Use of digital self-assessment tools in research in learning situations raises complex ethical questions (Gibson & Willis, in press). Researchers need to consider ethical use of digital tools and data alongside their potential to identify new patterns and possibilities for learning. We also need to know more about the experience of teachers as they engage in their everyday experiences of being assessors.

Teachers are front line actors in the changing digital assessment story. Teachers make decisions to use digital assessment tools, and their assessment decisions, aggregated by digital means, are also scrutinised. To understand how to prepare preservice teachers to be adaptive, ethical assessors in an increasingly digitally mediated environment, we need to know more about the day-to-day assessment experiences of early career teachers. This chapter reports on insights about being an assessor; insights that became evident in self-assessment reflections of three groups of ECTs. Reflections were gathered through an online reflective writing application and analysed using Reflective Writing Analytics (RWA). In analysing the reflections we noticed how learning to be an assessor is related to intensive emotional labour. This chapter highlights the findings about the emotional work of being an assessor and points towards possibilities for local and global actions for teacher educators and for researchers drawing on digital self-assessment data.

2 Reflective Writing Analytics: A Socio-Technical Interactive Ecosystem

To realise the potential of digital tools informing local evidence stories and empowering authors, the computer, human users and the social context need to be considered as part of a socio-technical ecosystem. Computational analysis promises quick analysis of large amounts of data, but it is often not meaningful. Human socio-cultural analysis can find patterns in human experience, but it is labour intensive and the generalisability of interpretations conclusions can challenged when applied to data at scale. This is particularly the case when dealing with reflective writing, where data is personal writing as part of a process of self-reflection. Finding sensitive ways to uncover the meaning of reflective writing is a key focus of Reflective Writing Analytics (RWA). RWA uses natural language processing (NLP) technologies to computationally analyse reflective text, interacting with human insights for the purposes of scalable meaning-making (Gibson, 2017). Our approach has been to bring social and technical philosophies and approaches together through a continuously interactive dialogue, pragmatically focused on achieving good outcomes for participants. We draw on Peirce's (1905) pragmatic maxim that the full understanding of a concept is found in its practical effects, and apply this idea in a socio-technical process of inquiry (Gibson & Lang, 2018). This is an application of Transepistemic Abduction (TeA)

Fig. 1 A pragmatic
socio-technical approach to
Reflective Writing Analytics
(RWA) with GoingOK
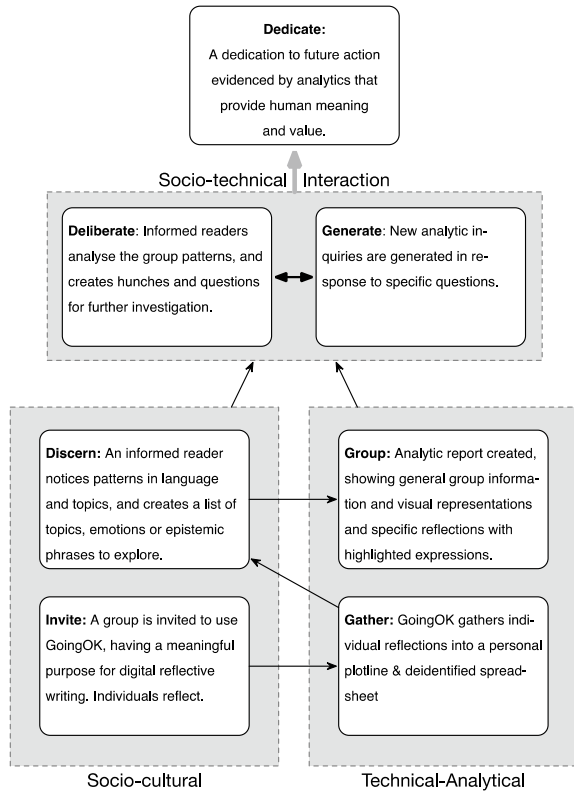
where abductive reasoning occurs across distinct epistemic domains towards a pro-
ductive end (Gibson, 2017). Abductive reasoning is sometimes thought of as the guess
which best explains a surprising phenomenon. The way that TeA informs our socio-
technical approach is illustrated in Fig. 1. Interactions between the socio-cultural and
the technical-analytical domains lead to an abductive interaction (a kind of interactive
'guessing') that is inherently socio-technical. It is a dialogue between human delib-
erations and generated computational analytics. This dialogue is focused towards a
dedication to a practical outcome—the application of the analytics to support further
action. We detail this process in the remainder of this chapter showing the potential
for the theory of TeA and application of RWA in Assessment for Learning (AfL).

3   Invitation: Early Career Teachers Reflect

GoingOk was created to support a group of early career teachers in their first year
of teaching through facilitating digital personal reflective writing (Gibson, 2017).
The digital tool and the pedagogic processes have since been refined across seven

projects from 2013, and as of January 2020, GoingOK has been used by over 2600 people who have written more than 14,600 reflections. This growing database allows for the creation of computational models of reflective writing characteristics, which can help inform the socio-technical approach to RWA. It also allows for analysis that is difficult to do manually, such as feature comparisons between subsets (e.g. a single cohort of authors) and all reflections in the database. This can help reveal characteristics of reflection that are unique to a specific group of authors, or which might be found more generally in the reflective writing of authors from different contexts.

Three groups of early career teachers (ECTs) were invited to reflect in general terms about their experiences in teaching using GoingOK, authoring their own teaching story. The ECTs were located in remote Queensland (BCQ), South Australia (BCSA) and metropolitan and regional Queensland (BW), Australia (see Table 1). Ethical approval from the host universities was sought and participants consented for the data to be compared in future analyses such as this.

When an author logs into their personal GoingOK page and create a reflection, they create three different data types (see Fig. 2). Firstly the author uses a visual slider to indicate how they are going, which creates the **reflection point**. The range from *distressed* to *soaring* with *going ok* is captured as a number between 0 and

Table 1 GoingOK projects with ECTs

Year	Project name	Code	Number of authors	Number of reflections
2013	Becoming colleagues (Queensland)	BCQ	7	118
2014–15	Becoming colleagues (South Australia)	BCSA	8	129
2014–15	Beginning well	BW	5	58
			Total 20	Total 305

Fig. 2 The GoingOk user interface
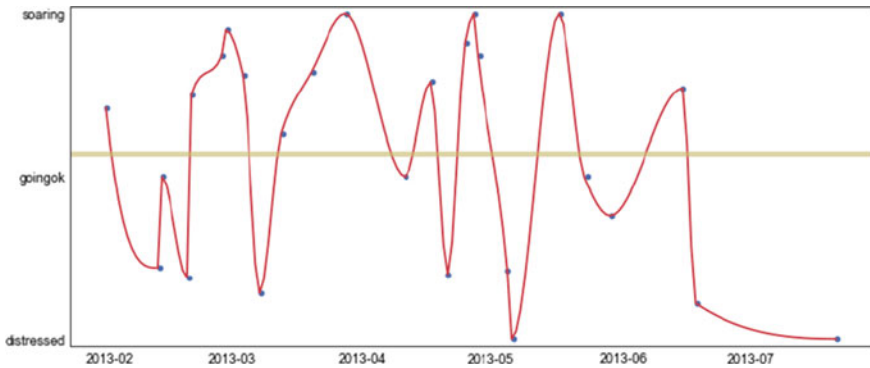
Fig. 3 An example of a digital plotline over time (kolsag, BCQ)

100. Secondly the **reflection text** in response to the prompt *Describe how you are going…* is captured as text. Thirdly when the author clicks the 'save' button, the server adds a **reflection timestamp** to the reflection entry.

Each participant had their own account, and for each reflective entry would slide the slider to indicate how they were going, a decision that was recorded by the digital tool with 0 representing distressed, 100 representing soaring, and 50 representing going ok. As the entries accumulated over time, they were visible to the beginning teacher as a plotline, with the ups and downs recorded (Fig. 3).

Authors also wrote reflective text in the text box each time, that created a longitudinal narrative. The data set is a collection of rich, point in time reflections about the day-to-day experiences of beginning teachers (Crosswell, Morrison, Gibson, & Ryan, 2017; Crosswell, Willis, Morrison, Gibson, & Ryan, 2018).

The first group of ECTs (BCQ) worked with the research team[2] while they were in their final year of their undergraduate program and during their first year of teaching engaging in collaborative interpretation of the data. The sliding scale was modelled on the idea of a common Assessment for Learning 'traffic light' self-assessment activity. However the ECTs and researchers were keen to avoid a deficit framing of ECT capabilities that might be implied by medical metaphors of pulse checking, or external judgment metaphors of performance. Instead the decision was made to recognise the personal agency of the ECTs who were *authors* of their professional identity, creating *plotlines* of their experiences, and through the creation of *reflective narratives* that could empower them to be resilient colleagues (Morrison, Willis, Crosswell, & Gibson, 2014). Reflective writing was seen by the ECTs and researchers as a strategy for professional and personal development.

[2]The research team included the authors, along with Leanne Crosswell and Chad Morrison.

4 Gathering Reflective Writing—ECT Professional Self-assessment and Personal Reflexivity

Reflection is a well-established practice in teacher education, with deep roots in the work of Dewey (1933) and Schön (1983). Reflection is an active and intentional inquiry that enables the author to look back on experience, to question and make connections, and in doing so create new knowledge to inform current and future practice. Through reflection teachers can frame and reframe problems of practice (Loughran, 2002), and craft a responsive professional identity (Beijaard, Meijer, & Verloop, 2004). Expressively writing a story about self, as is done in reflective writing also provides personal well-being benefits (Pennebaker & Seagal, 1999). These benefits were also experienced by the early career teachers who indicated that GoingOK felt like 'a big listening ear'.

As the digital tool also required the author to make a judgement about their emotional state using a sliding scale and then explain it, the reflections could also be seen as a form of self-assessment. Reflection and self-assessment are closely related. Self-assessment is most often associated with cognitive views of assessment for learning or formative assessment pedagogies where the learner/author evaluates their performance against formal criteria and/or specific curriculum goals to develop self-regulation in formal learning settings (Panadero, Andrade, & Brookhart, 2018). However other assessment scholars write about self-assessment as a more informal and internalised process of reflection that legitimises the experiences of the author as they explore new learning experiences (Swaffield, 2008; Bourke & Mentis, 2013). Self-assessment when viewed from this socio-cultural theoretical lens is a process of social negotiation. Explicit and tacit, group and individual knowledge is always being worked out and resolved by the individual as they engage in the practices of the group (Willis & Cowie, 2014). At the heart of self-assessment is a process of questioning and evaluating, of self judgement that can lead to decisions about what to do next (Boud, 1995; Sadler, 1989). Margaret Archer's (2003, 2007) theories inform this analysis, especially her proposal that in an increasingly complex world, individuals draw on their inner evaluative conversations to make their way through the world, reflexively *discerning* and *deliberating* about their situations in light of their concerns, to *dedicate* towards what to do next.

When the first sets of data were read by the researchers it became evident that GoingOK reflective entries typically were highly self-evaluative. The early career teachers were evaluating their own experiences at that moment of the entry by sliding the slider, and in their text often began by discerning what they were feeling and thinking about, deliberating about what was important or not, and often by the end of a short reflective entry dedicating towards a course of action. For example,

> Having a fabulous week in terms of teaching and being organised but am feeling a little bit stressed about reporting for term 1 [Discerning feelings]. I'm mostly feeling this way because I just don't know how it's going to turn out. We have requested parent interview for the beginning of term 2 and am feeling a little bit anxious about this. [Deliberating about why reporting is causing anxiety]. I probably don't have anything to worry about, it's just

that it will be my first time. [Dedicating to press on with some reassuring self-talk] (kolsag BCQ, plotpoint 82).

I have just finished report writing with interviews next week. This week has probably been the most full on and stressful week of my teaching career so far [Discerning context and evaluating emotion]. I did have my first teacher meltdown this week with many different layers responsible for this, [Deliberating about why] but I have been proactive in dealing with stressors and I have been communicating strongly with my class. I have great external support. I am really looking forward to next week. I feel like I'm starting fresh and have a really clear mind [Dedicating towards positive next steps] (dobpoc BCSA, plotpoint 63).

These internal conversations were ECTs working through their concerns to recognise what they were caring about and how they might adapt their practices to have a better chance of realising what matters most to them (Archer, 2003). The GoingOK entries of ECTs recorded deliberations about a wide range of topics like moving to a new town, figuring out expectations of principals and the parents of students in their classes, recording highs and lows of classroom teaching, managing a sense of professional identity, and trying to eat healthy and exercise to be resilient (Crosswell et al., 2018). This analysis focused on their experiences as assessors, using a socio-technical analytic approach.

5   Discerning Assessment Capability Through Socio-Cultural Qualitive Analysis

The first qualitative analysis of the reflective entries for assessment capability was informed by a socio-cultural view of assessment that acknowledges that learning is a social process, embedded in contexts and relationships. This view is reflected in much of Australia's research about teacher assessment capability and informed the inductive qualitative coding. Teachers have multiple social roles in assessment practices including those of assessors, pedagogy experts, student partners, motivators, teacher learners, and stakeholder partners (Alonzo, 2016). Teachers also have to be literate in multiple assessment contexts from high stakes standardised tasks, to classroom interactions and culture fair assessment (Willis, Adie, & Klenowski, 2013). Assessing involves critical reflexivity and collaboration (Willis & Klenowski, 2018; Wyatt-Smith & Gunn, 2009), and considerations about beliefs and feelings about assessment (Looney, Cumming, van der Kleij, & Harris, 2017). Charteris and Dargusch (2018) also emphasise that assessment capability transcends a checklist approach and is an ongoing development that involves bodies and minds in assessment decision making in situ. The initial coding was done by one author (Willis) who noted the phrases that referred to assessment practices, relationships, beliefs, emotions and concerns. A second reading using Archer's scheme of 3Ds of reflexivity (*deliberation, discernment, and dedication*) highlighted how the ECTs were engaging in reflexive self-evaluation.

Assessment seemed to be a recurring topic for reflection, often interwoven with other topics. The early career teachers confidently reflected on how they used data

to evaluate how well their students were learning, and how to integrate assessment into their daily planning, assessment and reporting. They discerned their excitement and pride when students showed progress in pre and post test data, or where they successfully exhibited portfolio work.

> Feeling good about where things are heading. We had a successful exhibition of learning last night that the students came in with parents to show their work. It was a long process to ensure that everything was completed in time, but it was very rewarding (gixbob, BCSA, plotpoint 83).

> I'm going ok. Assessment time and things have shifted up a gear. Late night marking and phone calls home is what I love. Assessment time has caught me by surprise, but I am really enjoying seeing mine and the students hard work paying off when they are receiving great marks. Obviously it is disappointing to see those students not meeting their potential, but fortunately I haven't had too many of those yet. (doclip, BCQ, plotpoint 85).

However even such positive statements were located near reflections about being tired, and managing their time and workload. These concerns were even more evident in a dominant assessment topic of concern—marking, reporting and sharing reports with parents in interviews:

> Am going ok. Teaching seems to be going well & behaviour management is a lot easier now. Am struggling with the workload though **- trying to fit everything in… marking…assessment…etc etc…so many things to do.** So many things I WANT to do but just don't have the time. Hard to find a work-life balance! (catpub, BCQ, Mid April plotpoint 42).

Two months later the same ECT reflected that they now expected report time to be distressing, with the emotions of feeling judged by others heightened.

> Prior to and during report cards, **I was 'distressed'**… as can be expected during this time! It felt like I was writing multiple uni assignments all over again. Plus with the added stress of my Principal and parents reading it. (catpub, BCQ, plotpoint 41).

Other ECTs were similarly emotionally challenged by preparations to share assessment results with parents.

> **Very exhausted this week.** Busy preparing for parent teacher interviews. Am **feeling very lonely this week**. (domsiv, BCSA, plotpoint 32).

> Report writing is **really stressful!** I'm currently wading through my data which includes work samples, anecdotal observations and photos. I know the children really well and the comments section is fine but assigning a grade is **awful**…I'm so concerned he will be deflated and stop loving school again. I never knew there was so much to report writing. Also those darn parents who question everything will want hard evidence of their child's grade. **Already a bit sweaty thinking** about it. (juzvun, BCSA, plotpoint 50).

> I am currently finishing off my first lot of report cards. I haven't been stressing too much but I didn't finish them when they were meant to be originally due (last Wednesday), but neither did any of the other teachers. Our principal was not impressed with us. I found having them all due in on Wednesday during week 8 meant that every piece of assessment had to be completed by week 7, which for some of my units that I only have once a week is very **ridiculous and difficult.** I don't know whether experienced teachers would find it hard to teach everything in five weeks and then start to assess…**I am extremely tired all of the time but still feel like I'm not doing an awesome job even though I'm putting in my all**. (rulguz, BCQ, plotpoint 50).

Assessment capability included being able to manage the emotions associated with being judged, while also managing their time and energy. In these entries ECTs discerned their emotional states by directly labelling them—*distressed, exhausted, lonely, stressed, concerned, extremely tired*—or by implied in evaluations of their situations as they deliberated about why there were experiencing these emotions, with cultural constraints that were—*awful, ridiculous, difficult.*

A less obvious, but still emotion laden assessment capability was using diagnostic, formative assessment or Assessment for Learning (AfL) to be responsive to student needs. It was less obvious as it was often entangled with stories of managing student behaviour:

> This entire week has been an absolute drag. [Discerns current emotional state and reasons for it] I've had misbehaving students, too excited students who can't calm down…etc…it's been a tough week. To top that off, I also realised at the end of the week that I haven't been formatively assessing anything as yet. I've jumped into preparation of formative assessment for the next week [Decides to take action], but I feel like the stress of how my students were behaving caused me to forget about the other parts of teaching [Deliberates about why action didn't happen earlier] (kolsag, BCQ, plotpoint 21).

AfL capabilities were implied when an ECT was struggling to teach a student with disabilities. The ECT reflected that they knew they should identify what his learning needs were, but still felt out of their depth:

> Am currently feeling distressed [Discerns current emotional state and reasons for it] as I'm finding is extremely difficult with one of my new students who has high functioning autism and ADHD. He has been in detention every day for the past 4 days, has hit and punched kids and has swore repetitively towards other students and teachers. It is hard to get him to do any work as he just says 'no', runs off and swears. I know it's still early days (this is his 3rd week), but it doesn't make it any easier. I'm getting sick from lack of sleep and stress. [Deliberates and weighs up all of the factors to consider] Am finding it hard to teach the other kids when he'll talk over me, interrupt every lesson etc. I want the best for him. **I want him to love school and learn at his pace and from where he's at. I know it will take time to get to know him and get to know strategies which work best with him,** but these early days are still hard. There are no support staff trained/specialised with working with students with disabilities/high learning needs. The school is having to train up a teacher aide, so at the moment it feels like I'm on my own. No university course can prepare you for this! I only had 1 subject about teaching students with disabilities. So I am feeling out of my depth. [Decides to reframe the problem into a positive light] I know this is a great experience for 1st year out, and will only make me stronger. (catpub, BCQ, plotpoint 0).

University preparation in Australia emphasises an expectation that ECT will differentiate the curriculum for the individual using AfL strategies to find out what the student knows, in order to plan differentiated practices. In the reflection above, the ECT seems to refer to these assessment and differentiated planning practices in the phrase 'I want him to love school and learn at his pace and from where he's at'. The ECT's self-assessment commentary is that they feel their work is 'hard' and they were losing sleep and getting sick. They reflect that their university learning has not fully prepared them to manage differentiated practices in ways that were simultaneously urgent and extended over months. AfL would most likely have been taught as a separate assessment capability at university. In practice, AfL was not separated from

classroom management, or from managing the resources available in the context, and the emotions of feeling uncertain.

This entry highlights that assessment capability is a holistic experience (Hill, Ell, & Eyers, 2017). What was apparent throughout this entry and many others was that in teaching 'emotion and cognition, self and context, ethical judgement and purposeful action are all entwined', with the emotions showing what is at stake as teachers make sense of the complexities of teaching (Kelchtermans, 2005. p. 1000). In their self-assessing online entries the ECTs were evaluating their performances and their contexts, seeking to turn challenges into learning experiences. During the inductive, qualitative analysis, the relationship between assessment and emotions seemed to be quite clear, and new territory to explore. This led to the next phase of data analysis using Reflective Writing Analytics to identify patterns.

6   Grouping Language Features for Emotions and Assessment Using Reflective Writing Analytics (RWA)

Up until this point, the digital tool had just collected the qualitative data that could be analysed in traditional qualitative ways. The inductive hunch that emotions were strongly related to assessment capability could have remained as a discussion point and hypothesis for further explanation. Instead, the affordances of digital quantitative analysis enabled us to explore these inductive hunches further. Assessment key words that were evident in reflections analysed qualitatively were used to select relevant reflective entries for further analysis (Table 2).

Those assessment words were displayed as red in a RWA report which annotated the reflective text with features of interest (see Fig. 4). In this report, almost all of the authors (19 of 20) had written reflections that included assessment words. Reflections with assessment words represented nearly a quarter of all reflections (28% of BW,

Table 2 Assessment words used to select relevant reflective entries

	Assessment words	
Assess	Grade	Interview
Assessment	Test	Parent
Exam	Quiz	Report
Examination	Formative	Report cards
Assignment	Summative	Reports
Mark	Workload	Reporting
Marking	Time	Feedback
	Performance	
	Data	
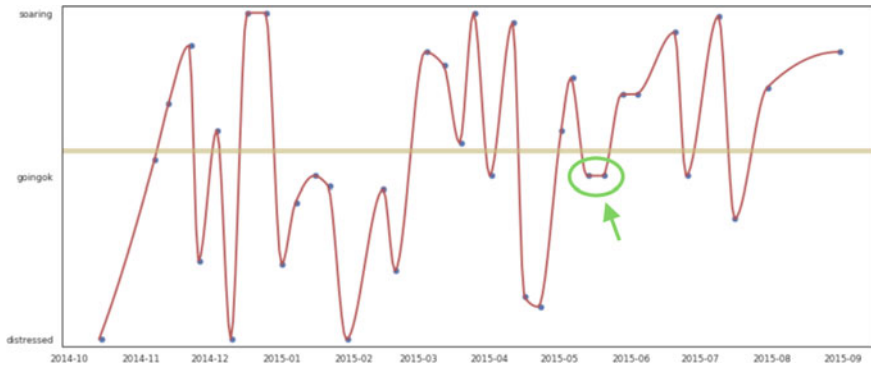
Fig. 4 An example of an assessment reflections with RWA analytic highlights for movbuc, BCSA

Table 3 Frequency of assessment reflections

Year	Code	Number of authors	Number of authors who wrote about assessment	Number of reflections	Number of reflections with assessment words
2013	BCQ	7	7	118	33 (27%)
2014–15	BCSA	8	7	129	20 (15%)
2014–15	BW	5	5	58	17 (29%)

27% of BCQ), and 15% of BCSA). The number reflections for each cohort is shown in Table 3.

The entries where AfL might be implied in pedagogic discussions were not identified by the lexical approach. Simple word matching where there is a lack of ambiguity in word meanings provides a reasonable filtering approach, but for a more detailed analysis, an NLP technique known as topic modelling may need to be employed in future work. Nevertheless, even considering that not all assessment related reflections were identified in the word matching approach, the significant number of reflections identified suggests that assessment is an important topic of reflection for these teachers.

In the RWA report, affective words with a high level of valency and arousal (Warriner, Kuperman, & Brysbaert, 2013) were identified and highlighted in pink (see Fig. 4 for an example). With this lexical analysis, words were identified in the reflections that had previously been quantified (by a crowd-sourcing process) in terms of valence (the positivity or negativity), arousal (the affective strength), and dominance (controlling or being controlled). What was interesting to note was that phrases that might convey emotions to a human reader such as 'really stressful', 'is awful', 'I'm so concerned' and 'feeling a bit sweaty', or the implied pleasure in phrases like 'for the first time EVER' and 'win-win' were not highlighted. This was due to both the

lexical nature of the analysis, and that the affective character of ordinary words is different to words (and expressions) that are intended to convey specific emotions. This means that rarely is a single affective feature sufficient for analysis of the complexity of emotion, and multiple approaches need to be taken. In this analysis, the approach was to extend the analysis to include non-lexical textual features that are proxies for emotional expression. These were annotated in orange and included the use of all capitals (e.g. WOW!, first time EVER), the use of multiple explanation and question marks (e.g. !!!, ?!?!) and the use of repeated vowels (e.g. I am soooooo stressed right now). The RWA also included the extraction of epistemic expressions (e.g. I think, I wonder) annotated with blue highlighting. These tend to be self-evaluative statements that were associated with deliberation in the qualitative analysis, such as 'I'm trying', 'I know these are', 'I realize that this is probably' and 'I am still not really happy with'. These deliberative phrases are highlighted in green and show a temporal relationship between previous and current or future understanding. Finally, the RWA also included 'my' expressions (annotated in yellow). An abductive hunch was that these expressions might be helpful in distinguishing between a personal perspective (e.g. my classroom, my students) and a more objective perspective (e.g. the classroom, the students). This might be helpful for analysis as personal language tends to be associated with a deeper process of reflection indicative of the 'deliberating' and 'dedicating' in the qualitative analysis.

Our RWA enabled the selection of emotion rich entries, foregrounding them for the researcher's close attention, and highlighting features that were not necessarily noticeable from other ECT data. For example the plotpoints related to the reflective entries from Fig. 4 are circled in green in the ECT's plotline in Fig. 5. These reflections are within the middle, or 'GoingOK' range, and would not have triggered a researcher's attention to a particularly high or low emotional 'turning point', if just the plotline was used as a data source.

This nonlinear relationship between emotions in the reflective entries and the measures like the plotline pointed to the need for a range of different reflective writing analytics, to avoid over-interpreting what look like clear data pictures about emotions. Similarly, careful qualitative analysis was required to avoid drawing over-simplistic interpretations based on the purely computational analysis.

7 Socio-technical Inquiry: Investigating Specific Relationships Between Emotions and Assessment Using Reflective Writing Analytics (RWA)

We found in this work that extensive socio-technical interaction was needed to deliberate about possible meanings and generate specific inquiry questions. Socio-technical interaction brings together the strengths of both the computational and socio-cultural analyses, to support the end practical goal of the research. In this case

[2015-05-13 22:12:10.171000] [50]

Micromanaging **parent**.

[2015-05-20 18:15:02.989000] [50] ['i never knew[emotive,0,2]'] {'excited'} {'learning'}

Report writing is really stressful! I'm currently wading through my data which includes
work samples, annecdotal observations and photos. I know the children really well and
the comments section is fine but assigning a **grade** is awful. As example child R is quite
below standard for year 1 but this kid is a learning rock star; he has travelled so far this
year and is SO excited by his learning. However, his report will reflect he is a novice and
I'm so concerned he will be deflated and stop loving school again. I never knew there
was so much to report writing. Also, those darn **parent** who question everything will
want hard evidence of their childs **grade**. Already a bit sweaty thinking about it!

[2015-05-28 12:23:28.425000] [75] {'I learnt', 'learning'}

reports are done. I feel like the God of Comments! I learnt a lot during the process about
diagnostic **assessment** but also it refreshed my mind about **assessment** of learning
versus **assessment** of learning. Also, for the first **time** EVER my computer did not lose
any of my work. win-win.

[2015-06-03 21:23:28.878000] [75]

Feeling like the God of **reports**. Wirh only a few cultural tweeks all of my reports were
ticked off. Feeling good now but just watch this space for when the **parent** read them! Im
working on my Personal Statement for job applications which is making me nervous for
next year, and my mortgage.

Fig. 5 Corresponding entries in the overall plotline for movbuc, BCSA

that goal was to obtain a better understanding of the relationship between assessment
and emotion for early career teachers.

The socio-cultural hunch that assessment reflections were highly associated with
emotional work was the founding 'guess' of the abductive interaction process referred
to previously. This hunch spawned a series of informed guesses about how aspects
of assessment, emotion, and learning might be captured in the teachers' reflective
writing, and what kind of analytical features help make them visible in the RWA
report. The features described previously are the results of this abductive interaction
process.

However, identifying key features in hundreds of separate reflections does not
make visible any relationships between those features. Hence, our socio-technical
interactive approach raised another question: Do the features identified by RWA
support the hunch of a relationship between assessment reflections and emotional
work? And if so, to what extent can this be made visible?

This question led us into a further abductive interactive process centred on using
RWA to visualise the relationship between assessment words and affective features
(both lexical and non-lexical). The result of this inquiry process is shown in the
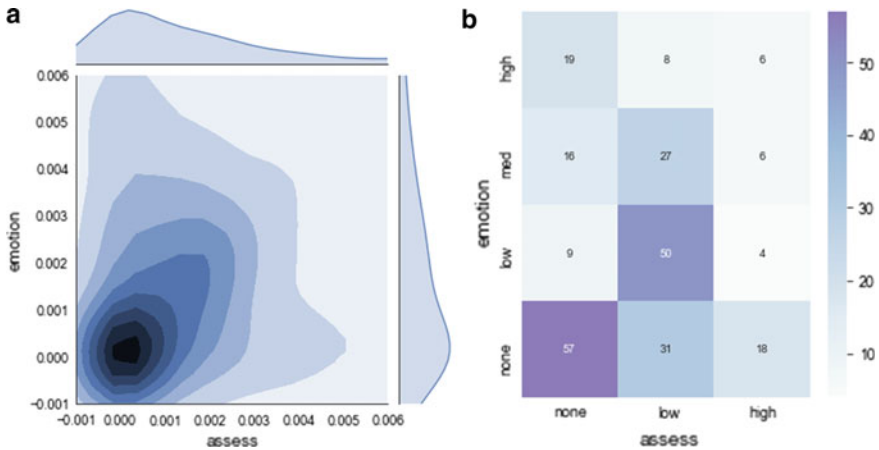
Fig. 6 The relationship between quantities of assessment words and affective features as visualised in **a** a heatmap showing categorical relationships, and **b** a contour plot which relates the distributions

assessment-emotion heatmap (Fig. 6a) and the assessment-emotion contour plot (Fig. 6b).

Prior to creating these visualisations, both the assessment words and the affect features were scaled with respect to the length of each individual reflection. This was to remove the impact of the length of each reflection, which was highly variable. Further, all reflections (including those with no assessment words) were used in the analysis. This ensures that we have a full picture of the reflections, not just those which are identified as relevant to assessment.

The heatmap (Fig. 6a) involved categorising the quantity of assessment words as 'none', 'low', or 'high', and categorising the quantity of emotion words as 'none', 'low', 'medium', and 'high'. This process was done by setting the values that separate the categories (known as bins) to ensure (a) that none accurately reflected 0 features, and that (b) the other categories had roughly similar quantities across the dataset as a whole. The resultant heatmap displays the number of reflections which fall into the two intersecting categories, and higher quantities are visualised with a darker colour. A strong correlation between assessment and emotion in the 'none' and 'low' categories is obvious in the heatmap. Emotional language is still used without assessment words, but it is more common for there to be no emotion when there is no reference to assessment. There are no obvious correlations in the other categories which is not surprising as more assessment words (in any one reflection) do not necessarily mean that the text is more about assessment. Similarly, writing with more affective features (in any one reflection) does not necessarily mean that the author was more emotional at that point in time. This analysis did not include the analysis of authors assessment-emotion use over time, nor did it include an analysis of authors. Those kinds of analyses may prove fruitful in future work.

The contour plot (Fig. 6b) takes the assessment word and emotion/affect feature values for each individual reflection and displays the density of the resultant points.

The darker part of the contour represents and corresponds to correlations between the number of reflections that had 'none' or 'low' assessment words or emotion features that we saw in the heatmap. The lighter parts of the contour represent less reflections. The distributions on each axis show that there were greater numbers of reflections associated with the lower end of the spectrum, particularly for assessment words. This was to be expected, as 235 reflections (77%) did not contain assessment words at all. This contour plot, which is not constructed from categorical data, displays more obviously that when assessment words appear in the reflective writing, there is an increase in emotional expression. That is, there is a clear correlation between assessment words and affective features. Assessment is emotional work.

These two visualisations (Fig. 6) drawn from all 305 reflections provide computational support for our socio-cultural hunch that assessment reflections were highly associated with emotional work. This in turn supports further socio-technical inquiry and the investigation of questions like

(a)   What topics feature frequently alongside assessment topics?
(b)   Do report cards remain a topic of concern over time?

While the RWA has been able to add value to a socio-technical inquiry on a relatively small dataset, it has also shown the potential for scaling the same analysis to larger quantities of reflective writing. As the dataset of reflections grows, some of the observed patterns, together with the additional questions raised, may be able to provide some answers at scale about the assessment experiences of early career teachers, which in turn might inform teacher preparation courses and mentor training for ECTs.

8   Discussion

8.1   Assessment as a Topic of ECT Concern

In the reflective entries, assessment was a topic of 'concern' that was evident for early career teachers. Archer (2003) argues that the reflective process of *discerning*, *deliberating* and *dedicating* ourselves in our daily concerns is a pursuit of our ultimate concern, to live a *modus vivendi*, or life worth living. Assessment topics were situated, and entangled with concerns about student success, collaborations with colleagues, parent expectations, and balancing personal and professional life in their performance of their new teaching roles. Positive emotions were evident when ECTs confidently used data to monitor student progress, saw student success, got positive feedback from parents, or successfully completed new tasks like writing report cards. Emotional words like 'fun', 'excited', 'fantastic' and 'happy' associated with reflective assessment entries. Importantly, there were other emotions highlighted like 'down', 'anxious', 'scared', 'angry' and quite frequently 'worried'.

Managing emotions, tiredness and the assessment relationships with parents, support staff, principals were associated with assessment capability, however these do not feature in Australian ITE policy statements about assessment. For example,

Australian Professional Standard for Teachers 5.5 that focuses on reporting to parents, highlights knowledge of reporting processes. Graduates need to able to '*Demonstrate understanding of a range of strategies for reporting to students and parents/carers and the purpose of keeping accurate and reliable records of student achievement*' (AITSL, 2011). The cognitive and skills focus in the policy document is an important but insufficient descriptor of assessment capability. What is clear from these plotlines, and the reflective entries is the common occurrence of multiple highs and lows, with the turbulence of emotions a stark contrast to the linear representations of assessment capability in policy documents. This information can support and inform teacher educators who already advocate and teach preservice teachers about professional identity and resilience.

8.2 Emotions and Assessment

While it might be easy to dismiss the emotions of ECTs who are engaging with assessment activities like writing report cards or managing their tiredness as just a reality that the ECTS have to deal with, or a right of passage, the RWA results invite us to look again. Emotions reflect an embodied knowledge where the reflective author is engaging in self-assessment in anticipation of social performances, to shape how the author will find meaning in the event (Archer, 2003). Anticipation of events generates a lot of emotional and intellectual work as 'our emotions go before us to meet the future. This means that emotions do not just happen as internal events (which may be true of moods) …they entail cognition about the intentional object' (Archer, 2003, p. 202). Through emotional commentary, authors negotiate practical, social and embodied realities in their lives, trying to strike a balance between their concerns. For teacher educators, these insights can inform preparation programs for preservice teachers, and, in particular, how self-assessment is integral to pedagogical practices in the classroom. Paying attention to the concerns and representations of ECTs can also inform supporters like mentors, principals and system designers, who provide social support for the emotional work of assessment.

8.3 Potential for Collaborative Socio-technical Analysis Between Educators and Learning Analytics Specialists

Assessment data reported at scale is socially convincing and has a washback effect on the work of teachers, often in unhelpful ways (Spina, 2017). As evident in the flurry of commentary in the wake of 2019 international PISA assessment results, large-scale data can lead to normative performance stories that in turn drive reactive policy decisions. An alternative future for assessment data may be possible through learning analytics that enable more local and contextualised educational digital assessment data story telling. Personal self-assessing reflections such as those gathered by GoingOK

have the potential to provide authentic experiential data, especially for small scale assessment data stories as inductive qualitative social analysis is time-consuming work. For larger scale assessment data stories, Reflective Writing Analytics have the potential to honour the experiences of the reflectors while enabling large-scale data analysis that can have meaning for educators and computational analysts alike. Digital tools by themselves cannot achieve this work. Nuanced computational analysis through Reflective Writing Analytics relies on the co-construction of meaning with users. The field of Learning Analytics is still new and there are calls for it to mature beyond exploratory small studies towards larger scale systems and validating studies (Dawson, Joksimovic, Poquet, & Siemens, 2019). More opportunities for collaboration, author facing analytic tools and reports are likely to emerge as the field grows. We propose further investigation through a collaborative socio-technical approach involving teacher educators, classroom teachers and school mentors and leaders.

9   Conclusion

'Teacher assessment capability' is powerful phrase that acknowledges the situated experience of learning to be an assessor over time, yet it is not a concept that has been well researched or understood in Australia to date. This analysis of the emotional work of being an early career assessor points to a productive avenue for research into how to prepare preservice teachers to be assessment capable in their early career experiences. Reflective self-assessment data gathered using GoingOK has enabled day-to-day assessment experiences of early career teachers to be acknowledged and explored. From the analysis in this chapter, reporting and managing the workload of multiple assessment deadlines, and integrating AfL, differentiated pedagogy and behaviour management are highlighted as possible areas for further development in initial teacher education courses. It is acknowledged that university cannot prepare new teachers for every circumstance and that valued learning happens during embedded experience. Knowing more about where the challenges might be for groups of ECTs does provide important data to inform ongoing support.

There are implications for policy as the analytic computational representations of teacher experiences have potential to provide new forms that can enable the local voices of the authors in assessment contexts to be heard. Data from preservice teachers who are learning to assess is currently being gathered in four countries using GoingOK and will enable the research team to understand whether the experiences of Australian preservice teachers are similar or different to those in Canada, England and New Zealand partner universities. It may be that learning to manage the emotional work of assessing is an international assessment capacity that needs to be taught in practice and in initial teacher education.

Glossary

Abductive reasoning Abductive reasoning is sometimes known as inference to the best explanation, and can be thought of as the guess which provides the most likely explanation for a surprising phenomenon. It is contrasted to inductive reasoning where generalisations are made from specific observed phenomena, and deductive reasoning which involves reaching a logical conclusion from given premises by following rules of deductive logic.

Reflective Writing Analytics (RWA) RWA uses natural language processing (NLP) technologies to computationally analyse reflective text, interacting with human insights for the purposes of scalable meaning-making (Gibson, 2017).

Socio-technical analysis Socio-technical analysis is a dialogue between human deliberations and generated computational analytics. This dialogue is focused towards a dedication to a practical outcome—the application of the analytics to support further action.

Transepistemic Abduction (TeA) TeA is the application of abductive reasoning that occurs across two or more distinct epistemic domains towards a productive end that cannot be reached from a single domain (Gibson, 2017).

References

AITSL (Australian Institute for Teaching and School Leadership). (2011). National professional standards for teachers. https://www.aitsl.edu.au/teach/standards.

Alonzo, D. (2016). *Development and application of a teacher assessment for learning (AfL) literacy tool (Unpublished doctoral dissertation)*. Australia: University of New South Wales.

Archer, M. (2003). *Structure, agency and the internal conversation*. Cambridge: Cambridge University Press.

Ball, S. (2003). The teacher's soul and the terrors of performativity. *Journal of Education Policy, 18,* 215–228. https://doi.org/10.1080/0268093022000043065.

Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education, 20*(2), 107–128.

Boud, D. (1995). Assessment and learning: contradictory or complementary. *Assessment for Learning in Higher Education,* 35–48.

Bourke, T., Ryan, M., & Lloyd, M. (2016). The discursive positioning of graduating teachers in accreditation of teacher education programs. *Teaching and Teacher Education, 53,* 1–9.

Bourke, R., & Mentis, M. (2013). Self-assessment as a process for inclusion. *International Journal of Inclusive Education, 17*(8), 854–867.

Charteris, J., & Dargusch, J. (2018). The tensions of preparing pre-service teachers to be assessment capable and profession-ready. *Asia-Pacific Journal of Teacher Education, 46*(4), 354–368.

Churchward, P., & Willis, J. (2019). The pursuit of teacher quality: Identifying some of the multiple discourses of quality that impact the work of teacher educators. *Asia-Pacific Journal of Teacher Education, 47,* 1–14. https://doi.org/10.1080/1359866X.2018.1555792.

Cope, B., & Kalantzis, M. (2016). Big Data Comes to School: Implications for Learning, Assessment, and Research. *AERA Open, 2*(2), 2332858416641907.

Crosswell, L., Willis, J., Morrison, C., Gibson, A., & Ryan, M. (2018). Early career teachers in rural schools: Plotlines of resilience. In *Resilience in education* (pp. 131–146). Cham: Springer.

Dawson, S., Joksimovic, S., Poquet, O., & Siemens, G. (2019, March). Increasing the impact of learning analytics. In *Proceedings of the 9th International Conference on Learning Analytics & Knowledge* (pp. 446–455). ACM.

Dewey, J. (1933). Philosophy and civilization. *Philosophy, 8*(31), 360–361.

Eacott, S. (2017). School leadership and the cult of the guru: the neo-Taylorism of Hattie. *School Leadership & Management,* 1–14.

Gibson, A. P. (2017). *Reflective writing analytics and transepistemic abduction* (Doctoral dissertation, Queensland University of Technology).

Gibson, A. P., & Lang. C. (2018). The pragmatic maxim as learning analytics research method. In *Proceedings of the 8th International Conference on Learning Analytics and Knowledge* (LAK '18) (pp. 461–465). New York, NY, USA: ACM. DOI: https://doi.org/10.1145/3170358.3170384.

Gibson, A. P., & Willis, J. (in press). Ethical challenges and guiding principles in facilitating personal digital reflections. In C. Burr & L. Flioridi (Eds.), *Ethics of digital well-being: A multi-disciplinary approach.* Cambridge: Cambridge University.

Hill, M. F., Ell, F. R., & Eyers, G. (2017). Assessment capability and student self-regulation: The challenge of preparing teachers. In *Frontiers in education; assessment, testing and applied measurement* (Vol. 2, p. 21). https://doi.org/10.3389/feduc.2017.00021.

Kelchtermans, G. (2005). Teachers' emotions in educational reforms: Self-understanding, vulnerable commitment and micropolitical literacy. *Teaching and Teacher Education, 21*(8), 995–1006.

Klenowski, V. (2011). Assessment for learning in the accountability era: Queensland. *Australia. Studies in Educational Evaluation, 37*(1), 78–83.

Loughran, J. J. (2002). Effective reflective practice: In search of meaning in learning about teaching. *Journal of Teacher Education, 53*(1), 33–43.

Looney, A., Cumming, J., van der Kleij, F., & Harris, K. (2017). Reconceptualising the role of teachers as assessors: teacher assessment identity. *Assessment in Education: Principles, Policy & Practice.* https://doi.org/10.1080/0969594x.2016.1268090.

Lupton, D. (2016). *The quantified self.* Wiley.

Morrison, C., Willis, J., Crosswell, L., & Gibson, A. (2014). Turning points in narratives of research design: Research innovation stimulating unique responses to existing challenges for beginning rural teachers. *The Journal of Educational Enquiry, 13*(1), 3–17.

Panadero, E., Andrade, H., & Brookhart, S. (2018). Fusing self-regulated learning and formative assessment: A roadmap of where we are, how we got here, and where we are going. *The Australian Educational Researcher, 45*(1), 13–31.

Peirce, C. S. (1905). What pragmatism is. *The Monist, 15*(2), 161–181.

Pennebaker, J. W., & Seagal, J. D. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology, 55*(10), 1243–1254.

Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science, 18*(2), 119–144.

Schon, D. A. (1983). *The reflective practitioner: How professionals think in action.* New York: Basic Books.

Sellar, S., Rutkowski, D., & Thompson, G. (2017). *The global education race: Taking the measure of PISA and international testing.* Edmonton, Alberta: Brush Education.

Slade, S., & Prinsloo, P. (2013). Learning analytics: Ethical issues and dilemmas. *American Behavioral Scientist, 57*(10), 1510–1529.

Smith, R. (2017). The emergence of the quantified child. *Discourse: Studies in the Cultural Politics of Education, 38*(5), 701–712.

Spina, N. (2017). The global testing culture: Shaping education policy, perceptions and practice. *Journal of Education for Teaching, 43*(2), 267–269.

Swaffield, S. (Ed.). (2008). *Unlocking assessment: Understanding for reflection and application.* Routledge.

Thompson, G., & Mockler, N. (2016). Principals of audit: Testing, data and 'implicated advocacy'. *Journal of Educational Administration and History, 48*(1), 1–18.

Warriner, A. B., Kuperman, V., & Brysbaert, M. (2013). Norms of valence, arousal, and dominance for 13,915 English lemmas. *Behavior Research Methods, 45*(4), 1191–1207.

Williamson, B. (2016). Coding the biodigital child: The biopolitics and pedagogic strategies of educational data science. *Pedagogy, Culture & Society, 24*(3), 401–416. https://doi.org/10.1080/14681366.2016.1175499.

Willis, J., Adie, L., & Klenowski, V. (2013). Conceptualising teachers' assessment literacies in an era of curriculum and assessment reform. Australian Educational Researcher, 40, 241–256. https://doi.org/10.1007/s13384-013-0089-9

Willis, J., & Cowie, B. (2014). Assessment as a generative dance. In Claire Wyatt-Smith, Val Klenwoski, & Peta Colbert (Eds.), *Designing assessment for quality learning* (pp. 23–37). Dordrecht: Springer.

Willis, J., Crosswell, L., Morrison, C., Gibson, A., & Ryan, M. (2017). Looking for leadership: The potential of dialogic reflexivity with rural early-career teachers. *Teachers and Teaching,* 1–16.

Willis, J., & Klenowski, V. (2018). Classroom assessment practices and teacher learning: An Australian perspective. In *Teacher learning with classroom assessment* (pp. 19–37). Singapore: Springer.

Wyatt-Smith, C., & Gunn, S. (2009). Towards theorising assessment as critical inquiry. In *Educational assessment in the 21st century* (pp. 83–102). Springer, Dordrecht.

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Chapter 7
Responding to Teacher Quality Through an Evidence-Informed Wellbeing Framework for Initial Teacher Education

Mathew A. White and Faye McCallum

Abstract The OECD reports that 99% of teachers believe that student wellbeing is important. However, pre-service teachers are challenged as they enter the teaching profession, as many do not associate discipline-specific learning and teaching with wellbeing and they are not well equipped with strategies to influence belonging and engagement. We ask, how can initial teacher education programs integrate an evidence-informed wellbeing framework in pre-service teachers' education as a response to global issues? Rather than focusing on the content of a wellbeing framework, or the pre-service teacher wellbeing this chapter outlines the process to create an evidence-informed wellbeing framework in pre-service teachers' education. We argue for a two-step method, Stage 1—Appreciative inquiry process—at the strategic level and Stage 2—Carpe Diem process—at the program level. The purpose is to develop meaningful connections between wellbeing topics, points of discussion with pre-service teachers, and links to the Australian Professional Standards for Teachers.

1 Introduction

While schools adopt policies, programs, and practices to address wellbeing issues and maintain their focus on enhancing student learning outcomes, initial teacher education (ITE) fails to keep pace (Allen, Kern, Vella-Brodrick, & Waters, 2018; Sachs et al., 2019). In the Australian context, ITE is criticised from several commentators for not preparing graduate teachers to address declining standards in reading, mathematics and science with "rapid declines … observed amongst the country's lowest-achieving students" (OECD, 2019a, p. 1; White & Murray, 2015). We argue pre-service teachers are challenged as they enter the teaching profession, as many do not associate learning and teaching with wellbeing. They are not well

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equipped with strategies to influence positive school climate, belonging and engagement. The complexity of the landscape challenges many regarding expectations of being classroom-ready, student dynamics, ethical challenges and the differentiation required of emerging professionals (ACER, 2019; Adler & Seligman, 2016; Allen et al., 2018; Allen, Vella-Brodrick, & Waters, 2017; Jarden, Rashid, Roache, & Lomas, 2019; Lomas, Roache, Rashid & Jarden, 2019; McCallum & Price, 2010; McCallum, Price, Graham, & Morrison, 2017; Powell & Graham, 2017).

The OECD Teaching and Learning International Survey 2018 Australian Report notes that 99% of teachers believe that student wellbeing is important. Yet, paradoxically, intimidation and verbal abuse are issues for the long-term retention of staff (ACER, 2019, p. 56, 143). Volume III of the 2018 Programme for International Student Assessment (PISA) test report recognises that,

> a positive school climate is one of those things that is difficult to define and measure, but everyone – including parents – recognises it when they see it. The state of the school's facilities, the tone of the conversations in corridors, the enthusiasm of the school staff and the way students interact during breaks are some of the signs that visitors can read to quickly and broadly assess a school's climate. (OECD, 2019b, p. 15)

The report also notes that "23% of students reported being bullied at least a few times a month; 8% of students were classified as being frequently bullied" on average across OECD countries (OECDb, 2019a, p. 47). In Australia, "30% of students reported being bullied at least a few times a month [and] … 33% of students had skipped a day of school and 46% of students had arrived late for school during that period" (OECDb, 2019a, p. 8). Furthermore, "On average across OECD countries, students' sense of belonging generally deteriorated between 2015 and 2018" (OECDb, 2019a, p. 132). In response to this data over the past decade, school leaders across the world have been increasingly concerned about wellbeing, while simultaneously and systematically addressing the learning outcomes of students (Adler, 2017; Heller-Sahlgren, 2018; OECD, 2017, 2019b; Powell & Graham, 2017; Waters, White, Wang, & Murray, 2015).

A challenge for the field, and a significant limitation of existing wellbeing approaches, is the equity of access to evidence-informed approaches (Spratt, 2016; White & Kern, 2018). We argue for an equitable and sustainable approach to wellbeing. Integrating an evidence-informed wellbeing framework as part of ITE from the outset is one of the most effective responses. We argue that this will better prepare pre-service teachers regardless of where they teach. It is a pathway to show pre-service teachers how to teach wellbeing to their future students.

This chapter summarises the design of an evidence-informed wellbeing framework for professional practice in an accredited initial teacher education program at the University of Adelaide (Sachs et al., 2019). The intended audience for this chapter includes teacher educators, researchers, and school leaders. First, we provide an overview of the current international and national trends of wellbeing in initial teacher education. The research question is posed to frame the chapter to investigate the context of the debate in the field. Here, we establish a practice and research gap concerning school students' wellbeing—recent advances in schools

and initial teacher education are evaluated. Next, we analyse the differences between evidence-based and evidence-informed professional practice and its implication. We then explore definitions of wellbeing. The operational definition of wellbeing for the chapter is proposed. An overview of the project's two stage theoretical framework to respond to the research is outlined, Stage 1—Appreciative inquiry process—strategic level and Stage 2—Carpe Diem Process—program level. We then describe the study's methodology. Last, we argue that the majority of wellbeing education has focused on the deficit or resilience models and that this chapter outlines a highly innovative two-stage process to re-consider twenty-first-century capabilities and innovations in teacher preparation programs.

In part, the chapter responds to a significant research-to-practice gap identified by Brunzell, Stokes and Waters (2019), Brunzell, Waters and Stokes (2015) and Kristoffersen (2018) in what Oades' (2017) characterises as wellbeing literacy or "the vocabulary, knowledge and skills that may be intentionally used to maintain or improve the wellbeing of oneself or others" (pp. 169–173). We ask:

> How can initial teacher education programs integrate an evidence-informed wellbeing framework in pre-service teachers' education as a response to global issues?

We address the research question by focussing our chapter on a two-step method to integrate an evidence-informed wellbeing framework in pre-service teachers' education using Cooperrider and Srivastva's (1987) Appreciative Inquiry 4-D cycle with the School of Education Advisory Board to co-create wellbeing graduate learning outcomes. Next, we outline how Salmon and Wrights' (2014) Carpe Diem learning design process is used at the program level in Bachelor of Teaching and Master of Teaching degrees to develop connections between wellbeing topics, points of discussion with pre-service teachers, and links to the Australian Professional Standards for Teachers with selected references. Thus, rather than focusing on a wellbeing framework, this chapter outlines the process used to create and integrate an evidence-informed wellbeing framework in pre-service teachers' education as a response to global issues and provides an example of how the two methods can stimulate program renewal as a response to global issues.

2 Literature

Allen, Rowan and Singh (2019) highlight that teaching is a complicated, but influential, profession. The 2018 PISA test report argues, "On average across OECD countries and in 43 education systems, students who perceived greater support from teachers scored higher in reading, after accounting for the socio-economic profile of students and schools" (OECD, 2019a, p. 15). For example, over the past decade, international studies by Brooks, Carroll, Gillies and Hattie (2019), Brooks, Huang, Hattie, Carroll, and Burton (2019), Darling-Hammond (2017), Donohoo, Hattie, and Eells (2018), Hawthorne, Vella-Brodrick and Hattie (2019), Hattie (2009), Hattie and Anderman (2013), Wisniewski, Zierer, and Hattie (2020), Podolsky, Kini,

Darling-Hammond and Bishop (2019), Rubie-Davies, Peterson, Sibley, and Rosenthal (2015) and Wyn (2009) establish that teachers are the most critical in-school factor affecting student outcomes. However, it is mooted that up to 53% of beginning teachers leave the profession within the first 5 years globally. Over a decade ago, Moon (2007) warned that teachers were leaving due to "burn-out", increasing demands, a crowded curriculum, societal issues, administrative burdens, accountability, results-driven attitudes, challenging behaviours, and mounting stress on families and communities. The impact of teachers leaving is a loss of quality teaching graduates, which undermines the long-term development of an educated, healthy workforce (Ford, Olsen, Khojasteh, Ware, & Urick, 2019; Holmes, Parker, & Gibson, 2019).

Aspiring teachers want to contribute positively to learning with school students but are overwhelmed with the complexity of their roles. They grapple with professional identity and are confronted by poor school literacy and numeracy. In a review of the effectiveness, barriers, and facilitators for initial teacher education to promote wellbeing issues in schools, Shepherd et al. (2016) examined 20 studies from the United Kingdom and Australia. Shepherd et al. note a short-term increase in pre-service teachers' confidence in engaging in wellbeing discussions, but many participants reported a lack of confidence to "effectively address the health and education needs of school pupils" (p. 721).

Teachers' wellbeing itself plays a significant role in the attraction, retention, and sustainability of the profession (Harding et al., 2019; Virtanen, Vaaland, & Ertesvåg, 2019; McCallum & Price, 2016; McCallum et al., 2017). We argue for integrating an evidence-informed wellbeing framework in initial education to establish the importance of wellbeing early in a teaching candidate's journey (Waters & Loton, 2019; Price & McCallum, 2014). Initial teacher education is an essential factor in graduating quality teachers. Therefore, it is critical that teachers are well and able to contribute to the social, emotional, cognitive, spiritual, and physical wellbeing of their students (White & Kern, 2018; McCallum & Price 2010). There is a dearth of literature on the inhibitors of teacher wellbeing, with a focus on resilience. There are universal challenges in this field: attracting candidates with a combination of academic strengths and character qualities into initial teacher education, retaining the best teachers in the profession, and gathering evidence of classroom readiness. Initial findings from a collaborative study by McCallum, Price et al. between the University of South Australia and St Mary's College, London in 2016 highlights how, for newly qualified teachers, the everyday complexities of teachers' work play a significant role in their effectiveness and decision-making in relation to staying in the profession. For many, they feel underprepared for this transition.

2.1 Evidence-Based or Evidence-Informed?

In Australia, initial teacher education has placed a greater focus on evidence-based practice. Recently, the terms evidence-based and evidence-informed approaches are being used interchangeably. The long-term goal is to equip graduate teachers with

pedagogies that will have a positive impact on student learning outcomes (AITSL, 2017). The intention is that graduates will also use data to inform teaching strategy, objectives, and measurable outcomes. The emphasis on the use of data, or evidence, to inform decision-making will enable teachers to know and understand their impact in and outside of the classroom, seek evidence to verify or challenge perceptions, and map student learning growth. Traditionally associated with the sciences and medicine, evidence-based strategies have become an integral part of the international discourse of professional practice.

In the medical context, evidence-based approaches are defined by Sackett, Rosenberg, Gray, Haynes, and Richardson (1996) as

> the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. By individual clinical expertise, we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice. (pp. 71–72)

While evidence-based approaches are discussed widely by teachers and school leaders and have been included in various policy documents, more recently, evidence-informed practice has emerged as an alternative process. This process comes in response to critiques and limitations of evidence-based practice that assert it trains teachers as technicians rather than educators. On the other hand, evidence-informed approaches adopt a more holistic approach. It integrates quantitative studies providing significant evidence to support the decision-making process (McLean Davies et al., 2017; Peters, Cowie, & Menter, 2017). Evidence-informed approaches are person-centred and include qualitative methods. This is instead of solely relying on quantitative evidence. In this chapter, we argue for an evidence-informed approach to professional practice as it places the focus on the person, culture, and context (McLean Davies et al., 2013).

2.2 Defining Wellbeing

Over the past two decades, there has been exponential growth in the research and practice of wellbeing education across a range of fields, including organisations, healthcare, and public policy. It manifests in many forms, sometimes called character education, learning, and teaching for 21st-century skills (World Economic Forum, 2016; Lavy, 2019), social and emotional learning, wellbeing education, and positive education (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009; Waters & Loton, 2019; White & Murray, 2015). Some wellbeing theories focus on emotion (*hedonic* wellbeing); some emphasise *eudemonic* elements. Dodge, Daly, Huyton and Sanders (2012), Huppert (2017), Thorburn (2015), McCallum and Price (2016) and Waters and Loton (2019) recognise that while wellbeing is significant, it is challenging to define. Diener (1984) asserts that wellbeing includes both affective and cognitive elements. For example, Ryff and Keyes (1995) assert that psychological wellbeing

consists of six domains (self-acceptance, positive relationships with others, autonomy, environmental mastery, purpose in life, personal growth). Keyes (2002) extends his earlier work and claims that wellbeing includes high emotional, psychological, and social wellbeing.

Conversely, Seligman's (2011) PERMA theory advocates that wellbeing comes from five pillars (positive emotion, engagement, relationships, meaning, and accomplishment). Huppert and So's (2013) model defines ten components of flourishing that are opposite to the main symptoms of depression and anxiety (competence, emotional stability, engagement, meaning, optimism, positive emotion, positive relationships, resilience, self-esteem, and vitality). Rusk and Waters (2015) and Waters, Sun, Rusk, Cotton, and Arch (2017) derive an empirical model of a five-domain model of positive functioning (comprehension and coping, attention and awareness, emotions, goal and habits, and virtues and relationships).

More recently, Waters and Loton (2019) have extended previous research to propose "a data-driven, meta-framework to support evidence-based decisions for researchers and practitioners when designing, investigating and implementing positive education intervention". This framework is based on a bibliometric review of 18,403 positive psychology studies. The two-stage research design identifies six overarching pathways to wellbeing that form the SEARCH framework: (1) strengths, (2) emotional management, (3) attention and awareness, (4) relationships, (5) coping, and (6) habits and goals. PISA 2018 defines student wellbeing as "the psychological, cognitive, material, social and physical functioning and capabilities that students need to live a happy and fulfilling life" and identifies five domains of student well-being identified in the Framework for the Analysis of Student Well-Being in the PISA 2015 Study (OECD, 2019b, p. 40). These domains are cognitive, psychological, physical, social and material wellbeing (Borgonovi & Pál, 2016).

As Fraillon (2004) contends, because of a lack of specificity around notions of character and wellbeing, the education sector is presented with an ironic paradox: there is unequivocal consent that it is essential to consider, monitor, and respond to wellbeing, yet there is little sector-wide consensus on what it is (Fraillon, 2004, p. 16). Fraillon's paradox supports Marsh, Huppert, Donald, Horwood, and Sahdra's (2019) contention that wellbeing in notorious difficult to define and measure. There are many definitions of subjective wellbeing, and they can be measured. In the literature, terms such as "happiness", "subjective wellbeing", "thriving", and "flourishing" are often used interchangeably. Definitions of wellbeing, often used with the term "flourishing" interchangeably, emphasise emotional states (*hedonic* wellbeing), and others underscore the importance of eudemonic elements, influenced by Aristotelian virtue-ethics. Today, there is increasing recognition of the importance of the personal qualities of teachers and the teaching of character (Kim, Jörg, & Klassen, 2019). Widespread attempts to define wellbeing education exist in psychology, sociology, philosophy, and other sectors. It is a term commonly used in education and has been extensively researched for over forty years, resulting in various proposed projects, initiatives, models, and strategies to improve one's wellbeing with the goal to achieve human flourishing.

This chapter adopts Huppert and So's (2013, p. 838) definition of wellbeing that it is "feeling good and functioning effectively" in the context of developing quality teachers. In addition, the application of character within the field of wellbeing education has attracted considerable attention from researchers, practitioners, and policymakers. White and Waters (2015) and Berkowitz and Bier (2004) summarise character education as an approach that "seeks to ensure that a student's academic abilities are developed in unison with his/her character" (White & Waters, 2015, p. 69), which aligns with the positive education movement (Seligman et al., 2009). While this growth is promising a more holistic approach to learning and teaching, it has also been met with various critiques, both within academia and beyond (e.g., Ciarrochi, Atkins, Hayes, Sahdra, & Parker, 2016; Kristjánsson, 2007, 2012, 2015; Langer Primdahl, Reid, & Simovska, 2018; White, 2016).

3 Theoretical Framework

This study adopts two theoretical frameworks to co-create an evidence-informed wellbeing framework. In stage one, an appreciative inquiry process at a strategic level is employed with the School of Education's advisory board, as illustrated in Fig. 1. In stage two, the Carpe Diem model is implemented at a program-development stage with the academics who co-designed the initial teacher education courses. In higher education change, program design, redevelopment, and renewal are not always aligned with course content and may be deficit-oriented in approach. Therefore, after an evaluation of various traditional strategic planning processes, Cooperrider and Srivastva's (1987) appreciative inquiry process was selected as the most effective method for phase one, with the aim of aligning the topic of wellbeing and strengths with a positive approach to the process of change.

The wellbeing framework is one of the three main strategic initiatives of the School of Education at the University of Adelaide which aims to strengthen initial teacher education programs. This strategic objective is explicitly linked with the school's strategy for initial teacher education and graduate attributes. This objective

Stage 1: Strategic Level
- School of Education's Advisory Board
- 4-D Appreciative inquiry Cooperrider and Srivastva's (1987)

Stage 2: Program Level
- Program academics
- Carpe Diem — 'seize the day' – learning-design process (Salmon and Wrights, 2014)
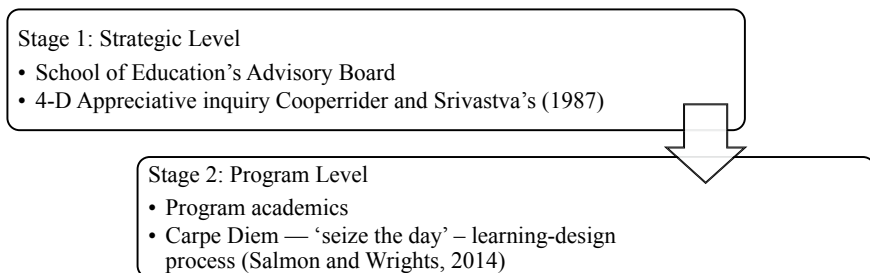
Fig. 1 Stages 1 and 2 of the Theoretical Framework

is adopted in response to the evidence of growing issues of adolescent mental health and wellbeing highlighted in the international literature. It is reinforced by feedback from educational leaders and school principals who are members of the School of Education's Advisory Board, made up of representatives from the Department for Education, Catholic Education South Australia, the Independent Schools Association of South Australia, the South Australian Certificate of Education (SACE) Board of South Australia, and principals from all sectors and systems across the state.

3.1 Stage 1-Appreciative Inquiry Process-Strategic Level

Appreciative inquiry investigates the positive core of an individual, group, or systems (Cooperrider & Srivastva, 1987; Cooperrider & Whitney, 2000). First proposed by Cooperrider and Srivastva (1987), international research illustrates the process has a significant impact across organisational development. It is considered one of the most influential theories in organisational change (Cooperrider & Srivastva, 2013). Appreciative inquiry leaves behind "deficit-oriented" methodologies (Cooperrider, Whitney, & Stavros, 2008, p. 1) and concentrates on what is working well or the strengths at an institutional, group, and personal level. In this study, the affirmative topic chosen to guide the 4-D process is *quality teachers*. White and Waters (2015, p. 20) define the appreciative inquiry cycle (AI) as "a systematic, holistic, and collaborative methodology that follows a strengths-based model of change in order to uncover the positive core of an organization" (Cooperrider & Sekerka, 2003; Cooperrider & Whitney, 2000; Filleul & Rowland, 2006; Cooperrider, Whitney, & Stavros, 2008, p. 40). Using the appreciative inquiry cycle for all levels of a group or organisation is part of the inquiry process that focuses on the strengths within a system. These strengths are used as the basis to create change. Cooperrider and Whitney (2005) assert that this approach is substantially different from the more typical organizational development approaches to creating strategic change that follow a deficit-based approach to diagnosing problems and errors.

In Cooperrider and Srivastva's (1987) 4-D cycle, the researcher adopts the following process of inquiry: **D**iscovery–what gives life? **D**ream–what might be? **D**esign–how it can be? and **D**estiny–what it will be? In this study, all stages of the 4-D cycle are adopted as illustrated in Fig. 2. The Head of School facilitates the appreciative inquiry workshop with academics well-versed in the application of appreciative inquiry theory. Following the 4-D cycle, the workshop poses a series of provocative questions to the Advisory Board. In adopting the process, the facilitators engage in what Cooperrider and Srivastva (1987) describe as the constructivist, simultaneity, poetic and anticipatory principles of appreciative inquiry. The constructivist principle determines what the group does. The simultaneity principle is employed as the inquiry into the wellbeing framework commences. These seeds of change determine the direction of the programs and courses. The poetic principle engages the experience of academics lecturing into programs, and the anticipatory principle is the outcome of the wellbeing framework determined by what was achieved during the
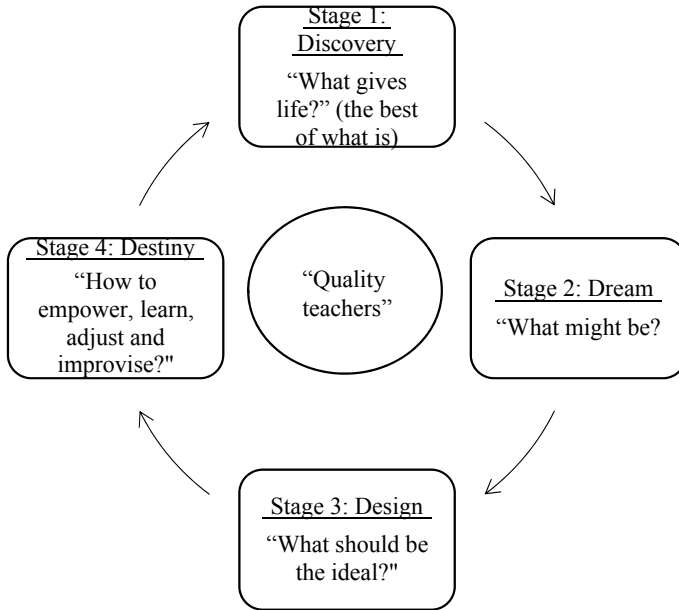
Fig. 2 Stage 1—The appreciative inquiry 4-D cycle (adapted from Cooperrider, Whitney, & Stavros, 2008, p. 34)

co-design process (Whitney & Trosten-Bloom, 2018). In designing the appreciative inquiry process, participants are asked to consider the past, present and future experience of the School of Education's pre-service teachers. Therefore, the constructivist principle underpins the inquiry so that academics are constantly challenged to engage in critical thinking and meaning-making throughout the program. The poetic principle engages the interdisciplinary experience of academics lecturing in programs. As the process unfolds, the final outcome of the wellbeing framework is determined by what is achieved during the co-design process using the anticipatory principle.

3.2 *Stage 2—Carpe Diem Process—Program Level*

Next, we outline Salmon and Wrights' (2014) Carpe Diem—'seize the day'—learning-design process. This is the theoretical framework used to create the wellbeing framework at the program level. At an operational level, academics collaborate to write the aspirational elements of the framework structure, storyboard units of work, build prototypes, and review and determine next steps. The Carpe Diem process is adopted due to its highly collaborative nature. A brand-new element of the initial teacher education programs, the wellbeing framework and strategy was developed using this team-based approach to ensure academics co-designed this pillar

of our offering. The strength of the Carpe Diem process is that it enables the team to integrate the latest advances in wellbeing science into the pedagogical programs delivered as part of initial teacher education. First developed by Salmon (2011), the Carpe Diem process has been used extensively in the introduction of new applications with an emphasis on online learning management systems. Secondly, the Carpe Diem approach seeks to integrate e-technologies into a student's learning experience and place the student experience at the centre of the development of programs and courses (Slamon, 2013). The method has been adopted internationally, with many universities using it as a process to create MOOCs, both online and in blended learning (Usher, MacNeill, & Creanor, 2018). Significantly, this process enables individual academics, traditionally responsible for different courses, to collaborate as teams and develop a more cohesive set of program learning outcomes. The team approach also enables relationship-building between academics and the alignment of the program with individual course learning outcomes.

4   Methodology

4.1   The Application of an Appreciative Inquiry Process

Following a traditional **S**trengths, **W**eakness, **O**pportunities and **T**hreats (SWOT) analysis of the School of Education programs, six appreciative questions were presented to the Advisory Board. These questions were mapped against the four stages of Cooperrider and Srivastva's (1987) appreciative inquiry cycle and based on previous appreciative inquiry summits documented by Waters, White, and Murray (2012), Waters, White, Wang, and Murray (2015) and Waters and White (2015). The appreciative questions posed were:

- What are our teaching program strengths? (Stage 1: Discovery)
- How can the university, school leaders, schools, and systems collaborate to enhance our program development? (Stage 1: Discovery)
- What wellbeing research can we include in our initial teacher education programs to build on that success and create a wellbeing framework? (Stage 1: Discovery)
- Imagine the ideal graduate from our wellbeing framework. What do they look like? What do they know? What are they able to do? What is their impact? How are they interacting with other colleagues? (Stage 2: Dream)
- What would success look like for pre-service teachers, partner schools, the profession? (Stage 3: Design)
- How would we (as a School of Education) know that we are succeeding? (Stage 4: Delivery).

Based on the output from the Advisory Board and appreciative inquiry workshop, the Head of School and the Chair of one of the School of Education's research groups

drafted the learning objectives for the wellbeing framework. Graduates would be able to:

- Exhibit an understanding of wellbeing within current contexts and transfer this knowledge to complex classrooms and institutions;
- Evaluate a number of approaches to wellbeing pedagogy and curriculum development;
- Critique a range of research, relating to specific curriculum areas;
- Influence a "best practice" model of wellbeing education for teachers and learners.

4.2 The Application of the Carpe Diem Process

Based on previous literature outlining the strengths and limitations of Carpe Diem workshops, the wellbeing framework learning outcomes and objectives were agreed upon in advance prior to the development of the wellbeing framework. In this way, we adopted Salmon's (2019) philosophy of starting the Carpe Diem process with an end in mind. After the co-design of the graduate *learning objectives,* a wellbeing discussion paper was written by White and McCallum. The purpose of the paper was to act as a catalyst for discussion with program directors, course coordinators and lecturers in the Bachelor of Teaching and Master of Teaching. The wellbeing discussion paper highlighted the major claims of Immordino-Yang and Damasio's (2007) foundational article "We feel, therefore we learn". Immordino-Yang and Damasio's (2007) contended that neuroscience was establishing "greater connections" between and across the fields of "emotion" and "social functioning" which could "revolutionize our understanding of the role of affect in education" (pp. 3–4). Furthermore, Immordino-Yang and Damasio (2007) assert that "aspects of cognition that we recruit most heavily in schools, namely learning, attention, memory, decision making, and social functioning, are both profoundly affected by and subsumed within the processes of emotion" (p. 3).

The discussion paper positioned wellbeing first in the Australian, and then in an international context, thereby placing the field within the broader research over the past twenty years. The finding of the 2018 and 2019 Mission Australia Youth Survey Reports were emphasised (Carlisle et al., 2018, 2019) and the education sections of the Global Happiness Report 2018 and the Global Happiness and Wellbeing Policy Report 2019 were examined (Sachs et al., 2018, 2019). The paper contended that scholars now have a greater knowledge and understanding of child and adolescent wellbeing and its role in education. This was a result of advances in the links between student learning, wellbeing and a greater understanding of mental health more broadly (Waters et al. 2017, pp. 245–246). In addition, the discussion paper highlighted Waters and Loton's (2019) recent SEARCH meta-framework for wellbeing education. The SEARCH meta-framework was developed from a two-stage process: first, "a large-scale bibliometric review and thematic grouping of topics based
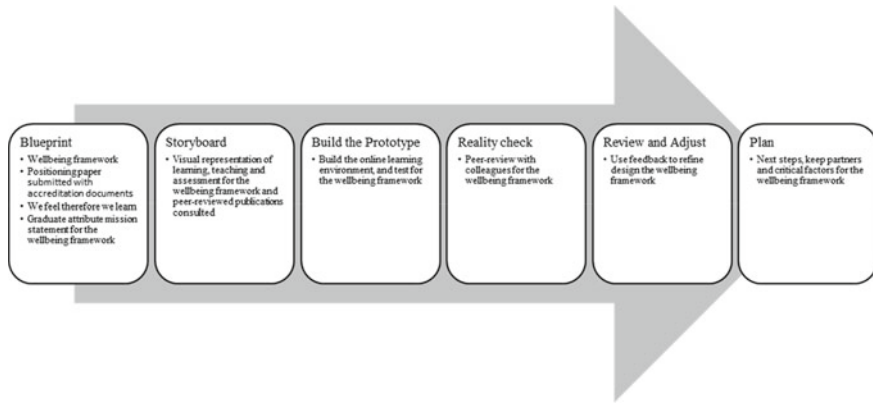
Fig. 3 The carpe diem process for the development of the wellbeing framework (Author adapted from Salmon & Wright, 2014)

on natural language processing of over 18,403 positive psychology studies", and second, "action-research with ten schools testing the practical validity of the wellbeing themes identified in stage one with educators". This aided "designing, investigating and implementing" wellbeing research, application and program development (Waters & Loton, 2019, p. 1). The outcome of stage one and two of the Waters and Loton's research was the SEARCH framework focused on six domains: (1) strengths, (2) emotional management, (3) attention and awareness, (4) relationships, (5) coping and (6) habits and goals.

As summarised in Fig. 3, there were six steps to the course development process which guided the selection of topics covered throughout the Bachelor of Teaching and Master of Teaching. The Carpe Diem steps were blueprint, storyboard, build the prototype, reality check, review, adjust and plan. Over one day, the process enabled the team to integrate the wellbeing framework across the Bachelor of Teaching and Master of Teaching degrees. With the aid of a learning designer as an independent facilitator from the university's learning enhancement and innovation team, this process helped academics to conceptualise, create, and build the wellbeing framework and determine how this fitted within the professional practice placements of the programs.

4.3   Examples of the Integration of Wellbeing Topics with the Australian Professional Standards for Teachers

The Carpe Diem process stimulated much discussion as the group considered a blueprint for various topics that would be explored during the duration of the Bachelor of Teaching and Master of Teaching programs. During the storyboarding phase of the Carpe Diem as outlined in Table 1, examples of topics were considered. The

Table 1 Summary of wellbeing topics, APST standards, discussion points and sample readings

Wellbeing topic	APST standards	Discussion points with pre-service teachers	Sample readings
Appreciative inquiry	1.1., 1.2., 1.5., 1.6., & 4.1	How can appreciative inquiry be used to strengthen student-teacher interactions?	Waters, L., & White, M. (2015). Case study of a school wellbeing initiative: Using appreciative inquiry to support positive change. International Journal of Wellbeing, 5(1), 19–32
Character strengths	1.1., 1.2., 3.3., 3.5., 3.6.,4.1., 4.3., & 4.4	How are strengths significant for school culture and climate?	Peterson, C., & Seligman, M. E. (2004). Character strengths and virtues: A handbook and classification (Vol. 1). New York, NY, Washington, DC: Oxford University Press, American Psychological Association White, M. A., & Waters, L. E. (2015). A case study of 'The Good School:' Examples of the use of Peterson's strengths-based approach with students. Journal of Positive Psychology, 10(1), 69–76. https://doi.org/10.1080/17439760.2014.920408

Table 1 (continued)

Wellbeing topic	APST standards	Discussion points with pre-service teachers	Sample readings
Civics and citizenships	1.1., 4.1	What do you think it means to be a good citizen?	ACARA (2012). The shape of the Australian curriculum: Civics and citizenship. Available at http://www.acara.edu.au/verve/_resources/Shape_of_the_Australian_Curriculum__Civics_and_Citizenship_251012.pdf
Flourishing	1.1., 1.2., 1.5., 1.6., & 4.1	Do you think contemporary schooling is focused on academic growth or flourishing?	Seligman, M. (2011). Flourish: A New Understanding of Happiness and Wellbeing. New York, NY: Free Press
Grit or perseverance	1.1., 1.2., 1.5., 3.1., 3.2., 3.3	What is the significance of grit?	Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. Journal Of Personality And Social Psychology, (6), 1087
Measuring wellbeing	1.1., 1.2., & 5.4	What are the ethical implications of measuring wellbeing?	Kern, M., Waters, L., Adler, A., & White, M. (2015). A multidimensional approach to measuring well-being in students: Application of the PERMA framework, The Journal of Positive Psychology, 10(3), 262–271. https://doi.org/10.1080/17439760.2014.936962

Table 1 (continued)

Wellbeing topic	APST standards	Discussion points with pre-service teachers	Sample readings
Philosophy of wellbeing	1.1., 1.2., 1.5., 3.1., 3.3., & 3.5	What are the underpinning philosophies of wellbeing?	McCallum, F., & Price, D. (2016). Nurturing wellbeing development in education. Routledge, NY White, M. A., Murray, A. S., & Seligman, M. E. (2015). Evidence-based approaches in positive education: implementing a strategic framework for well-being in schools. Dordrecht: Springer White, M. A., Slemp, G. R., Murray, A. S., & Cooperrider, D. L. (2017). Future directions in well-being: education, organizations and policy. [Cham, Switzerland]: Springer
Positive education	1.1., 1.2., 1.3., 3.1., 3.3., 3.5., & 5.4	What's the definition of positive education?	Waters, L., Sun, J., Rusk, R., Cotton, A., & Arch, A. (2017). Positive Education Visible Wellbeing and Positive Functioning in Students. In & A. J. M Slade., L Oades. (Ed.), Wellbeing, Recovery and Mental Health (pp. 245–264). Cambridge University Press

Table 1 (continued)

Wellbeing topic	APST standards	Discussion points with pre-service teachers	Sample readings
Wellbeing and academic accomplishment	1.1., 1.2., 1.3., 1.5., 4.2., 4.4., 5.4., & 5.5	How is wellbeing related to academic growth? What are your underlying assumptions about the relationship between wellbeing and academic achievement? How you think teacher wellbeing is related to student wellbeing?	White, M. A., & Kern, M. L., (2018). Positive education: Learning and teaching for wellbeing and academic mastery. International Journal of Wellbeing, 8(1), 1–17. https://doi.org/10.5502/ijw.v8i1.588
Whole school approaches to wellbeing	1.1., 1.2., 1.5., 2.1., 2.5., 2.6., 3.3., & 4.4	What elements are needed to establish whole-school wellbeing?	McCallum, F., & Price, D. (2016). Nurturing wellbeing development in education. Routledge, NY White, M. A., Murray, A. S., & Seligman, M. E. (2015). Evidence-based approaches in positive education: implementing a strategic framework for well-being in schools. Dordrecht: Springer
21st century skills	1.1., 1.2., 2.1., 2.5., 2.6., & 3.3	How do you define 21st-century learning?	WEF. (2016). New Vision for Education: Fostering Social and Emotional Learning through Technology. Geneva Switzerland, (March), 1–36 Foundation for Young Australians. (2017). The New Work Smarts: Thriving in the New Work Order Foundation for Young Australians. (2016). The New Work Mindset: 7 New Job Clusters To Help Young People

following are illustrated in Table 1: Appreciative inquiry, Character strengths, Civics and citizenships, Emotional intelligence, Flourishing, Goals and habits, Gratitude, Grit, Hope, Meaning and purpose, Measuring wellbeing, Parents and Parenting, Philosophy of wellbeing, Positive education, Positive emotions, Praise and feedback, Resilience education, Trauma-informed positive education, Values education, Wellbeing and academic accomplishment, Whole-school approaches to wellbeing, 21st Century Skills, Technology and wellbeing education.

During the Carpe Diem process all topics were mapped against the University's graduate learning outcomes for the wellbeing framework, then linked with the AITSL standards 1 to 5 focusing on the acquisition of Professional Knowledge (Standard 1: Know students and how they learn, Standard 2: Know the content and how to teach it) and Professional Practice (Standard 3: Plan for and implement effective teaching and learning, Standard 4: Create and maintain supportive and safe learning environments and Standard 5: Assess, provide and report on student learning). In addition, during the Carpe Diem, the topics were mapped against the six University of Adelaide Graduate Attributes. During the prototyping, various discussion points that could be explores with pre-service teachers were drafted. These discussion points focused on open-ended "how" as opposed to "what" questions encouraging pre-service teachers to reflect critically on the roles of self, students, scholarship and peers (Brookfield, 2015, 2017).

5 Conclusion

Most research in the field of wellbeing education has focused on the deficit or resilience models (Beutel, Crosswell, & Broadley, 2019; Collie & Perry, 2019; Mansfield & Beltman, 2014, 2019; Mansfield & Gu, 2019). Very little research identifies how to develop well teachers and sustain their health and wellbeing. This chapter has explored a two-stage process to re-consider twenty-first-century capabilities and innovations in teacher preparation programs. We contend that pre-service teachers are challenged as they enter the profession; many do not associate learning and teaching with wellbeing. They are not well equipped with strategies to influence positive school climate, belonging and engagement. We have outlined how the Appreciative Inquiry 4-D cycle can be used at the strategic level to co-create wellbeing graduate learning outcomes, and Salmon and Wrights' (2014) Carpe Diem learning design process is used at the program level in Bachelor of Teaching and Master of Teaching degrees. The outcome is an AITSL aligned evidence-informed wellbeing framework for pre-service teachers' education as a response to global issues of teacher quality. We have positioned this in the context of international developments around literacy and numeracy and increased concern in youth mental health. To consider teachers' and students' wellbeing in ITE is internationally innovative. At this stage, an initial pilot study of the perception of 54 Bachelor of Teaching and Master of Teaching pre-service teachers' understanding of wellbeing has been concluded before the rollout of any program changes at

the University of Adelaide. This pilot study will be published mid-2020. We look forward to sharing forthcoming publications which will address questions around the next steps for program development and implementation and its impact.

References

ACER. (2019). The teaching and learning international survey 2018. *Australian report Volume 1: Teachers and school leaders as lifelong learners by Sue Thomson and Kylie Hillman* (Vol. 1). Retrieved from https://research.acer.edu.au/cgi/viewcontent.cgi?article=1006&context=talis.

Adler, A. (2017). Positive education: Educating for Academic Success and for a fulfilling life. *Papeles Del Psicólogo/Psychologist Papers, 38*(11237), 50–57. https://doi.org/10.23923/pap.psicol2017.2821.

Adler, A., & Seligman, M. E. P. (2016). Using wellbeing for public policy: Theory, measurement, and recommendations. *International Journal of Wellbeing, 6*(1), 1–35. https://doi.org/10.5502/ijw.v6i1.429.

Allen, J., Rowan, L., & Singh, P. (2019). Status of the teaching profession—attracting and retaining teachers. *Asia-Pacific Journal of Teacher Education, 47*(2), 99–102. https://doi.org/10.1080/1359866X.2019.1581422.

Allen, K.-A, Vella-Brodrick, D., & Waters, L. (2017). School belonging and the role of social and emotional competencies in fostering an adolescent's sense of connectedness to their school. In E. Frydenberg, A. J. Martin, & R. J. Collie (Eds.), *Social and emotional learning in Australia and the Asia-Pacific: Perspectives, programs and approaches* (pp. 83–99). Springer. https://doi.org/10.1007/978-981-10-3394-0_5.

Allen, K. A., Kern, M. L., Vella-Brodrick, D., & Waters, L. (2018). Understanding the priorities of australian secondary schools through an analysis of their mission and vision statements. *Educational Administration Quarterly, 54*(2), 249–274. https://doi.org/10.1177/0013161X18758655.

Australian Institute for Teaching and School Leadership, Teaching. (2017). Australian professional standards for teachers. *Education Services Australia*, (February), 1–28. https://doi.org/10.1177/002248715901000125.

Berkowitz, M. W., & Bier, M. C. (2004). Research-Based character education. *The ANNALS of the American Academy of Political and Social Science, 591*(1), 72–85. https://doi.org/10.1177/0002716203260082.

Beutel, D., Crosswell, L., & Broadley, T. (2019). Teaching as a 'take-home' job: Understanding resilience strategies and resources for career change preservice teachers. *Australian Educational Researcher, 46*(4), 607–620. https://doi.org/10.1007/s13384-019-00327-1.

Borgonovi, F., & Pál, J. (2016). A framework for the analysis of student well-being in the PISA 2015 study: Being 15 in 2015, OECD Education Working Papers, No. 140, Paris: OECD Publishing. http://dx.doi.org/10.1787/5jlpszwghvvb-en.

Brookfield, S. (2015). The skillful teacher: On technique, trust, and responsiveness in the classroom (3rd ed.). Jossey-Bass Higher and Audlt Education Series.

Brookfield, S. (2017). *Becoming a critically reflective teacher/Stephen Brookfield* (2nd ed.). San Francisco, CA: Jossey-Bass.

Brooks, C., Carroll, A., Gillies, R. M., & Hattie, J. (2019). A matrix of feedback for learning. *Australian Journal of Teacher Education, 44*(4). http://dx.doi.org/10.14221/ajte.2018v44n4.2.

Brooks, C., Huang, Y., Hattie, J., Carroll, A., & Burton, R. (2019). What is my next step? School students' perceptions of feedback. *Frontiers in Education, 4*(September). https://doi.org/10.3389/feduc.2019.00096.

Brunzell, T, Stokes, H., & Waters, L. (2019). Shifting teacher practice in trauma-affected classrooms: practice pedagogy strategies within a trauma-informed positive education model. *School Mental Health, 11*(3), 600–614.

Brunzell, T., Waters, L., & Stokes, H. (2015). Teaching with strengths in trauma-affected students: A new approach to healing and growth in the classroom. *American Journal of Orthopsychiatry, 85*(1), 3–9. https://doi.org/10.1037/ort0000048.

Burns, J. (2017). Take Action Now–Strengthening children and young people's mental health and wellbeing through technology and social media. Perth. Retrieved from https://www.ccyp.wa.gov.au/media/2521/final-report-web-version-2016-17-thinker-in-residence-take-action-now-strengthening-children-and-young-people-s-mental-health-and-june-2017.pdf.

Byers, T., Mahat, M., Liu, K., Knock, A., & Imms, W. (2018). *Systematic review of the effects of learning environments on student learning outcomes*. Melbourne: University of Melbourne, LEaRN. Retrieved from http://www.iletc.com.au/publications/reports.

Carlisle, E., Fildes, J., Hall, S., Perrens, B., Perdriau, A., & Plummer, J. (2019). *Youth survey report 2019*. Sydney, NSW: Mission Australia.

Carlisle, E., Fildes, J., Hall, S., Hicking, V., Perrens, B., & Plummer, J. (2018). *Youth survey report 2018*. Mission Australia.

Ciarrochi, J., Atkins, P. W. B., Hayes, L. L., Sahdra, B. K., & Parker, P. (2016). Contextual positive psychology: Policy recommendations for implementing positive psychology into schools. *Frontiers in Psychology, 7*, Article 1561.

Collie, R. J., & Perry, N. E. (2019). Cultivating teacher thriving through social–emotional competence and its development. *The Australian Educational Researcher, 46*(4), 699–714. https://doi.org/10.1007/s13384-019-00342-2.

Cooperrider, D. L., & Srivastva, S. (1987). Appreciative inquiry in organizational life. *Research in Organizational Change and Development, 1,* 129–169.

Cooperrider, D. L., & Srivastva, S. (2013). Appreciative inquiry in organizational life. *Advances in Appreciative Inquiry, 4,* 9–67.

Cooperrider, D., & Sekerka, L. (2003). Toward a theory of positive organizational change. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 225–240). San Francisco: Berrett-Koeller.

Cooperrider, D., & Whitney, D. (2000). A positive revolution in change: Appreciative inquiry. In D. Cooperrider, P. Sorenson, D. Whitney, & T. Yager (Eds.), *Appreciative inquiry: Rethinking human organizations towards a positive theory of change* (pp. 3–27). Champaign, IL: Stipes.

Cooperrider, D., & Whitney, D. (2005). *Appreciative inquiry: A positive revolution in change*. San Francisco: Berrett-Koehler Publishers, Inc.

Cooperrider, D., Whitney, D & Stavros, J. (2008). *Appreciative inquiry handbook for leaders of change* (2nd ed.). Brunswick, OH: San Francisco, CA: Crown Custom Publishing; BK, Berrett-Koehler.

Darling-Hammond, L. (2017). *Empowered educators: How high-performing systems shape teaching quality around the world* (1st ed.).

Diener, Ed. (1984). Subjective Well-Being. *Psychological Bulletin, 95*(3). SSRN: https://ssrn.com/abstract=2162125.

Dodge, R., Daly, A., Huyton, J., & Sanders, L. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing, 2*(3), 222–235. https://doi.org/10.5502/ijw.v2i3.4.

Donohoo, J., Hattie, J., & Eells, R. (2018). The power of collective efficacy. *Educational Leadership, 75*(6), 40–44.

Fernandes, L., Peixoto, F., Gouveia, M.-J., Silva, J.-C., & Wosnitza, M. (2019). Fostering teachers' resilience and well-being through professional learning: Effects from a training programme. *The Australian Educational Researcher, 46*(4), 681–698. https://doi.org/10.1007/s13384-019-00344-0.

Filleul, M., & Rowland, B. (2006, June). Using appreciative inquiry in the vancouver school district: A positive approach to enhance learning. *BC Educational Leadership Research*.

Ford, T., Olsen, J., Khojasteh, J., Ware, J., & Urick, A. (2019). The effects of leader support for teacher psychological needs on teacher burnout, commitment, and intent to leave. *Journal of Educational Administration, 57*(6), 615–634. https://doi.org/10.1108/JEA-09-2018-0185.

Fraillon, J. (2004). Measuring student well-being in the context of Australian schooling: Discussion paper commissioned by the South Australian Department of Education and Children's Services as an agent of the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA). *The Australian Council for Educational Research*. https://research.acer.edu.au/well_being/8.

Harding, S., Morris, R., Gunnell, D., Ford, T., Hollingworth, W., Tilling, K., et al. (2019). Is teachers' mental health and wellbeing associated with students' mental health and wellbeing? *Journal of Affective Disorders*, (S0165032719305907), (https://doi.org/10.1016/j.jad.2019.03.045). *Journal of Affective Disorders, 253*(April), 460–466. https://doi.org/10.1016/j.jad.2019.03.046.

Hattie, J. (2009). *Visible learning a synthesis of over 800 meta-analyses relating to achievement*. London, New York: Routledge.

Hattie, J., & Anderman, E. (2013). *International guide to student achievement (Educational psychology handbook series)*. New York: Routledge.

Hattie, J., & Zierer, K. (2017). *10 mindframes for visible learning: Teaching for success*, Taylor and Francis.

Hawthorne, B. S., Vella-Brodrick, D. A., & Hattie, J. (2019). *Well-Being as a Cognitive Load Reducing Agent: A Review of the Literature, 4*(October), 1–11. https://doi.org/10.3389/feduc.2019.00121.

Heller-Sahlgren, G. (2018). Smart but unhappy: Independent-school competition and the wellbeing-efficiency trade-off in education. *Economics of Education Review, 62*(October 2017), 66–81. https://doi.org/10.1016/j.econedurev.2017.10.005.

Holmes, B., Parker, D., & Gibson, J. (2019). Rethinking teacher retention in hard-to-staff schools. *Contemporary Issues in Education Research (CIER), 12*(1), 27–32. https://doi.org/10.19030/cier.v12i1.10260.

Huppert, F. A. (2017). Challenges in defining and measuring well-being and their implications for policy. In A. S. Murray., M. White, G. Slemp, (Ed.), *Future directions in well-being: Education, organizations and policy* (1st ed., pp. 163–167). Springer. https://doi.org/10.1007/978-3-319-56889-8.

Huppert, F. A., & So, T. T. C. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social Indicators Research, 110*(3), 837–861. https://doi.org/10.1007/s11205-011-9966-7.

Immordino-Yang, M. H., & Damasio, A. (2007). We feel, therefore we learn: The relevance of affective and social neuroscience to education. *Mind, Brain, and Education, 1,* 3–10. https://doi.org/10.1111/j.1751-228X.2007.00004.x.

Jackson, C. (2018). What do test scores miss? The importance of teacher effects on non-test score outcomes. *Journal of Political Economy, 126*(5), 2072–2107.

Jarden, A., Rashid, T., Roache, A., & Lomas, T. (2019). Ethical guidelines for positive psychology practice (version 1.0: English). *International Journal of Wellbeing, 9*(3), 1–30. https://doi.org/10.5502/ijw.v9i3.921.

Keyes, C. (2002). The mental health continuum: From languishing to flourishing in life 2002. *Journal of Health and Social Behavior, 43*(2), 207–222.

Kim, L., Jörg, E., & Klassen, V. (2019). A meta-analysis of the effects of teacher personality on teacher effectiveness and burnout. *Educational Psychology Review, 31*(1), 163–195.

Kristjánsson, K. (2007). *Aristotle, Emotions, and Education*. Aldershot: Ashgate Publishing.

Kristjánsson, K. (2012). Positive psychology and positive education: Old wine in new bottles? *Educational Psychologist, 47*(2), 86–105. https://doi.org/10.1080/00461520.2011.610678.

Kristjánsson, K. (2015). *Aristotelian Character Education*. London: Routledge.

Kristjánsson, K. (2017a). Recent work on flourishing as the aim of education: A critical review. *British Journal of Educational Studies, 65*(1), 87–107. https://doi.org/10.1080/00071005.2016.1182115.

Kristjánsson, K. (2017b). Teachers as facilitators of student flourishing in positive education: What are the political implications? In A. S. White, M. Slemp, G. Murray (Ed.), *Future directions in*

well-being: Education, organizations and policy (pp. 187–190). Dordrecht H.: Springer. https://doi.org/10.1007/978-3-319-56889-8.

Kristoffersen, I. (2018). Great expectations: Education and subjective wellbeing. *Journal of Economic Psychology, 66*(April 2017), 64–78. https://doi.org/10.1016/j.joep.2018.04.005.

Langer Primdahl, N., Reid, A., & Simovska, V. (2018). Shades of criticality in health and wellbeing education. *Journal of Curriculum Studies, 50*(6), 733–753. https://doi.org/10.1080/00220272.2018.1513568.

Lavy, S. (2019). A review of character strengths interventions in twenty-first-century schools: Their importance and how they can be fostered. *Applied Research in Quality of Life, Applied Research in Quality of Life*, January 8, 2019.

Lomas, T., Roache, A., Rashid, T., & Jarden, A. (2019). Developing ethical guidelines for positive psychology practice: An on-going, iterative, collaborative endeavour. *The Journal of Positive Psychology*. https://doi.org/10.1080/17439760.2019.1651892.

Mansfield, C. F., & Beltman, S. (2014). Teacher motivation from a goal content perspective: Beginning teachers' goals for teaching. *International Journal of Educational Research, 65,* 54–64. https://doi.org/10.1016/j.ijer.2013.09.010.

Mansfield, C., & Beltman, S. (2019). Promoting resilience for teachers: pre-service and in-service professional learning. *The Australian Educational Researcher, 46*(4), 583–588. https://doi.org/10.1007/s13384-019-00347-x.

Mansfield, C., & Gu, Q. (2019). "I'm finally getting that help that I needed": Early career teacher induction and professional learning. *Australian Educational Researcher, 46*(4), 639–659. https://doi.org/10.1007/s13384-019-00338-y.

Marsh, H. W., Huppert, F. A., Donald, J. N., Horwood, M. S., & Sahdra, B. K. (2019). The wellbeing profile (WB-Pro): Creating a theoretically based multidimensional measure of well-being to advance theory, research, policy, and practice. *Psychological Assessment*. Advance online publication. https://doi.org/10.1037/pas0000787.

McCallum, F; Price, D; Graham, A., & Morrison, A. (2017). *Teacher wellbeing: A review of the literature*, Sydney, Australia. Retrieved from https://www.aisnsw.edu.au/EducationalResearch/Documents/CommissionedResearch/TeacherwellbeingAreviewoftheliterature-FayeMcCallumAISNSW2017.pdf.

McCallum, F., & Price, D. (2010). Well teachers, well students. *Journal of Student Wellbeing, 4*(1), 19–34.

McCallum, F., & Price, D. (2016). *Nurturing wellbeing development in education: "From little things, big things grow"*. UK: Routledge.

McLean Davies, L., Anderson, M., Deans, J., Dinham, S., Griffin, P., Kameniar, B., Kameniar, B., Page, J., Reid, C., Rickards, F., Taylor, C., & Tyler, D. (2013). Masterly preparation: Embedding clinical practice in a graduate pre-service teacher education programme. *Journal of Education for Teaching*, 39(1), 93–106. https://doi.org/10.1080/02607476.2012.733193.

McLean Davies, L., Hadlow, B., Kriewaldt, J., Rickards, F., Thornton, K., & Wright, P. (2017). *Supporting the development of the profession: The impact of a clinical approach to teacher education*. In Educating Australia: Challenges for the Decade Ahead.

Moon, B. (2007). *Research analysis: attracting, developing and retaining effective teachers: A global overview of current policies and practices*. Scientific and Cultural Organization, Paris: United Nations Educational.

Oades, L. G. (2017). Wellbeing literacy: The necessary ingredient in positive education. *Psychology and Behavioral Science International Journal, 3*(5), 169–173. https://doi.org/10.19080/PBSIJ.2017.03.555621.

OECD. (2017). Overview: Students' well-being. In *Students' well-being* (Vol. III, pp. 37–58). Paris: OECD Publishing.

OECD. (2019a). *Education at a glance 2019: OECD indicators*. Paris, https://doi.org/10.1787/f6dc8198-es.

OECD. (2019b). *PISA 2018 results (Volume III): What school life means for students' lives* (Vol. III). Paris: OECD Publishing. https://doi.org/10.1787/acd78851-en.

Peters, M., Cowie., B., & Menter, I. (Eds.). (2017). *A companion to research in teacher education* (1st ed.). Singapore: Springer.

Podolsky, A., Kini, T., Darling-Hammond, L., & Bishop, J. (2019). Strategies for attracting and retaining educators: What does the evidence say? *Education Policy Analysis Archives, 27*, 1–47. https://doi.org/10.14507/epaa.27.372.

Powell, M. A., & Graham, A. (2017). Wellbeing in schools: Examining the policy–practice nexus. *Australian Educational Researcher, 44*(2), 213–231. https://doi.org/10.1007/s13384-016-0222-7.

Price, D., & McCallum, F. (2014). *Teacher wellbeing: Initial teacher education capability approach*. Paper presented at the British Educational Research Association Conference, London, September, 23–25.

Rubie-Davies, C., Peterson, E., Sibley, C., & Rosenthal, R. (2015). A teacher expectation intervention: Modelling the practices of high expectation teachers. *Contemporary Educational Psychology, 40,* 72–85.

Rusk, R., & Waters, L. (2015). A psycho-social system approach to well-being: Empirically deriving the five domains of positive functioning. *The Journal of Positive Psychology, 10*(2), 141–152.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(4), 719–727. https://doi.org/10.1037/0022-3514.69.4.719.

Sachs, J., Adler, A., Bin Bishr, A., de Neve, J.-E., Durand, M., Diener, E., et al. (2019). *Global happiness and wellbeing policy report 2019*. Retrieved from http://www.happinesscouncil.org/.

Sachs, J., Bin Bishr, A., de Neve, J.-E., Durand, M., Diener, E., Helliwell, J., et al. (2018). *Global happiness policy report 2018*. Sustainable Development Solutions Network. Retrieved from https://s3.amazonaws.com/ghc-2018/GlobalHappinessPolicyReport2018.pdf.

Sackett, D., Rosenberg, W., Gray, J., Haynes, R., & Richardson, W. (1996). Evidence based medicine: What it is and what it isn't. *BMJ, 312*(7023), 71–72.

Salmon, G. (2011). *E-moderating, the key to teaching &learning online* (3rd ed.). London &New York: Routledge.

Salmon, G. (2013). *E-tivities, the key to teaching &learning online* (2nd ed.). London &New York: Routledge.

Salmon, G. (2019). May the fourth be with you: Creating education 4.0. *Journal for Learning & Development, 6*(2).

Salmon, G., & Wright., P. (2014). Transforming future teaching through 'Carpe Diem' learning design. *Education Sciences, 4*(1), 52–63.

Seligman, M. (2011). *Flourish: A visionary new understanding of happiness and well-being*. New York: Free Press.

Seligman, M. E. P., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education, 35*(3), 293–311. https://doi.org/10.1080/03054980902934563.

Shepherd, J., Pickett, K., Dewhirst, S., Byrne, J., Speller, V., Grace, M., et al. (2016). Initial teacher training to promote health and well-being in schools—A systematic review of effectiveness, barriers and facilitators. *Health Education Journal, 75*(6), 721–735.

Spratt, J. (2016). Childhood wellbeing: What role for education? *British Educational Research Journal, 42*(2), 223–239. https://doi.org/10.1002/berj.3211.

Spratt, J. (2017). Equity, schooling and education. In Springer (Ed.), *Wellbeing, equity and education.* Inclusive learning and educational equity (pp. 23–33). https://doi.org/10.1007/978-3-319-50066-9.

Thorburn, M. (2015). Theoretical constructs of well-being and their implications for education. *British Educational Research Journal, 41*(4), 650–665. https://doi.org/10.1002/berj.3169.

Usher, J., MacNeill, S., & Creanor, L. (2018). Evolutions of carpe diem for learning design. *Compass: Journal of Learning & Teaching, 11*(1) 2044–0081.

Virtanen, T. E., Vaaland, G. S., & Ertesvåg, S. K. (2019). Associations between observed patterns of classroom interactions and teacher wellbeing in lower secondary school. *Teaching and Teacher Education, 77,* 240–252. https://doi.org/10.1016/j.tate.2018.10.013.

Waters, L. E., & White, M. (2015). Case study of a school wellbeing initiative: Using appreciative inquiry to support positive change. *International Journal of Wellbeing, 5*(1), 19–32.

Waters, L., White, M., & Murray, S. (2012). Using appreciative inquiry to lead whole school change. In D. Cooperrider (Ed.), *The appreciative inquiry summit: Exploration into the magic of macro-management and crowd-sourcing*. AI Practitioner: International Journal of Appreciative Inquiry.

Waters, L. E., White, M. A., Wang, L., & Murray, S. (2015). Leading whole-school change. In *Evidence-based approaches in positive education: Implementing a strategic framework for wellbeing in Schools* (pp. 43–63). https://doi.org/10.1007/978-94-017-9667-5_3.

Waters, L., & Loton, D. (2019). SEARCH: A meta-framework and review of the field of positive education. *International Journal of Applied Positive Psychology*.

Waters, L., Sun, J., Rusk, R., Cotton, A., & Arch, A. (2017). Positive education: Visible wellbeing and positive functioning in students. In *Wellbeing, recovery and mental health* (pp. 245–264). Cambridge University Press. https://doi.org/10.1017/9781316339275.021.

White, M. A. (2016). Why won't it Stick? Positive psychology and positive education. *Psychology of Well-Being, 6*(1), 2. https://doi.org/10.1186/s13612-016-0039-1.

White, M. A., & Kern, M. L. (2018). Positive education: Learning and teaching for wellbeing and academic mastery. *International Journal of Wellbeing, 8*(1), 1–17. https://doi.org/10.5502/ijw.v8i1.588.

White, M. A., & Waters, L. E. (2015). A case study of 'The Good School:' Examples of the use of Peterson's strengths-based approach with students. *Journal of Positive Psychology, 10*(1), 69–76. https://doi.org/10.1080/17439760.2014.920408.

White, M. A., Slemp, G. R., & Murray, A. S. (2017). Future directions in well-being: Education, organizations and policy. *Future directions in well-being: Education, organizations and policy* (pp. 1–250). https://doi.org/10.1007/978-3-319-56889-8.

White, M., & Murray, S. (2015). Well-being as freedom: Future directions in well-being. In *Evidence-Based approaches in positive education: Implementing a strategic framework for well-being in Schools* (pp. 167–175). Netherlands: Springer.

Whitney, D., & Trosten-Bloom, Amanda. (2018). *The power of appreciative inquiry a practical guide to positive change* (2nd ed.). San Francisco: Berrett-Koehler.

Wisniewski, B., Zierer, K., & Hattie, J. (2020). The power of feedback revisited: A meta-analysis of educational feedback research. *Frontiers in Psychology, 10*, 3087. https://doi.org/10.3389/fpsyg.2019.03087.

World Economic Forum. (2016). New vision for education: Fostering social and emotional learning through technology. Geneva Switzerland, (March), 1–36. Retrieved from http://www3.weforum.org/docs/WEF_New_Vision_for_Education.pdf.

Wyn, J. (2009). The changing context of australian youth and its implications for social inclusion. *Youth Studies Australia, 28*(1), 46–50.

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Chapter 8
Pre-service Teacher Perceptions of LANTITE: Complexity Theory in Action?

Jenene Burke, Peter Sellings, and Naomi Nelson

Abstract The chapter reports on a study where the perceptions of a group of pre-service teachers (PSTs) in Australia, regarding their experiences of the LANTITE, were captured and analysed using the lens of complexity theory. The authors argue that a change to one of the complex sub-systems involved in ITE appears to produce effects in other related sub-systems. A likely unexpected impact was on the formation of graduate teacher identities and capabilities as professional teachers. The potential impact on teaching for social justice and attending equitably to human difference when standards-based education is adopted is another theme that is considered in this chapter.

1   Introduction

Teacher testing has been implemented in a number of countries around the world for many years. For example, in the 1970s and 1980s, testing of pre-service teachers was implemented in most states of the USA either as an entry requirement, or at the end of degrees to ensure that teachers met appropriate standards of professional and academic competency (Haney, Madaus, & Kreitzer, 1987). In 2000, tests of personal literacy and numeracy were introduced in England and undertaken by ITE students in their final year of study (Department for Education, 2019). More recently, in 2016, the Australian government introduced a national test of personal literacy and numeracy for all higher education students enrolled in education courses that aimed to ensure that only those scoring within the top 30% of the population would be allowed to teach. Successful completion of LANTITE is now compulsory for all

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Australian initial teacher education (ITE) candidates by the time they complete their degree, with Australian teacher education accreditation requiring higher education providers to stipulate how this regime will be implemented in their institution.

Teacher education is, however, a very complex system with many variables that can change outcomes of graduates. The framework used in this chapter is complexity theory, drawing on ideas from Mason (2008), Gough (2012) and Ovens (2017) to highlight how a change to one of the complex sub-systems involved in ITE appears to produce effects both expected and unexpected in other related, critical sub-systems. The aim of this research is to examine the perceptions of this testing regime of a group of pre-service teachers (PSTs) in a regional university in Victoria, Australia and the impact it has had on them as they form their identities and capabilities as professional teachers. Teacher identity has been found by researchers to be a foundational construct in the development of a teacher's self-efficacy and is influenced by many factors, such as emotion, experience and sociocultural discourse (Beauchamp & Thomas, 2009). Negative or positive, stable or unstable, teacher identities are related to retention, resilience and effectiveness in the classroom (Day, Stobart, Sammons, Kington, & Gu, 2007; Mansfield, Beltman, & Price, 2014).

2 Review of Literature

In 2014, the Australian government appointed an advisory group to review and make recommendations on how initial teacher education in Australia could be improved (The Teacher Education Ministerial Advisory Group (TEMAG), 2014, p. v). This advisory group made 38 recommendations to the government, who subsequently adopted most of these recommendations. Recommendation 13, which was adopted by the Australian government stated that: "Higher education providers use the national literacy and numeracy test to demonstrate that all pre-service teachers are within the top 30% of the population in personal literacy and numeracy." (TEMAG, 2014, p. viii). This national testing regime is known as LANTITE with the onus for reaching the requisite personal literacy and numeracy standards on teacher education providers and the PSTs themselves, with a pass in the LANTITE now established as a graduation requirement. Consequently, teacher education providers have found it necessary to implement various measures to ensure their students are successful in the LANTITE. For some providers, these include pre-testing teacher education applicants in personal literacy and numeracy and providing formal assistance to PSTs to strengthen their personal literacy and numeracy levels.

This concept that graduate teachers should have strong personal literacy and numeracy competence did not originate with the TEMAG report, but initially appeared in the ITE program standards manual for program accreditation in 2011 (ACER, 2019), with the expectation that the personal literacy and numeracy levels of applicants for teacher education were broadly equivalent to the top 30% of

the population. The ACER website, (ACER, 2019) currently states that the population of comparison is the "adult population" and that the 70% standard is "empirically validated" against the Organisation for Economic Co-operation and Development (OECD) Programme for the International Assessment of Adult Competencies (PIAAC) and aligned with the Australian Core Skills Framework (ACSF), a framework that describes general adult literacy and numeracy standards (ACER, 2019).

Currently, program Standard 3.5 under "Program Entry", states that:

> Entrants to initial teacher education will possess levels of personal literacy and numeracy broadly equivalent to the top 30% of the population. Providers who select students who do not meet this requirement must establish satisfactory arrangements to ensure that these students are supported to achieve the required standard before graduation. The National Literacy and Numeracy Test is the means for demonstrating that all students have met the standard (AITSL, 2019).

Following its inception as a teacher education program requirement in mid-2016 until the end of 2018, according to the Australian Government Department of Education and Training (2019), over 59,000 PSTs had undertaken testing of at least one of the two LANTITE components. The pass rates for first time candidates in 2018 were 90.4% for literacy and 90.0% for numeracy from just over 22,000 candidates in each test. This was down from the 2016 test results where around 95% of students were successful (Australian Government Department of Education and Training, 2019).

The introduction of personal literacy and numeracy requirements to teacher education in Australia is similar to the system implemented in England. In 2000, anyone wishing to gain Qualified Teacher Status in England needed to pass the Professional Skills Test; a test of personal literacy and numeracy skills undertaken by ITE students in their final year of study (Department for Education, 2019). However, debate within the UK over the past 10 years around the effectiveness of the scheme resulted in several changes, including unlimited resits and a reduction of the pass mark. More recently, the Minister of State for School Standards released a statement announcing that in 2020, "teacher training providers will become responsible for ensuring that prospective teachers meet the high standards of literacy and numeracy required to be a teacher" (U.K. Parliament, 2019), essentially reverting back to the same scheme Australia had in place before the mandate of the LANTITE. This means that, in the UK, personal literacy and numeracy skills of PSTs are to be developed and assessed within coursework by individual teacher education providers.

2.1 Complexity Theory

Complexity theory was originally developed in scientific fields such as chemistry and physics and was an offshoot of chaos theory (Mason, 2008). Chaos theory highlights how small variations in one part of a system can lead to substantial fluctuations in the behaviour of the whole system. More recently, educationalists have explored

complexity theory in a number of different ways and for a number of different purposes. Gough (2012) suggests that:

> Complexity invites us to understand that the many processes and activities that shape the world we inhabit are open, recursive, organic, non-linear and emergent: It also invites us to be sceptical, of mechanistic and reductionist explanations, which assume that these processes and activities are linear, deterministic and/or predictable and, therefore, that they can be controlled (p. 42).

Essentially, Gough (2012), espouses that complexity theory offers education professionals a different way of looking at systems and the elements of systems that are essential to educational institutions and the many and diverse ways these systems and elements are connected. In simple terms, according to Mason (2008), changing one input can lead to changes in a range of outcomes. Yuan, Zhang and Yu (2018) characterise teacher collaboration as a complex system and use complexity theory to explore collaboration and how it interacts with other systems within their school community. The findings reported by Yuan et al. (2018) highlight how changes in one area of a complex system can produce both positive and negative changes to other areas of the same complex system. Ovens (2017), characterises complexity in teacher education as "fascinating, illusive and creative" (p. 38) and uses a framework of complexity theory to explore facets of professional learning and assessment in ITE, as a means to enact what he calls "transformative pedagogy" (p. 39).

The previously discussed studies by Gough (2012), Yuan et al. (2018) and Ovens (2017) suggest that educational institutions such as universities and schools can be considered complex organisations. As complex organisations, they have a number of systems operating in a way that delivers educational programs to students, thus suggesting that complexity theory is an appropriate lens to view them through. In the case of ITE, the systems would have both competing and complementary objectives. Sanger and Giddings (2012) argue that complex systems generally consist of a number of sub-systems that can interact with each other on a number of levels and in multiple ways. ITE would fit into this definition as there are sub-systems such as policy (which state and federal governments and the university have input into), accreditation (involving both state teacher accreditation bodies and federal bodies (AITSL) as well as the Tertiary Education Quality and Standards Agency (TEQSA), curriculum (involving a university and its faculties), professional placement (involving a university and schools) and teaching (involving a university and individual academic staff). As previously argued, complexity theory suggests that causation in education is complex and that outcomes can be influenced by a myriad of factors (Mason, 2008).

Outcomes in ITE are important with universities charged with developing their graduate teachers so they can demonstrate the AITSL teacher standards (AITSL, 2018). These teacher standards require graduates to demonstrate competence in areas such as content and pedagogy knowledge, creating safe and engaging learning environments, developing suitable material for learners, and engaging professionally with a range of stakeholders.

2.2   Teacher Identity

An increased demand for teacher quality has created a renewed interest in the research of teacher identity. Several definitions can be found, yet many agree that teacher identity is integral to the development of self-efficacy, purpose, motivation, future orientation and position within the education community (Beauchamp & Thomas, 2009; Day & Kington, 2008; Day et al., 2007; Hong, Greene, & Lowery, 2017; Wenger, 1998). In an ever-changing landscape of accountability and uncertainty, teacher identities are also in a constant state of flux and influenced by factors such as reform, political agendas and societal expectations. Therefore, identity development is an active process of exploration, reflection and dialogue; an experience in which PSTs need to be agentic to construct their sense of self as a professional (Coldron & Smith, 1999). There is, however, limited room for teacher agency in Australia's current political climate. Beijaard, Meijer and Verloop (2004) contend that conformity and compliance with imposed standards essentially threatens teachers' locus of control in their own professional identity formation.

Similarly, Hargreaves (2000) describes the role of external forces through four categories of teacher professionalism which explain the identity development of the teacher within a sociocultural context: the pre-professional, the autonomous professional, the collegial professional and, the post-modern professional. The latter is marked by economic globalisation and the marketization of education which, Buchanan (2015) argues is reflected "in the recent reforms and policies that tightly regulate teachers' work and roles, and view teachers as technicians who implement decisions made by others who are far away from the actual classrooms" (p. 702). Taking Buchanan's point further, government decisions about requisite teacher capabilities and suitability to teach can be considered in relation to the post-modern professional context.

In exploring teacher identity through the lens of complexity theory, current political policy and reform in Australia can be identified as a change to an important teacher education sub-system. This lens provides the stimulus to ask important questions about the impact of the LANTITE on PSTs' identity development as education professionals as well as understand trends experienced in other countries.

2.3   Social Justice and High-Stakes Testing

High-stakes tests are used to inform important decisions and, in the context of this paper, such test scores determine outcomes such as registration with teaching authorities and graduation. As policies and reform agendas emerge and re-emerge, high-stakes testing has become the tool for measuring their impact. However, several researchers have found there to be adverse effects on minority and disadvantaged students (Au, 2008; Hursh, 2005; Madaus & Clarke, 2001). For example, studies

from the United States have found African American, Latino and students with disabilities are particularly overrepresented in high-school drop-out rates since reforms were introduced to raise education standards in the 1990s (Hursh, 2005). It has also been established that family income is strongly correlated with test scores, meaning those from disadvantaged backgrounds generally underperform and are therefore less likely to have opportunities afforded by success in such tests, such as entry to college or university (Emler, Zhao, Deng, Yin, & Wang 2019).

The influence high-stakes testing has on learning content and knowledge is also linked, where Au (2008) argues that "student identities that lay outside the test-based norms are thus 'subtracted' from the curriculum" (p. 641). Consequently, those who "think and learn in ways that differ from the dominant cultural norms" are marginalised (Um, 2019, p. 76).

Some of these concerns were raised by the National Research Council (1999) who made a series of recommendations related to the National Assessment of Educational Progress (NAEP) which included that an "educational decision that will have a major impact on a test taker should not be made solely or automatically on the basis of a single test score" (p. 3). More than twenty years later, the nexus between high-stakes testing and social justice is still an issue, particularly in Australia where high-stakes, policy-driven initiatives such as LANTITE have potentially profound implications for the futures of aspiring teachers (Klenowski & Wyatt-Smith, 2012).

3 Research Context

The context for this work is ITE in a regional university in Victoria, Australia. Federation University Australia is a regional multi-campus university that has a large "first in family" cohort. Federation University's School of Education develops classroom ready teachers who usually teach in regional and remote areas (Plunkett & Dyson, 2011). In recent years, the Quality Indicators for Learning and Teaching (QILT) survey findings show undergraduate and postgraduate students score Federation University above the national average for teaching quality in areas including learner engagement, student support and skills development (QILT, 2019a). The QILT findings also rate Federation University well above average in gaining employment after graduation (QILT, 2019b). The PST cohort in this study comes largely from areas in regional and remote Victoria. For almost a decade the School of Education at Federation University has supported its PSTs by using internal testing to identify students who needed additional work to build their personal skills in either numeracy or literacy. Additional support has been provided in a range of forms including first, small group skill development sessions and, second, the development of learning plans for individuals with a focus on self-directed learning and, third, check in sessions to ensure that the plan is having the desired effect of building personal numeracy and literacy skills. Class sizes in tutorials for PSTs are generally lower than 25 allowing the lecturers and tutors to get to know their learners well and cater for them in a way that develops them in all areas, including personal literacy and numeracy.

4 Research Method

The purpose of this study was to investigate PST perceptions of the LANTITE testing regime. The mixed-methods oriented research involved the online collection of survey data following ethics approval from the Federation University Human Research Ethics Committee. Only quantitative data from the study is reported in this paper. Participants were undergraduate ITE students (n = 61) in their final year of study who had successfully completed both the literacy and numeracy test components of LANTITE. These PSTs were approached through a course studied as part of their final year program and invited to participate anonymously in the online survey. The response rate (51% of PSTs who were invited to complete the survey) was higher than expected and demographic data indicated representation across a range of programs and age groups.

Survey questions developed by the researchers were designed to investigate PSTs' perceptions of the LANTITE, and the potential impact of the test on identities and capabilities as teachers entering the profession. The survey was created through the use of Google Forms and participants were given the option to provide their personal details if they wished to be contacted at a later stage. The survey consisted of eight questions pertaining to the literacy component of the LANTITE and eight relating to the numeracy component, followed by six general questions regarding the test as a whole. The PSTs were asked about their preparedness for the test, their confidence before and after sitting the test, whether they found the test stressful, and if completing the test contributed to their preparedness to be a teacher. All questions were required and were answered using a five-point ordinal Likert scale describing one as "strongly agree" and five as "strongly disagree". Likert scales are widely used to measure attitudes and opinions with a greater degree of nuance than a simple yes or no question. They are one of the most reliable ways to measure perceptions and attitudinal patterns (Oppenheim, 1992). Raw data was downloaded from the Google Form and converted to an Excel spreadsheet. Formulas were used to tabulate, organise and prepare data into graphs for analysis.

5 Results

The following results summarise PST responses (n = 61) to a number of the survey items. Results are shown in graphs (Figs. 1, 2, 3 and 4) showing the breakdown of Likert scale responses. Raw data is reported through tables and graphs with reported outcomes listed as percentages.

The first area to be discussed is around PSTs' confidence before and after the literacy and numeracy testing. The PSTs were asked to rate their agreement with the statement: "Before the test, I felt confident about my literacy ability". A similarly worded statement was included about confidence in numeracy. Figure 1 shows the confidence levels of PSTs before official literacy and numeracy testing.
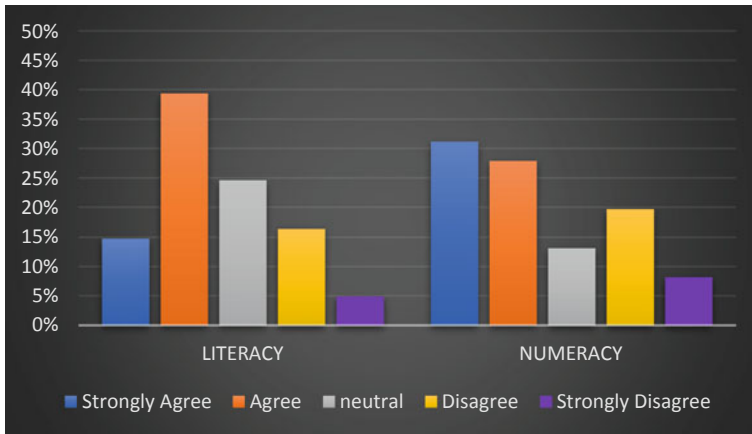
Fig. 1 Reported confidence of pre-service teachers before they attempted LANTITE
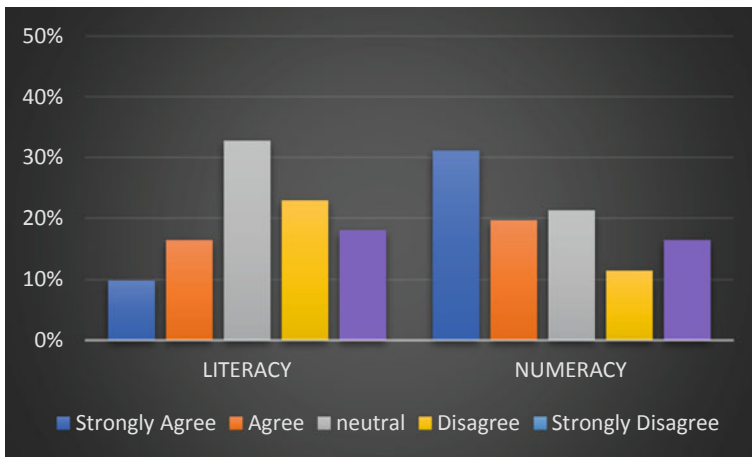
Fig. 2 Reported confidence of pre-service teachers after they attempted LANTITE but before they received their results

Figure 1 shows that a slight majority of PSTs (54% literacy; 59% numeracy) agreed they felt confident in their abilities in literacy and numeracy before they attempted the LANTITE test, compared with those (21% literacy; 28% numeracy) who stated that they lacked confidence before sitting the test. Figure 2 shows the confidence of PSTs after they attempted LANTITE, but before they received their results. The survey item was, "After the Literacy test (but before receiving my result), I felt confident that I had passed the test." Again, a similarly worded statement was used regarding numeracy confidence.
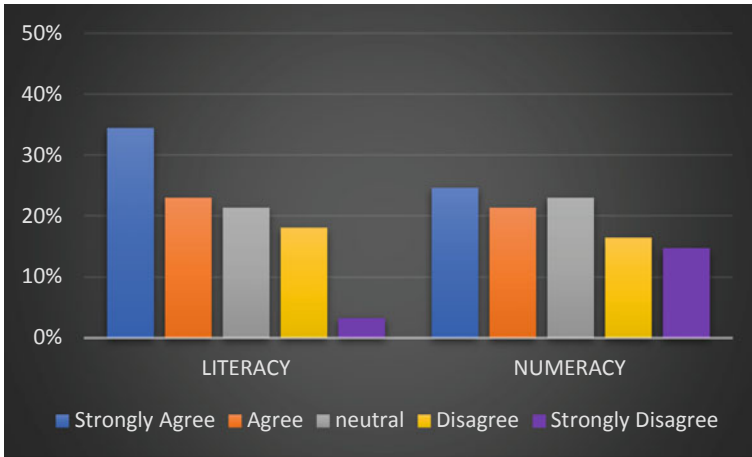
Fig. 3 Reported stress levels of pre-service teachers in literacy and numeracy
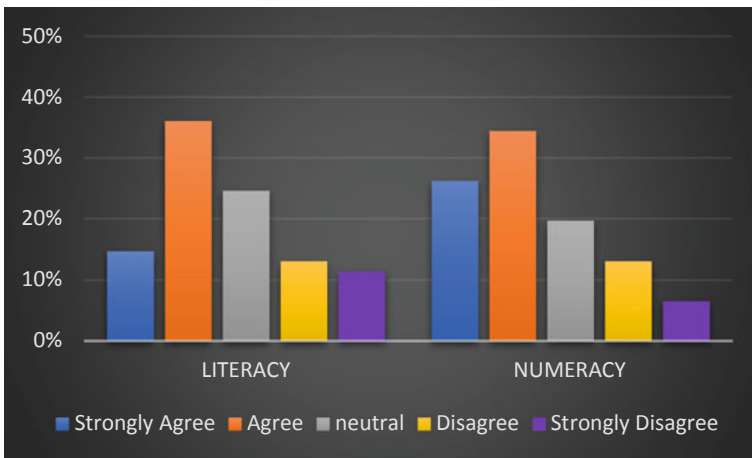
Fig. 4 Reported beliefs of pre-service teachers about having strategies to complete LANTITE successfully

Figure 2 shows that many PSTs became less confident after completing the test, but before results were released. The results for literacy showed a significant decrease in confidence with strongly agree/agree responses dropping from 54% before testing to 26% after testing. Numeracy did not show as high a reduction in reported confidence, dropping from 59% to 51%. This indicates that the LANTITE testing process reduced PST confidence in their own ability, somewhat in numeracy, but more dramatically in literacy, for approximately a quarter of the respondents.

Stress was another factor investigated in the survey, with PSTs asked how stressful they found the LANTITE process. PSTs were asked to indicate their agreement with the statement, "I thought that the literacy test was stressful". A similar statement was used regarding the numeracy test. Figure 3 shows the breakdown of responses.

Figure 3 shows that PSTs were more stressed about literacy testing than numeracy testing with 57% reporting the literacy testing as stressful, while 46% reported that the numeracy testing was stressful. This stress appeared to be due to the actual testing itself as only 65% of PSTs stated that they were able to get a test venue and a test time that they found suitable.

In terms of the time they needed to complete the survey, a majority of PSTs (62% literacy; 61% numeracy) reported that they had sufficient time to complete each component of the testing. PSTs also reported on whether or not they believed that they had the necessary strategies to successfully complete LANTITE. PSTs were asked to rate their agreement with the statement: "In the literacy test, I believe that I had the necessary strategies to pass". Figure 4 shows the PST responses about having these strategies.

Figure 4 shows that a slight majority of PSTs (51% literacy, 60% numeracy) believed that they had the necessary strategies to successfully complete LANTITE., A significant percentage of PSTs (24% literacy; 20% numeracy), however, registered for LANTITE testing, yet reported that they felt that they did not have the necessary strategies to be successful.

When examining confidence levels according to the number of times the test had been attempted, it was found that PSTs who sat the LANTITE twice had increased confidence levels after their test experience compared with those who had only attempted it once (Table 1). However, those who had sat the test twice had less confidence before the test compared with those experiencing it for the first time.

Respondents reported the numeracy component to be less stressful if they had attempted it twice but reported stress for the literacy component did not change significantly when the PST had attempted twice. Confidence levels before the test, for both literacy and numeracy, decreased for those who sat the test twice.

5.1 Limitations

The results reported in this chapter have a number of limitations associated with them. First, the results consist of the perceptions of a small (n = 61) sample from one regional university. This sample size would represent approximately 15% of the number of PSTs from the university who sit the LANTITE each year. Second, the responses that were collected from the survey provide a snapshot of the perceptions of a particular group of PSTs at a specific point in time.

Another limitation includes the use of self-reported data. Although respondents were given complete anonymity, there are still risks relating to the use of self-reporting instruments that respondents might provide socially desirable answers

Table 1 Comparison between number of LANTITE attempts by survey item

Survey item	[a]1 attempt % Strongly agree or agree	[a]2 attempts % Strongly agree or agree
Before the test, I felt confident about my literacy ability	57	44
After the Literacy test (but before receiving my result), I felt confident that I had passed the test	22	56
I thought that the literacy test was stressful	57	56
Before the test, I felt confident about my numeracy ability	61	56
After the Numeracy test (but before receiving my result), I felt confident that I had passed the test	49	56
I thought that the numeracy test was stressful	49	33

Note Only "strongly agree" and "agree" responses are included to show comparison
[a]PSTs who had one attempt N = 51 and PSTs who had attempted LANTITE twice N = 9

(Oppenheim, 1992). Memory decay over time also has potential to impair the accuracy of recall, however, the current study was conducted as close as possible to the completion of the LANTITE test window.

6 Discussion

Teacher identity is an important component of initial teacher education courses as it is essential to the development of confidence in teaching, self-efficacy, motivation and purpose (Beauchamp & Thomas, 2009; Day & Kington, 2008; Day et al., 2007; Hong, Greene, & Lowery, 2017; Wenger, 1998). Through the introduction of the LANTITE, the authors of this chapter contend that for many PSTs, teacher identity is being adversely affected. Federation PSTs reported more confidence (54% literacy; 59% numeracy) before they sat the LANTITE tests, while fewer (21% literacy; 28% numeracy) stated that they lacked confidence. This can be compared to the 26% (dropping from 54%) of PSTs who reported confidence in literacy and the 51% (dropping from 59%) of PSTs who reported confidence in numeracy after LANTITE testing. PSTs reported an increased lack of confidence in their personal literacy after LANTITE testing (41%), while numeracy remained very similar (27%) to the reported lack of confidence before testing. This result indicates that for about a quarter of the PSTs the LANTITE test process diminished their confidence in their own ability, significantly in literacy, and, to a lesser extent in numeracy. This might

have been due to the test not meeting the PSTs' expectations or their inability to be confident about the accuracy of their responses.

The initial lack of confidence in literacy (54%) compared to numeracy (59%) skills might be due to students' perceptions of their literacy and numeracy education. Further research would need to be carried out with PSTs to find out what influences their perception of their personal literacy and numeracy skills.

The majority of PSTs reported that they had the necessary strategies to successfully complete LANTITE (51% literacy, 60% numeracy who agreed, compared with 24% literacy and 20% numeracy who disagreed). An interpretation is that these students were optimistic that the experience of sitting the test would assist them in a subsequent attempt, or perhaps they had a small window of time in which to gain a successful result, having waited until late in their course to sit the test. One of the difficulties in preparing PSTs for the tests is that the test conditions, including the pressure of the high-stakes for achieving a pass, cannot be easily replicated. Nonetheless, it is concerning that a significant percentage of PSTs (24% literacy; 20% numeracy) registered and paid for LANTITE testing and reported that they felt that they lacked the strategies to ensure a successful outcome.

Stress was another factor investigated and reported on by PSTs through the survey, with more PSTs reporting their stress about literacy testing (57%) than numeracy testing (46%) (see Fig. 3). Stress continued to be a factor when sitting the test for the second time (see Table 1). The knowledge that there are only a limited number of resits permitted, coupled with prior experience of failing the test, might have been a contributing factor in lowering confidence and self-efficacy.

The conditions of setting up a test opportunity might have contributed to PSTs' stress as 35% of respondents stated that they were not able to get a test venue at a nearby location at a test time that they found suitable. It must be noted that a number of Federation students have travelled to Melbourne or Adelaide to sit the test when they were unable to access a local testing option. Adelaide is an eight hour drive from the Mount Helen Campus.

In terms of the time needed to complete the LANTITE, around four out of every 10 PSTs who completed the survey (38% literacy; 39% numeracy) indicated they had insufficient time to complete the component of the testing. This raises questions as to the relevance of the particular time frame that was selected for the test to be conducted and could be a factor in why the reported stress levels were as high as they were.

Complexity theory highlights how changes to one system can have such unintended consequences (Yuan et al., 2018). The authors of this chapter contend, in this case, that the Australian government's implementation of a literacy and numeracy testing regime into the ITE system, that was intended to ensure the personal literacy and numeracy standard of graduating teachers (TEMAG, 2014), has, in fact, led to undesirable and unintended consequences around stress and confidence levels in a significant number of teacher education students. These increased stress levels and decreased confidence levels could, in turn, be a factor in how the PST sees themselves as a teacher at a point near the middle (or latter part) of their degree; a time when, as Beltman et al. (2015) suggest, their teacher professional identity is still being formed.

The development of teacher identity is just one of many complex sub-systems within the ITE system that might be impacted. Further research would be needed to identify other related ITE sub-systems that might have been impacted by the introduction of LANTITE.

Woods and Carlyle (2002) describe an "identity passage" through which a teacher journeys, especially in times of stress. In the first phase, a traumatic separation occurs between one's sense of self and society which includes a sense of loss. In PSTs experiencing the LANTITE, this is potentially reflected as the loss of autonomy, as well as diminished self-confidence. The second phase is characterised by feelings of "hitting rock bottom" (Woods & Carlyle, 2002, p. 177) and is where support is crucial in order to re-emerge with a renewed sense of self. In preparing for the LANTITE, particularly after having failed once before, PSTs often need to seek counselling or tutoring to rebuild confidence and self-efficacy. Once adjustments are made to cope with the trauma, the third phase describes a reconstruction of identity. Though some PSTs might leave their test experience with a sense of accomplishment, those who have experienced stress and identity fragmentation might choose to give up their pursuit of a career in teaching or might carry these stresses into teaching.

The impact of stress on teacher identity is also explored by Sutin, Costa, Wethington, and Eaton (2010), where stressful events can be perceived as either a turning point or a lesson learned. The present study found that some PSTs were confident in their personal literacy and numeracy skills before taking the test, yet reported their experience during the LANTITE as stressful and beyond their expectations. This is not an unknown phenomenon in pre-service teaching. Cognitive dissonance is often experienced when ideals and reality are incongruent (Festinger, 1957), and could have negative effects on identity development, leading to stress and depression (Hargreaves, 1998). A conflict between one's perceived abilities and reality could raise questions in a PST's mind about their suitability for the profession or serve as a *turning point*. Furthermore, a PST might re-examine their beliefs about what a teacher needs to know as a result of their test taking experience, essentially devaluing their coursework or placement unless it explicitly prepared them for the LANTITE (Beauchamp & Thomas, 2011). Whether the test experience is positive or negative, the *lesson learned* might be that what is important to know in becoming a teacher is simply the content of high-stakes tests such as LANTITE.

Incongruent values and beliefs threaten the fabric of identity and create an emotional and vulnerable state, which, according to Day et al. (2007) is characterised by "a lack of a strong sense of agency, a sense of helplessness, submissiveness or compliance which might be short or longer-term depending upon the extremity of the scenario experienced and the strength of belief and purpose" (p. 108). PSTs might not agree with the purpose of the LANTITE, but they have no choice but to accept and comply with the inescapable conditions of entry to the profession. Wenger (1998) describes such constraints as being detrimental to both teacher identities and their connection to community. Negotiating professional identity in a standards-based discourse is dependent on one's power or agency within the social space (Beauchamp & Thomas, 2009).

When viewed from an agency perspective, the current study might provide evidence that the identities of PSTs in the context of high-stakes testing is at threat of erosion, particularly when confidence is diminished following failure of the LANTITE. A decrease in self-efficacy and increase in test anxiety also has potential to thwart further attempts (Chapell et al., 2005). Further, the capacity to apply a social justice lens and effectively attend to the educational complexities associated with human difference, a discourse that is at odds with standards-based education, might be impaired.

7   Implications

This research has highlighted several issues associated with the introduction of LANTITE for all ITE candidates. These include:

- The decline in PSTs perceptions of their own personal literacy and numeracy skills before and after the literacy and numeracy testing. This is of concern as the introduction of the testing regime was designed to ensure an agreed standard of personal literacy and numeracy in graduate teachers.
- The self-reported levels of stress experienced by students through the LANTITE process. Increasing PST's stress levels is not a desirable outcome. More data needs to be collected to find what the stress points are for PSTs so that strategies for mitigation of these stress levels can be investigated.
- The potential for the previous two issues to affect how PSTs view their own teacher identity. The question of teacher identity development and the effects of LANTITE need to be further researched.
- The notion that changes can be made to complex sub-systems of ITE without first investigating what effects might occur to other associated systems as a result of the changes.
- The high-stakes for students in passing LANTITE and the high importance attributed to measuring personal literacy and numeracy has the potential to narrow other aspects of the ITE curriculum.

Further research is needed to better understand student perceptions of these issues pertaining to the introduction of LANTITE for ITE candidates in Australia.

8   Conclusion

After investigating PST perceptions of LANTITE through the lens of complexity theory (Ovens, 2017), the authors argue that the introduction of the LANTITE testing regime into initial teacher education has added another cog in what is already a complex education system. The findings of this study suggest that LANTITE has caused increased stress levels, identity erosion and the marginalisation of some PSTs.

The consequences, intended or not, are likely to have a negative effect on teacher identity as a foundational construct in a teacher's self-efficacy. In conclusion, such a regime promotes a discourse of "inputs" and "outputs" (Barnes & Cross, 2018) essentially devaluing other aspects of the ITE curriculum.

Two recent trends in ITE show increasing emphasis on what Gough describes as "measuring educational outcomes …often accompanied by the rhetoric of 'raising standards'" (Gough, 2012, pp. 46–47). However, a change in one complex sub-system produces effects (both expected and unexpected) which might undermine the original purpose of the reform. The LANTITE testing regime was designed to ensure teachers entered the profession with strong personal literacy and numeracy skills yet, from the results of this research it is likely that teacher identity and self-efficacy might be undermined. Complexity theory invites us to be sceptical of reductionist approaches and processes which have potentially deleterious effects.

What it means to be a teacher has changed with the introduction of the LANTITE in Australia. A "good" teacher now needs to possess personal literacy and numeracy skills reflecting the top 30% of the population (TEMAG, 2014). This gate-keeping measure may be seen to place the value of personal literacy and numeracy skills above anything else; without passing the test, despite possessing other highly desirable skills, expertise and attributes for teaching, one is not permitted to teach. In fact, the PST is denied the ability to graduate from their teaching degree. Given the high-stakes of the LANTITE, it is arguably one of the most stressful situations a PST must face in their degree.

Masters (2017), with reference to measuring various learner attributes in education, poses the question, "Can we measure it?" Given the findings of this study, a more pertinent question pertaining to the personal literacy and numeracy of graduate teachers might be, "Should we measure it?" This current climate of accountability thrives on the notion that what can be counted, counts, with scant attention to the possible broader implications for graduate teachers. Given the stressful nature of the LANTITE and the important role of teacher identity in a PST's development, it is important to understand how higher education providers can support PSTs' reflexivity and resilience. Dissonance can be an opportunity for growth and learning when appropriate supports are in place. In reality, teaching is a dynamic and complex profession where stress and dissonance are part of everyday experiences which demand far more than just possession of personal literacy and numeracy skills determined to be in the top 30% of the population. Teacher Education courses must educate their students in a wide range of areas so PSTs can emerge with teacher identities that allow them to develop their own students to their fullest potential.

Glossary

ACER Australian Council for Educational Research
AITSL Australian Institute for Teaching and School Leadership
ASCF Australian Core Skills Framework

ATAR Australian Tertiary Admission Rank, a nationally equivalent measure of a person's relative ranking within their complete age cohort derived from scaled scores achieved for senior secondary school subjects

First in family A student who is the first member of their immediate family to study in higher education

ITE Initial teacher education. A university degree from which a person gains a qualification to be a teacher

LANTITE Literacy and Numeracy Testing for Initial Teacher Education

Pre-service teacher (PST) A student who is studying an initial teacher education degree

OECD Organisation for Economic Co-operation and Development

PIACC Programme for the International Assessment of Adult Competencies

QILT Quality Indicators for Learning and Teaching

TEMAG Teacher Education Ministerial Advisory Group

TEQSA Tertiary Education Quality and Standards Agency

VIT The Victorian Institute of Teaching

References

Au, W. W. (2008). Devising inequality: A Bernsteinian analysis of high-stakes testing and social reproduction in education. *British Journal of Sociology of Education, 29*(6), 639–651. https://doi.org/10.1080/01425690802423312.

Australian Council for Educational Research (ACER). (2019). Literacy and numeracy test for initial teacher education Students. https://teacheredtest.acer.edu.au/.

Australian Government Department of Education and Training. (2017). Literacy and numeracy test for initial teacher education students: Assessment framework. Retrieved from: https://teacheredtest.acer.edu.au/files/Literacy-and-Numeracy-Test-for-Initial-Teacher-Education-Students-Assessment-Framework.pdf.

Australian Government Department of Education and Training. (2019). Literacy and Numeracy Test for Initial Teacher Education Students. https://www.education.gov.au/literacy-and-numeracy-test-initial-teacher-education-students.

Australian Institute of Teaching and School Leadership (AITSL). (2018). Accreditation of initial teacher education programs in Australia: Standards and Procedures. https://www.aitsl.edu.au/tools-resources/resource/accreditation-of-initial-teacher-education-programs-in-australia—standards-and-procedures.

Australian Institute of Teaching and School Leadership (AITSL). (2019). Teacher standards. Accessed November 2019 at: https://www.aitsl.edu.au/teach/standards.

Barnes, M., & Cross, R. (2018, Apr 23). Why we need to review how we test for teacher quality. *The Conversation*.

Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge journal of education, 39*(2), 175–189. https://doi.org/10.1080/03057640902902252.

Beauchamp, C., & Thomas, L. (2011). New teachers' identity shifts at the boundary of teacher education and initial practice. *International Journal of Educational Research, 50,* 6–13. https://doi.org/10.1016/j.ijer.2011.04.003.

Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education, 20*(2), 107–128. https://doi.org/10.1016/j.tate.2003.07.001.

Beltman, S., Glass, C., Dinham, J., Chalk, B., & Nguyen, B. (2015). Drawing identity: Beginning pre-service teachers' professional identity. *Issues in Educational Research*, *25*(3), 225–245. http://www.iier.org.au/iier25/beltman.html.

Buchanan, R. (2015). Teacher identity and agency in an era of accountability. *Teachers and Teaching, 21*(6), 700–719. https://doi.org/10.1080/13540602.2015.1044329.

Chapell, M. S., Blanding, Z. B., Silverstein, M. E., Takahashi, M., Newman, B., Gubi, A., et al. (2005). Test Anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology, 97*(2), 268–274. https://doi.org/10.1037/0022-0663.97.2.268.

Coldron, J., & Smith, R. (1999). Active location in teachers' construction of their professional identities. *Journal of Curriculum Studies, 31*(6), 711–726. https://doi.org/10.1080/002202799182954.

Day, C., & Kington, A. (2008). Identity, well-being and effectiveness: The emotional contexts of teaching. *Pedagogy, Culture & Society, 16*(1), 7–23. https://doi.org/10.1080/14681360701877743.

Day, C., Stobart, G., Sammons, P., Kington, A., & Gu, Q. (2007). *Teachers matter: Connecting work, lives and effectiveness*. Buckingham, UK: McGraw-Hill Education.

Department for Education. (2019). Professional skills tests—The process for taking the professional skills tests.. Retrieved 3 December 2019, from http://sta.education.gov.uk/professional-skills-tests/the-process-for-taking-the-professional-skills-tests.

Emler, T. E., Zhao, Y., Deng, J., Yin, D., & Wang, Y. (2019). Side effects of large-scale assessments in education. *ECNU Review of Education, 2*(3), 279–296. https://doi.org/10.1177/2096531119878964.

Festinger, L. (1957). *A theory of cognitive dissonance: Stanford*. CA: Stanford University Press.

Gough, N. (2012). Complexity, complexity reduction and methodological borrowing in educational inquiry. *Complicity: An International Journal of Complexity and Education, 9*, 41–56. https://doi.org/10.29173/cmplct16532.

Haney, W., Madaus, G., & Kreitzer, A. (1987). Charms talismanic: Testing teachers for the improvement of American education. *Review of Research in Education, 14*(1), 169–238. https://doi.org/10.3102/0091732X014001169.

Hargreaves, A. (1998). The emotional politics of teaching and teacher development: With implications for educational leadership. *International Journal of Leadership in Education, 1*(4), 315–336. https://doi.org/10.1080/1360312980010401.

Hargreaves, A. (2000). Four ages of professionalism and professional learning. *Teachers and Teaching, 6*(2), 151–182. https://doi.org/10.1080/713698714.

Hong, J., Greene, B., & Lowery, J. (2017). Multiple dimensions of teacher identity development from pre-service to early years of teaching: A longitudinal study. *Journal of Education for Teaching: International Research and Pedagogy, 43*(1), 84–98. https://doi.org/10.1080/02607476.2017.1251111.

Hursh, D. (2005). The growth of high-stakes testing in the USA: Accountability, markets and the decline in educational equality. *British Educational Research Journal, 31*(5), 605–622. https://doi.org/10.1080/01411920500240767.

Klenowski, V., & Wyatt-Smith, C. (2012). The impact of high stakes testing: The Australian story. *Assessment in Education: Principles, Policy & Practice, 19*(1), 65–79. https://doi.org/10.1080/0969594X.2011.592972.

Madaus, G., & Clarke, M. (2001). The adverse impact of high stakes testing on minority students: evidence from 100 years of test data. https://eric.ed.gov/?id=ED450183.

Mansfield, C., Beltman, S., & Price, A. (2014). 'I'm coming back again!' The resilience process of early career teachers. *Teachers and Teaching, 20*(5), 547–567. https://doi.org/10.1080/13540602.2014.937958.

Mason, M. (2008). What is complexity theory and what are its implications for educational change? *Educational Philosophy and Theory, 40*(1), 35–49. https://doi.org/10.1111/j.1469-5812.2007.00413.x.

Masters, G. (2017, 31 July). But can we measure it? *Teacher Evidence + Insight + Action.* https://www.teachermagazine.com.au/columnists/geoff-masters/but-can-we-measure-it.

National Research Council (1999). High Stakes: Testing for tracking, promotion, and graduation. Washington, DC: The National Academies Press. https://doi.org/10.17226/6336.

Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement* (new ed.). London, NY: Pinter Publishers.

Ovens, A. (2017). Putting complexity to work to think differently about transformative pedagogies in teacher education. *Issues in Teacher Education*, 28–51. https://eric.ed.gov/?id=EJ1157529.

Plunkett, M., & Dyson, M. (2011). Becoming a teacher and staying one: Examining the complex ecologies associated with educating and retaining new teachers in rural Australia. *Australian Journal of Teacher Education, 36*(1), 31–47.

Quality Indicators for Learning and Teaching (QILT). (2019a). QILT surveys. Student experience. https://www.qilt.edu.au/qilt-surveys/student-experience.

Quality Indicators for Learning and Teaching (QILT). (2019b). QILT surveys. Graduate employment. https://www.qilt.edu.au/qilt-surveys/graduate-employment.

Sanger, M., & Giddings, M. (2012). A simple approach to complexity theory. *Journal of Social Work Education, 48*(2), 369–376. https://doi.org/10.5175/JSWE.2012.201000025.

Sutin, A. R., Costa, P. T., Wethington, E., & Eaton, W. (2010). Perceptions of stressful life events as turning points are associated with self-rated health and psychological distress. *Anxiety Stress and Coping, 23*(5), 479–492. https://doi.org/10.1080/10615800903552015.

Teacher Education Ministerial Advisory Group (TEMAG). (2014). *Action now: Classroom ready teachers*. Retrieved March 2015 from http://docs.education.gov.au/node/36783.

U.K. Parliament. (2019). Teacher Training. https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2019-07-16/HCWS1728/.

Um, S. J. (2019). Politics of hybridity: Teaching for social justice in an era of standards-based reform. *Teaching and Teacher Education, 81,* 74–83. https://doi.org/10.1016/j.tate.2019.02.011.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.

Woods, P., & Carlyle, D. (2002). Teacher identities under stress: The emotions of separation and renewal. *International Studies in Sociology of Education, 12*(2), 169–190. https://doi.org/10.1080/09620210200200089.

Yuan, R., Zhang, J., & Yu, S. (2018). Understanding teacher collaboration processes from a complexity theory perspective: A case study of a Chinese secondary school. *Teachers and Teaching, 24*(5), 520–537. https://doi.org/10.1007/s12564-019-09584-2.

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Chapter 9
Discourses of Quality in Australian Teacher Education: Critical Policy Analysis of a Government Inquiry into the Status of the Profession

Frances Hoyte, Parlo Singh, Stephen Heimans, and Beryl Exley

Abstract   Teacher quality has emerged as a powerful construct over the last 20 years at a global level. In Australia, it is a major discursive term in government-initiated inquiries, policy statements and enactment strategies. The quality discourse, driven by standardisation and large-scale testing, acts as a major force re-shaping teacher identity, narrowing teaching practices, and re-forming the teaching profession and professionalism. This technical framing of teaching under the mantra of quality has a significant effect on teacher education—what teachers are expected to learn, how they learn, and how they demonstrate achievement of learning. Governance of education through the mantra of quality restricts teacher education at the same time as teacher educators' perspectives are marginalised. Critical analyses are needed to map workings of the term in the policy landscape. This chapter, framed within the research field of critical policy studies, identifies the distinctive contribution of teacher educators in the most recent Australian inquiry into the teaching profession and challenges the regimes of truth that constrain teacher education at both local and global levels.

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1   Introduction

In Australia, several inquiries have been held into education and initial teacher education (ITE) (Mayer, 2014) over the last two decades resulting in a considerable amount of policy statement and enactment (Thompson, Pendergast, Singh, & Reynolds, 2019). For example, the *Inquiry into the Status of the Teaching Profession* (Crowley, & Senate Employment Education and Training References Committee, 1998) identified teacher education as a site of reform while a report from the Teacher Education Ministerial Advisory Group (TEMAG, 2014) focused exclusively on reform in teacher education. The most recent government inquiry, focusing on the status of the profession (Parliament of Australia, 2018–2019), generated 90 submissions, 14 of which were from university-based teacher education providers.

Quality discourses form part of the contemporary *regimes of truth* (Foucault, 1980) within these inquiries around teacher professional identity, teachers' work and teacher education. Discursively, 'quality' positions teachers as being both responsible for 'delivering' a quality product, and as targets for professional development in efforts to reach the mandated quality standards. Consequently, aspiring teachers and practicing teachers are subjected to processes of standardisation or regulation of their practice that hold them accountable for the quality of learning outcomes and regulate the scope of the professional development received during each career stage.

Clearly, quality is important. The stakes, we argue, are high, and the effectiveness of 'quality' as a political/policy project is wrought by the nature of the politics that drive and support it. Analyses are vital to show the workings of the term quality in the broader discursive milieu and how different articulations of the term might be silenced, marginalised and/or prioritised within official state policies on teaching specifically, and education more broadly. The ways in which the word quality is stitched to statements about teacher professional identities, teachers' work and teaching practices affects the education of teachers and pre-service teachers (Berliner, 2014; Ingersoll, 2007; Mockler, 2018; Leonard & Roberts, 2016; Rowe & Skourdoumbis, 2019).

Our goal in this chapter is to focus on teacher educators' accounts of 'quality' within the recent Australian government-led Inquiry into the Status of the Teaching Profession (Parliament of Australia, 2018–2019). An extensive literature identifies and critiques the dominant messages in the teacher quality discourse (e.g. Churchward & Willis, 2019; Larsen, 2010; Lewis, Savage, & Holloway, 2019; Mayer, 2014; Mockler, 2018; Rowe & Skourdoumbis, 2019) and the contribution of the media to the discourse (Bahr et al., 2018; Baroutis, 2016; Mockler, 2018). Teacher educators have borne the brunt of political pressure to reform but their voices have been increasingly marginalised from those now privileged in policy formation.

This paper focuses on the contributions of teacher educators to the most recent Australian Inquiry and aims to (a) unpack accounts of 'quality', (b) analyse conceptions of the work of teachers, (c) highlight the distinctive contributions to the broader discursive milieu, and (d) explore the significance of these voices for initial and ongoing teacher education and the wider profession.

2 Theoretical Framework and Methodological Considerations

Ball's (1990, 2005, 2015, 2016) resources for policy analysis provide the theoretical framework for the chapter. These resources are underpinned by a Foucauldian approach to discourse analysis which foregrounds questions about power and knowledge and their interconnections (see also Singh, 2015; Singh, Heimans, & Glasswell, 2014; Singh, Thomas, & Harris, 2013). Within this framework, policy formation is conceptualised as 'policy-as-discourse' such that policy is formulated from multiple competing voices about the way things are or could be, where some voices are privileged or silenced, and policy problems (e.g. 'teacher quality problem') are created or generated.

Policy creation is directly related to the maintenance and use of power. Policy discourses privilege particular ideologies (Mockler, 2018) and it is these ideas that are 'legitimated, disseminated and governed' (Down & Sullivan, 2019, p. 40). Policy formation involves significant discursive work to make certain word associations, such as 'quality' when used in relation to teaching, seem 'common-sense' and incontestable, that is, representing the will and interests of the majority of the people (Codd, 1988). Resulting policy texts set the parameters for what is considered thinkable, sayable, and understandable in relation to a particular social issue, in this case, quality in relation to teaching. These texts constitute struggles over defining 'what' the problem is and 'how' this problem might be addressed. Privileged texts then become influential in determining the policy realities (Diem et al., 2014). Statements of policy are made; laws are endorsed and funding is provided under particular restraints to enable the enactment of the dominant ideas.

Ball (1990, 2015, 2016) argues that the formation and enactment of policy exerts social control through several interrelated processes. Hierarchical observation of work brings pressure to bear on those involved in that work, urging conformity to standards. Normalisation or standardisation processes seek to simplify the work so that it can be perceived as a manageable set of skills amenable to measurement. Evaluation of the outcomes of the work and of the workers themselves is a consequence of standards and observation processes.

However, Ball (2016) claims that his critical policy framework also offers potential for contestation and social change by opening up opportunities for challenging the regimes of truth constituted in official state policies. This challenge is made possible through identifying and critiquing the messages that dominate the discourse, identifying and amplifying alternate voices.

This chapter will provide an overview of the policy landscape before reporting on our analysis about the distinctive ways in which teacher educators contributed to the discourse on teacher quality and teacher education quality within recent Australian-based inquiries into the status of the teaching profession.

3   A Critical Review of the Policy Landscape

Globalising standardisation, commensurate modes and spaces of/for measurement (Lingard, Martino, & Rezai-Rashti, 2013) have gained importance at the same time as policy actors, above and within nation-states, develop frameworks that constitute a new sense of education. Agreed standards for measurement and reporting have led to standardised testing and ranking regimes that operate above nation-states (through non-democratically elected governance entities like the Organisation for Economic Co-operation and Development) (Sellar & Lingard, 2013; Sieber & Mantel, 2012), but nonetheless exert enormous power over them (Robertson & Sorenson, 2018). The discourse of 'quality' provides a rationale for these new modes and spaces for/of activity, and thus becomes a policy actor enacting particular types of practices around what constitutes quality teaching.

Over the last two decades, the issue of teacher quality has exerted significant influence in the discourse and in education policy enactment (e.g. Call, 2018; Churchward & Willis, 2019; Gore, 2016; Larsen, 2010; Lewis et al., 2019; Mayer, 2014). Concurrently, the federal government influence in education has increased (e.g. Mockler, 2018) and policies about teachers and schooling have become entwined with those about teacher education. As an example, the professional standards for teachers (Australian Institute for Teaching and School Leadership, 2011) influence both teachers' work and teacher education courses. We argue, following Latour (2005) that professional standards, standardised tests, and web sites which map school performance against national tests are non-human actors exerting control over teachers' professional work and re-shaping teacher identities. The powerful voice of national policy makers and their work around teacher quality pose challenges for the shape of education and teacher education which are outlined below.

3.1   New Public Management, Standardisation and Teacher Quality

The teacher education policy landscape is dominated by discourses of New Public Management. Ball (2005) describes the outworking of New Public Management in the sphere of education when he argues that five elements are identifiable in the ensemble of educational reform packages: (1) neo-liberalism or the ideologies of the market; (2) new institutional economics through which social behaviour is explained as 'possessive individualism', that is, social formations are a series of market relations in which rational actors have obligations to themselves and not others; (3) performativity—'a form of indirect steering or steering from a distance which replaces invention and prescription with target setting, accountability, and comparison'; (4) Public Choice Theory… choice is a key aspect of neo-liberalism (5) New Managerialism… 'a delivery system and a vehicle for change' which stresses

'constant attention to "quality"'; innovation, and appraisal mechanisms as a means of employee control (pp. 70–71).

One aspect of New Public Management evident in teacher education policy is the focus on improving educational effectiveness through performance management via processes of standardisation (Osbourne, 2006). Discourses of effect and effectivism define education in narrow terms, as gains in student learning outcomes measured by standardised national and international tests. Teacher performance is measured in terms of effect size or effectiveness in improving student test performance outcomes. The education of teachers is narrowed to a simplistic input—output model, more professional development input around basic literacy and numeracy to improve student test result outputs.

The standardisation of teacher practice via 'a limited corpus of state prescribed knowledge accompanied by a set of similarly prescribed skills and competencies' (Beck, 2009, p. 10) is a global phenomenon which impacts 'on the practice of the profession' and has implications for teacher education. A reliance on standardised measures of student success, including large scale international assessment, such as Program for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMMS), to validate student learning and evaluate teacher effectiveness is also evident on the international stage (Breakspear, 2014; Flores, 2019; Clark & Phelan, 2015; Fischman et al., 2019; Thompson & Cook, 2014). Ball (2016) posits that in the sphere of education, the increase of state or governmental control over the work of teachers is evident in the imposition on schools, of a management structure akin to business and industry. This process reframes education as a commodity and teaching as a mode of production. As a result, teachers are separated from policy and decision-making and are subjected to managerial controls such as teacher appraisal, pay for performance and evaluation via the testing of students. These processes narrow the purposes of education and how these purposes might be put into practice (see Biesta, 2014, 2015; Gewirtz & Ball, 2000). This 'narrowing' affects teacher education, the teaching profession, and the way that 'education' operates in a functioning democracy.

3.2 Teacher Quality and Quality Teacher Education

In the policy landscape, teacher quality is predominantly represented in terms of deficit. Portraying teacher quality as a yet-to-be-realised goal conveys an underlying implication that teachers and teacher education lack quality. This assumed deficit is then employed to rally support for initiatives and funding commitments and to justify accountability measures (see for example; Dinham, 2013; Down & Sullivan, 2019; Gore, 2016; Loughran, 2016; Mockler, 2018; Rowe & Skourdoumbis, 2019; Savage & Lewis, 2018). This deficit view plays a powerful role in the formulation of education policy which crowds out other issues.

3.3   Conceptions of Teachers' Work and Their Knowledge and Skills for Teaching

Another central issue is a limited conception of teachers' work and requisite skills. A representation of education as transmission of knowledge has led to a narrow focus on subject knowledge, pedagogical skills and behaviour management as prerequisites for successful teaching (Loughran, 2016; Mayer, 2014). In critiquing this limited view, Biesta (2015) suggests that while 'good education' has three goals, qualification (preparation for work) has been prioritised over socialisation (enabling relationships) and subjectification (developing identity and individuality). This narrowed conception of teaching prioritises student achievement as a measure of teacher quality and eliminates the need for teacher professional judgement to balance the demands of the three diverse but important goals.

In contrast with the dominant technicist framing of 'teacher quality' within a performative culture, other voices present alternate concepts of teacher professionalism and 'quality teaching' (e.g. Bourke, Lidstone & Ryan, 2013; Larsen, 2010). This literature explores a professionalism that includes reflexive practice, valuing of students and a defence of teachers' professional and specialist expertise.

4   An Analysis of the Submissions

This chapter seeks to address the most recent parliamentary inquiry in Australia (Parliament of Australia, 2018–2019) because of its currency and the significant parallels between this recent inquiry and one with a similar name and purpose, initiated twenty years ago (Crowley et al., 1998). Two long-term outcomes of the 1998 inquiry were (1) to fortify teacher quality as a discursive element in policy connected with the processes of standardisation and measurement and (2) to position initial teacher education as a major site for reform. As changes in teacher education (including course accreditation processes and government pronouncements on entry requirements and graduation standards) have unfolded, teacher educators have become increasingly silenced in the discourse.

Ostensibly, a parliamentary inquiry provides a public forum to which everybody can contribute; a seemingly democratic process providing governments with opportunity to listen to the contributions of the many. The inquiry initiated in 2018 received 90 written submissions and in addition there were five public hearings. A search of Australian teacher education providers identified 39 universities with schools of education. Of these institutions, twelve made written submissions to the inquiry. Two responses were received from Councils of Deans of Education, one at national level and one at a state level. The universities represented several different states and each of the different categories of university in Australia: Group of Eight (G8), Australian Technology Network (ATN) and Innovative Research Universities (IRU). This chapter examines these submissions through three stages of analysis.

Table 1 Analysis of the nature of teaching work and enabling knowledge, skills and attributes for teaching

Nature of teaching work	Enabling capabilities
Student complexity	Ability to differentiate
Curriculum complexity	Deep curriculum knowledge
School and community complexity	Comprehensive discipline knowledge
Pedagogical complexity e.g. ICT/21st C skills	Nuanced pedagogical skills
Assessment complexity	Relational capability
Pace of change	Technological competence
Student behaviour demands	Adaptability/flexibility
Administrative demands	Time management
Extra-curricular demands	Data analysis skills
Visibility/accessibility (email, smart phones)	Resilience
	Creativity/innovation
	Autonomy/initiative
	Reflexivity/Decision making capacity
	Passion/commitment/dedication
	Collegiality/collaboration

The first examines the term quality, in reference to teachers and initial teacher education, whether it is evident and if so, how it is referenced. This analysis is important because of the powerful role that teacher quality plays in the discourse.

The second analysis aims to explore the submissions for teacher educators' discursive constructions about the work of teaching and therefore about their own work in preparing graduates for the profession. This analysis is important in light of the technicist model that dominates the current discourse, limiting the nature of teacher education.

The third analysis catalogues the range of suggestions in the submissions for improving the status of the profession. This analysis in important because the problem of the status of teachers persists despite 20 years of government policy focusing on accountability and standardisation. Throughout this time, teacher educator voices have been consistently ignored so it is prudent to explore how their suggestions might differ from the dominant voices in the discourse.

Appendix 1 provides details of each submission, including the category of university, the identifier used in this chapter for each of the universities, a summary of the references to 'quality' and how each submission's references were categorised in the first level of analysis. Table 1 provides details of the second analysis. Table 2 provides details of the third analysis. A summary and discussion of each analysis follows in the next section.

4.1 Reference to Quality for Teachers and Teacher Education

Three basic approaches to the use of the term quality in the submissions were identified (for more detail see Appendix 1):

Table 2 Analysis of the suggestions for improving the status of the profession

Factors to be improved	Opportunities to be provided	Aspects to be reduced
Quality of leadership Support for early career teachers Community support for teachers Support for professional development Pathways for career advancement Conditions for teachers (e.g. salary) School engagement with Initial Teacher Education providers Trust in and valuing of teachers Teaching environments Australian Professional Standards for Teachers Government support for teachers Government attention to recommendations in reports and reviews	Teacher agency and autonomy (e.g. in curriculum design and delivery) Empowerment of teachers Innovation Collaboration in research with Universities (as professional development) Research into teaching Stronger links between schools and Initial Teacher Education providers	Interference from outside education Regulation Negative media coverage Pace of change Surveillance/scrutiny Excessive work demands

(i)   No explicit mention of teacher quality/quality teacher education (Submissions A, D, E, J, K, N)

(ii) Explicit mention of quality with respect to teachers and teacher education (Submissions B, C, F, G, H, I)

(iii) Explicit mention of the 'teacher quality' discourse with a critique (Submissions L, M; K also refers to the discourse).

In the first category, submission writers made no explicit comment about the quality of teachers and teacher education. This choice is unremarkable at one level because the terms of reference for the inquiry do not identify teacher quality and teacher education as specific factors to consider. The choice of content or ideas to talk about is one of the most obvious choices available to those who wish to contribute to a conversation (Halliday, 1994). These submissions foreground other issues and leave teacher quality and teacher education quality out of the picture. In light of the consistent negative portrayal of teacher quality and the persistent focus that teacher education is in need of reform, this silence constitutes a different perspective.

Submission D provides an example. Three paragraphs addressing retention rates of those entering the profession (The inquiry's fourth term of reference) illustrate the way in which this submission addresses alternate views of teacher quality by focusing instead on other word choices such as good teaching and learning. Evaluative words

express judgement of the current practices, e.g. 'demands for measurement and standardisation of everything', 'regime of measurement', and 'regimentation of teaching practice'. These negative evaluations are aligned with an array of unfortunate negative consequences such as 'increasing teacher workload', 'student disengagement', 'not thinking deeply', 'formulaic' teaching approaches and 'de-professionalism of teachers'. This submission mentions 'good education' in contrast and by doing so hints at an alternate perspective to the current context.

In the second category, the writers of Submissions B, C, F, G, H and I acknowledge the importance of teacher quality and the role of teacher education in producing teacher quality. In so doing, these writers position themselves as committed to ensuring teacher quality and delivering quality teacher education. It is noteworthy that these six submissions mention teacher quality when the terms of the inquiry do not. We suggest that through making this choice the writers claim the inquiry as a legitimate space in which to address teacher quality and teacher education quality. These submissions then provide different perspectives from the narrow definitions and deficit evaluations of teacher and teacher education quality that dominate the discourse.

Submission G provides an example. In this submission, intertextual references are included that claim the importance of teacher quality. The first is to the United Nations' goals for sustainable development which makes teacher quality an issue of global significance. The second is to Hattie's (2012) work which is widely used in Australia to promote the importance of 'quality teachers' for student success. A third claim is made about the quality of teacher education courses: 'Teachers in Australia are graduates of high-quality courses…' (p. 2). By making these three intertextual references, the writers position themselves as committed to teacher quality and connect the substance of their submission (about teacher status) with the wider discourse on teacher quality. This submission makes positive statements about teacher quality and teacher education quality, and links teacher quality with the complexity of teaching.

The third category of response explicitly names the 'teacher quality' discourse. The writers of Submissions L and M are critical of the ways in which teacher quality and teacher education quality are represented discursively. These submissions turn the tables of the critique, challenge government action and provide alternate aspects of education that could be the focus of quality improvements.

An example of this third category is Submission L. In this submission, the negative media discourse on 'teacher quality' is listed as a factor contributing to teacher dissatisfaction and low teacher status.

> in the Australian media… (when the) term 'teacher quality' (is used) in relation to school teachers the overriding connotation is that there is something implicitly wrong with teachers themselves (Submission L, p. 1).

The writers then criticise governments for failing to respond appropriately to the range of recommendations made in the many reports and inquiries and make the challenge that 'it is time to take the professional standing of the teaching profession seriously' (p. 1).

4.2 Conceptions of Teachers Work

In the second analysis, we identified two general sets of descriptions (Table 1). The first set referenced the nature of teachers' work. This set comprises a list of the *realities* that make teaching complex and demanding. The second set of descriptions outlines the knowledge, skills and dispositions that the submission writers considered *enabling requirements* for teachers to respond well to the realities of teaching outlined in the first column. While the submission writers may not claim that their individual listings are exhaustive, the combined lists in the table and the subsets in each submission provide some significantly different perspectives from those in the dominant discourse.

In considering the two lists, we make two observations. First, the realities of teaching (Column 1) are diverse and demanding while the enabling qualities (Column 2) are comprehensive. Teacher educators perceive their task to involve preparing graduates with subject knowledge and a pedagogical repertoire but also, of equal importance were preparation for managing complexity and using reflection to inform autonomous decision-making. The ability to cater for diversity (to be inclusive), flexibility (or adaptability), and resilience were also referenced in at least half of the reports. Second, the components of the first list do not have a direct, one-to-one correspondence to components of the second. There is no simple relationship between the demands on one hand and the required, enabling attributes on the other.

In summary, these submissions show a comprehensive and nuanced appraisal of the work of teachers. In contrast to the dominant discourse, these submissions identify a suite of abilities and dispositions that may defy efforts to standardise and measure (e.g. the ability to make considered decisions in response to complex contexts, adaptability and resilience). While, as Biesta (2015) suggests, a neoliberal discourse concentrates the focus of policy on student academic achievement with an emphasis on a technical conception of teaching, the voices of these teacher educators advocate a broader range of educational goals and a role for professional judgement.

4.3 Suggestions to Improve the Status of the Profession

In the third analysis, we explore the suggestions made by teacher education providers to improve the status of the profession. The suggestions clustered in three categories: first, aspects of education external to the teacher that were in need of improvement; second, qualities of teachers' work for which more opportunities need to be provided; and third, aspects of current educational contexts that needed to be reduced or removed in order to allow teachers to do their work (Table 2).

Across these suggestions three features emerge. The first is the contrastive way in which 'quality' is used in the submissions. The quality of teachers and teacher education is affirmed in the submissions, while, in contrast, a lack of quality is identified in the conditions under which teachers' work. The second feature pertains to the

contrast between current policy solutions and teacher educator suggestions. Where current solutions have a narrow focus on standardisation and evaluation, the teacher educators identified several recommendations that promote a more complex conception of teacher quality involving creativity and innovation, diversity and autonomy. The third observation concerns references made to the distinctive role that teacher education providers believe they can contribute to the status of the profession. Several providers claimed both the ability and the responsibility of universities to be involved in researching education and teaching and of the benefits of strategic collaboration with schools to support teachers' professional development (see also Singh, Märtsin, & Glasswell, 2015).

In summary, if the dominant voices in the policy discourse chart a narrow course for education reform, as we suggest they do, then our third analysis reveals a different perspective from teacher educators. Teacher educator solutions are based on belief in the complexity of education. They contend that more opportunity and support for teachers to develop and use their professional expertise is required. Furthermore, they propose that teacher education requires ongoing research and development in which universities have a unique role to play.

5 Implications for Teacher Education

In this section we explore three key implications arising from our analysis. Although the ideas in these submissions are not all new insights in the field of critical policy analysis, they are important and timely.

The suggestions made in these submissions parallel ideas raised elsewhere. For example, Down and Sullivan (2019) describe teachers' work as being relational, emotional and collective, as a scholarly endeavour of vital importance for creating the type of society in which we hope to live. Their understanding about teachers' work, like Biesta's (2015) goals for education, have implications for teacher education as providers prepare teachers to develop a citizenry with the capacity to engage in the democratic process and help students develop their individuality and potential. Teacher educators make a significant contribution to the discourse via this inquiry. Their submissions articulate important insights and make them accessible at a local level to teachers and the wider community; they are readily available and very readable. These submissions alert readers to the existence of a dominant discourse, to the potential risks of an uncritical adoption of that discourse and to alternate conceptions of good education and teacher professionalism.

One important implication is that conceptions of teacher quality should be part of thoughtful public discussion. The way that ideas, like teacher quality, are defined matter for teachers and students. Their definition influences funding and public expectations which in turn can constrain teacher education. A simplistic view of teacher education belies the more complex processes in which teachers need to weave together a selection of skills and knowledge as they craft responses to diverse contexts. Good education, and the place of quality within this, is especially crucial

for students and schools in poverty and requires a social justice perspective (Scholes et al. 2017).

A second implication is the need for critical questioning, by teachers and teacher educators, of the practices that are promoted in schools. The submissions raise awareness that the dominant discourse is supported by organisations, texts and individuals with powerful voices that are rarely contested. These submissions foreground that there are alternate views which also have support from credentialled proponents. They provide a timely challenge to the simplistic mantra encouraging teachers to rely on 'evidence-based' practices. Teacher educators need to prepare teachers who can inquire frequently and critically about diverse categories of research, as well as the research models underpinning 'evidence-based' practices.

And finally, these submissions talk specifically about the distinctive role that universities should take in shaping the future of education through research initiatives. They speak clearly about the responsibility of teacher educators to be involved in research collaborations with schools and educators (see Heimans & Singh, 2018, 2016; Heimans, Singh, & Glasswell, 2016). This work is vital and universities are ideally placed to take this lead. They are linked to global research networks, so that they have access to a wealth of knowledge and expertise from diverse contexts. The submission writers identify their organisations' interest in and commitment to initiating partnerships that connect this expertise with local contexts to make a positive impact on the lives of teachers and students.

6   Conclusion

Twenty years separate the two government inquiries share their names and purpose (Crowley et al., 1998; Parliament of Australia, 2018–2019). Both inquiries canvassed ideas widely and received a plethora of suggestions to address the low status of teaching. Successive governments have attended very selectively to the voices collated in the first report (Crowley et al., 1998). As a consequence, many of those voices, although asked for have been archived. This result is one aspect of policy-as-discourse in action.

Over two decades, policy rhetoric has continued to cast teacher education as a problem in need of solution. Policy actions have focused on reform involving standardisation and control without achieving significant improvements in student outcomes (on the instruments selected to measure success of those reforms). Perhaps it is time to rethink the approaches driven by the dominant discourse. This chance to hear and respond to alternate perspectives is another affordance of policy-as-discourse.

The most recent inquiry lapsed at the federal election in May, 2019. As a result, only cursory attention has been given to the submissions. In October 2019, the government finally prepared a report on the review (Parliament of the Commonwealth of Australia, 2019). This report may have been intended to reassure the public that the submissions had not been silenced, but its brevity might suggest otherwise. The

rich offerings from highly invested educators with extensive expertise are condensed in little than a few pages of summary.

In response to concern that the valuable contributions of teacher educators might remain hidden, our purpose is to bring their insights into the more public space of this teacher education forum. The chapter has endeavoured to outline the distinctive ways that some Australian teacher educators have talked about teacher education. Their submissions represent an attempt to 'talk back' to the dominant discourse and to open up the conversation about school education and teacher education. These teacher educators talk of teacher competence as reality rather than as unrealised. They represent teachers' work as complex and nuanced rather than in technicist terms. They suggest a comprehensive range of approaches to ensure that the very real concerns facing teachers and education in Australia today might be appropriately addressed. And finally, they claim a distinctive and valuable responsibility in maintaining and developing Australia's education future.

Appendix 1

Analysis of Submission references to 'quality' with respect to teachers and teacher education

University category and identifier		Reference to quality	Approach to 'teacher quality'
G8	A	No direct mention of teacher quality Quality leadership- as a goal to address 'status'	i
	B	Quality of learning outcomes directly linked to: Quality of graduates (and the support they receive) Policy interventions influence 'quality and effectiveness of teaching'	ii

(continued)

University category and identifier		Reference to quality	Approach to 'teacher quality'
	C	'Teacher quality… a key element that will sustain the profession' New teachers are 'overwhelmed with the enormity of the job despite the completion of high quality ITE program' 'Teacher quality is an important factor in quality student learning outcomes' 'high quality teachers' dependent on their wellbeing 'teacher quality' is questioned in the face of poor educational outcomes Quality of school system- linked to teachers- TEMAG reference	ii
Australian Technology Network	D	No mention of teacher quality, quality teaching or teacher education quality	i
	E	No mention of teacher quality, quality teaching or teacher education quality Mentions of 'good teaching and learning'	i
Innovative Research Universities	F	Direct reference to quality: 'the quality of content and delivery for teachers is nationally consistent', 'quality of teaching is important for high performing schools' establishes the need for 'prioritising time for quality professional development' (p4)	ii

(continued)

University category and identifier		Reference to quality	Approach to 'teacher quality'
	G	Three mentions of quality that affirm: Importance of quality teachers and teaching (UN goals) Affirm 'high quality (teacher education) courses' Affirm 'high quality of the work of teachers'	ii
	H	Claims there is: Quality in initial teacher education Quality in teachers BUT not in teaching environments	ii
Other	I	Affirms that: Quality learning in Initial teacher education and Quality learning in Professional development Contribute to quality teachers	ii
	J	No mention of quality	i
	K	No mention of teacher quality	i (iii)
	L	Discusses teacher quality in the discourse—reference to negative media coverage Focus on early childhood sector—National Quality Framework	iii
Councils of Deans of Education	M	'highest quality graduates' is stated as the goal of Initial Teacher Education providers References 'quality' in the discourse—explicit intertextual references (quality teaching force, quality education) and identifies 'quality teacher' as a problematic discursive term	iii
	N	No mention of quality	i

Approach to 'teacher quality' Type i—no reference to teacher quality, Type ii—direct reference to teacher quality, Type iii- reference to teacher quality discourse

References

Australian Institute for Teaching and School Leadership (AITSL). (2011). *Australian professional standards for teachers*. https://www.aitsl.edu.au/teach/standards.

Australian Productivity Commission (2017). *Report on Government Services 2017,* Volume B: Child care, education and training. Retrieved from https://www.pc.gov.au/research/ongoing/report-on-government-services/2017/child-care-education-and-training/rogs-2017-volumeb.pdf.

Bahr, N., Graham, A., Ferreira, J., Lloyd, M., & Waters, R. (2018). *Promotion of the profession*. Retrieved from: https://www.qct.edu.au/pdf/Promotion_TPQ.pdf.

Ball, S. J. (1990). *Politics and policy making in education*., Explorations in policy sociology London: Routledge.

Ball, S. J. (2005). *Education policy and social class: The selected works of stephen ball* (1st ed.). Hoboken: Taylor & Francis.

Ball, S. J. (2015). What is policy? 21 years later: Reflections on the possibilities of policy research. *Discourse: Studies in the Cultural Politics of Education*, *36*(3), 306–313. http://dx.doi.org/10.1080/01596306.2015.1015279.

Ball, S. J. (2016). Subjectivity as a site of struggle: refusing neoliberalism? *British Journal of Sociology of Education, 37*(8), 1129–1146. https://doi.org/10.1080/01425692.2015.1044072.

Baroutis, A. (2016). Media accounts of school performance: Reinforcing dominant practices of accountability. *Journal of Education Policy, 31*(5), 567–582. https://doi.org/10.1080/02680939.2016.1145253.

Beck, J. (2009). Appropriating professionalism: Restructuring the official knowledge base of England's 'modernised' teaching profession. *British Journal of Sociology of Education, 30*(1), 3–14. https://doi.org/10.1080/01425690802514268.

Berliner, D. C. (2014). Exogenous variables and value-added assessments: A fatal flaw. *Teachers College Record, 116*(January), 1–31.

Biesta, G. (2014). *The beautiful risk of education*. London: Taylor and Francis.

Biesta, G. (2015). What is education for? On good education, teacher judgement, and educational professionalism. *European Journal of Education, 50*(1), 75–87.

Bourke, T., Lidstone, J., & Ryan, M. (2013). Teachers performing professionalism: A Foucauldian archaeology. *SAGE Open*. https://doi.org/10.1177/2158244013511261.

Breakspear, S. (2014). *How does PISA shape education policy making? Why how we measure learning determines what counts in education*. Melbourne, Australia: The Centre for Strategic Education (CSE).

Call, K. (2018). Professional teaching standards: A comparative analysis of their history, implementation and efficacy. *Australian Journal of Teacher Education, 43*(3), 93–108. https://doi.org/10.14221/ajte.2018v43n3.6.

Churchward, P., & Willis, J. (2019). The pursuit of teacher quality: Identifying some of the multiple discourses of quality that impact the work of teacher educators. *Asia-Pacific Journal of Teacher Education, 47*(3), 251–264. https://doi.org/10.1080/1359866X.2018.1555792.

Clark, M., & Phelan, A. (2015). *The power of negative thinking in and for teacher education.* Faculty of Education & Theology, York St John University, UK. https://doi.org/10.1177/1757743815607025.

Codd, J. (1988). The construction and deconstruction of educational policy documents. *Journal of Education Policy, 3*(3), 235–247. https://doi.org/10.1080/0268093880030303.

Crowley, R., Education, S. E., & Committee, T. R. (1998). *A class act: Inquiry into the status of the teaching profession*. Canberra, Australia: Commonwealth of Australia.

Diem, S., Young, M. D., Welton, A. D., et al. (2014). The intellectual landscape of critical policy analysis. *International Journal of Qualitative Studies in Education, 27*(9), 1068–1090.

Dinham, S. (2013). The quality teaching movement in Australia encounters difficult terrain: A personal perspective. *Australian Journal of Education, 57*(2), 91–106. https://doi.org/10.1177/000-49-44113485840.

Down, B., & Sullivan, A. (2019). Classroom ready teachers. In A. Sullivan, B. Johnson, & M. Simmons (Eds.), *Attracting and Keeping the Best Teachers. Issues and Opportunities* (pp. 39–62). Singapore: Springer.

Fischman, A., Topper, M., Silova, I., Goebel, J., & Holloway, J. L. (2019). Examining the influence of international large-scale assessments on national education policies. *Journal of Education Policy, 34*(4), 470–499. https://doi.org/10.1080/02680939.2018.1460493.

Flores, M. A. (2019). Unpacking teacher quality: Key issues for early career Teachers. In A. Sullivan, B. Johnson, & M. Simmons (Eds.), *Attracting and Keeping the Best Teachers. Issues and Opportunities* (pp. 15–38). Singapore: Springer.

Foucault, M. (1980). *Power/Knowledge* (C. Gordon, L. Marshall, J. Mepham, & K. Soper, Trans. C. Gordon Ed.). Brighton, Sussex: The Harvester Press.

Gewirtz, S., & Ball, S. (2000). From 'Welfarism' to 'New Managerialism': Shifting discourses of school headship in the education marketplace. *Discourse: Studies in the Cultural Politics of Education*, *21*(3), 253–268. https://doi.org/10.1080/713661162.

Gore, J. (2016). Reform and the reconceptualisation of teacher education in Australia. In R. Brandenburg, S. McDonough, J. Burke, & S. White (Eds.), *Teacher education innovation, intervention and impact* (pp. 15–34). Singapore: Springer.

Halliday, M. A. K. (1994). *An Introduction to Functional Grammar*. (2edn) London: Arnold.

Hattie, J. (2012). *Visible learning for teachers: maximising impact on learning*. London: Routledge.

Heimans, S., & Singh, P. (2016). Re-presenting, performing critical/post-critical research realities. *Research in Education, 96*(1), 93–109. https://doi.org/10.1177/0034523716664606.

Heimans, S., & Singh, P. (2018). Putting the steam back into critique¿Gathering' for critical–dissensual collaborations in education policy research. *Policy Futures in Education, 16*(2), 185–201. https://doi.org/10.1177/1478210317736209.

Heimans, S., Singh, P., & Glasswell, K. (2017). Doing education policy enactment research in a minor key. *Discourse: Studies in the cultural politics of education*, *38*(2), 185–196. https://doi.org/10.1080/01596306.2015.1074428.

Ingersoll, R. (2007). Misdiagnosing the teacher quality problem. *Consortium for Policy Research in Education CPRE Policy Briefs*, 12. Retrieved from Penn Libraries, Scholarly Commons website: https://repository.upenn.edu/cpre_policybriefs/35.

Ladwig, J. G. (2016). Limits of 'Evidence-Based Learning'. In G. E. Hall, L. F. Quinn, & D. M. Gollnick (Eds.), The Handbook on Teaching and Learning. Research Gate. https://doi.org/10.13140/rg.2.2.36283.21281.

Larsen, M. A. (2010). Troubling the discourse of teacher centrality: A comparative perspective. *Journal of Education Policy, 25*(2), 207–231. https://doi.org/10.1080/02680930903428622.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford: Oxford University Press.

Leonard, S. N., & Roberts, P. (2016). No time to think: policy, pedagogy and professional learning. *Journal of Education Policy, 31*(2), 142–160. https://doi.org/10.1080/02680939.2015.1047801.

Lewis, S., Savage, G. C., & Holloway, J. (2019). Standards without standardisation? Assembling standards-based reforms in Australian and US schooling, *Journal of Education Policy*. https://doi.org/10.1080/02680939.2019.1636140.

Lingard, B., Martino, W., & Rezai-Rashti, G. (2013). Testing regimes, accountabilities and education policy: Commensurate global and national developments. *Journal of Education Policy*, *28*(5) https://doi.org/10.1080/02680939.2013.820042.

Loughran, J. (2016). Teaching and teacher education: The need to go beyond rhetoric. In R. Brandenburg, S. McDonough, J. Burke & S. White (Eds.), *Teacher Education. Innovation, Intervention and Impact.* (pp. 253–264). Singapore: Springer.

Mayer, D. (2014). Forty years of teacher education in Australia: 1974–2014. *Journal of Education for Teaching, 40*(5), 461–473. https://doi.org/10.1080/02607476.2014.956536.

Mockler, N. (2018). Early career teachers in Australia: a critical policy historiography. *Journal of Education Policy, 33*(2), 262–278. https://doi.org/10.1080/02680939.2017.1332785.

Organisation for Economic Co-operation and Development (OECD). (2005). *Teachers Matter: Attracting, developing and retaining effective teachers*. Paris, France. Retrieved from https://www.oecd.org/education/school/34990905.pdf.

Osbourne, S. (2006). The new public governance? *Public Management Review, 8*(3), 377–387. https://doi.org/10.1080/14719030600853022.

Parliament of Australia. (2018–2019). *Inquiry into the Status of the Teaching Profession.* https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/TeachingProfession.

Parliament of the Commonwealth of Australia. (2019). *The Status of the Teaching Profession* https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/TeachingProfessionNew/Report.

Robertson, S. L., & Sorensen, T. (2018). Global transformations of the state, governance and teachers' labour: Putting Bernstein's conceptual grammar to work. *European Educational Research Journal, 17*(4), 470–488. https://doi.org/10.1177/1474904117724573.

Rowe, E., & Skourdoumbis, A. (2019). Calling for 'urgent national action to improve the quality of initial teacher education': The reification of evidence and accountability in reform agendas. *Journal of Education Policy, 34*(1), 44–60. https://doi.org/10.1080/02680939.2017.1410577.

Savage, G. C., & Lewis, S. (2018). The phantom national? *Assembling National Teaching Standards in Australia's Federal System, Journal of Education Policy, 33*(1), 118–142. https://doi.org/10.1080/02680939.2017.1325518.

Scholes, L., Lampert, J., Burnett, B., Comber, B. M., Hoff, L., & Ferguson, A. (2017). The politics of quality teacher discourses: Implications for pre-service teachers in high poverty schools. *Australian Journal of Teacher Education*, *42*(4). 19–43. http://dx.doi.org/10.14221/ajte.2017v42n4.3.

Sellar, S., & Lingard, B. (2013). The OECD and global governance in education. *Journal of Education Policy, 28*(5), 710–725. https://doi.org/10.1080/02680939.2013.779791.

Sieber, P., & Mantel, C. (2012). The internationalization of teacher education: An introduction. *Prospects, 42,* 5–17. https://doi.org/10.1007/s11125-012-9218-x.

Singh, P. (2015). Performativity and pedagogising knowledge: Globalising educational policy formation, dissemination and enactment. *Journal of Education Policy, 30*(3), 363–384. https://doi.org/10.1080/02680939.2014.961968.

Singh, P., Heimans, S., & Glasswell, K. (2014). Policy enactment, context and performativity: Ontological politics and researching Australian National Partnership policies. *Journal of Education Policy, 29*(6), 826–844. https://doi.org/10.1080/02680939.2014.891763.

Singh, P., Märtsin, M., & Glasswell, K. (2015). Dilemmatic spaces: High-stakes testing and the possibilities of collaborative knowledge work to generate learning innovations. *Teachers and Teaching, 21*(4), 379–399. https://doi.org/10.1080/13540602.2014.976853.

Singh, P., Thomas, S., & Harris, J. (2013). Recontextualising policy discourses: A Bernsteinian perspective on policy interpretation, translation, enactment. *Journal of Education Policy, 28*(4), 465–480. https://doi.org/10.1080/02680939.2013.770554.

Teacher Education Ministerial Advisory Group [TEMAG]. (2014). *Action now: Classroom ready teachers*. Australia: Department of Education.

Thompson, G., & Cook, I. (2014). Education policy-making and time. *Journal of Education Policy, 29*(5), 700–715. https://doi.org/10.1080/02680939.2013.875225.

Thompson, R., Pendergast, D., Singh, P., & Reynolds, J. (2019). *Creating futures summit: A focus on the teaching profession*. Brisbane: Griffith University.

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Chapter 10
Teacher Education and the International Baccalaureate: Where Is the Evidence?

Sanjay Lalwani and Jillian Fox

Abstract The forces of globalisation have compelled education systems to reconstitute their core business to develop citizens who have the knowledge, skills and understandings to operate in global environments. The International Baccalaureate's (IB) programmes, which purport to develop such capabilities, have recently seen an explosive uptake in schools worldwide. As the success of the IB programmes is based on the capabilities of teachers who work with them, there are demands on teacher educators and teacher education courses to develop such capable teachers. A systematic literature review was conducted to establish the research evidence that supports and informs IB programmes and principles in pre-service and in-service teacher education courses. The results revealed a dearth of peer-reviewed literature that teacher educators can use to inform best-practice pre-service and in-service IB teacher training offerings.

1 Introduction

Globalisation is a most prevalent and ubiquitous phenomenon. According to Rizvi and Lingard, a globalised context has produced "entrenched and enduring patterns of worldwide interconnectedness—the stretching of social relations and activities across national spaces and regions, resulting in almost all communities becoming enmeshed in worldwide systems and networks of interaction" (2010, p. 24). Education has not been immune to these forces. In response, national education policies and practices have been extensively reconceptualised across all systems and "new imaginations and practices regarding the aims and purposes of education have emerged" (Clark & Savage, 2017, p. 405). Education authorities worldwide have

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recognised that education must enable graduates to compete and flourish as future citizens through the acquisition of 21st Century skills—citizens who, in addition to being critical thinkers, effective communicators and creative problem solvers, are digitally literate, culturally sensitive and globally aware. According to the Organisation for Economic Cooperation and Development (OECD) the internationalisation of education has accelerated over the past three decades "both in response to and in conjunction with the broader process of globalisation" (OECD, 2008, p. 235) and has had a profound impact. Governments are increasingly putting demands on education systems to provide students with the capabilities which will prepare them to engage and flourish, in and across, as McLuhan (1964) coined, the *global village*. In addition, parents, as they look at global opportunities available to their children, are stakeholders with expectations concerning the most apt type of education that their children should encounter.

In recent decades we, as educators and researchers, have witnessed an increased interest in globally oriented education programmes which purport to most effectively provide students with the foundations for a future in a globalised world. Programmes such as Fieldwork Education's International Early Years, Primary, and Middle Years Curriculum; and, the International Baccalaureate's (IB) four curriculum frameworks, claim to provide students with an education that sets a global standard and develops *international mindedness* (Singh & Qi, 2013). In turn, teachers are required to have the skills and knowledge to teach the specific curriculum, pedagogies and dispositions promoted in these types of programmes.

The IB is one of the largest global not-for-profit educational foundations which provides a continuum of four education programmes spanning the 3–19 age range. As at September 2019, 6812 IB programmes were being offered in over 150 countries, representing an approximate 56% growth since 2012 (IB, 2019a, b)—a testimony to interest in international education. This growth has been particularly evident in the Asia Pacific region (Wright, Lee, Tang, & Tsui, 2016), with Australia being no exception. As at September 2019, 259 IB programmes were offered in 193 Australian schools (IB, 2019b). This figure represents approximately a 61% growth since 2012 and suggests there are increased demands for teachers who are prepared to teach in such IB World Schools.

The success of any educational programme is largely dependent on the knowledges and capabilities of the teachers who work within them, thus new demands are now being placed on teacher education programmes, at both the points of initial preparation and professional development. Teacher education institutions, which "serve as key change agents in transforming education and society" (UNESCO, 2005, p. 12), are responding by reviewing, adopting and developing courses that meet the needs of changing education environments. Ghosh (2019) states, "to educate students to succeed in an increasingly globalised world and diverse society, teachers themselves will need to have global awareness and cross-cultural teaching skills, sensitivity and knowledge" (p. 417). In the 21st Century teachers must "demonstrate intercultural understanding and competence, global/cosmopolitan citizenship, international mindedness and activism for social justice and human rights" (Levy & Fox, 2015, p. 275).

2   Teacher Education and the IB

In response to the demands for globally competent teachers, the IB has developed a suite of pre-service and in-service teacher education offerings to support the enactment of their curriculum frameworks. The IB lists (a) the development of teachers' global mindsets; (b) the infusing of higher-order thinking skills; and, (c) the opportunity to delve deeper into curriculum development, pedagogy and assessment through the exploration of relevant IB-related literature and practices, amongst the aims of its teacher education offerings (IB, 2019d, e). Universities around the world are embedding the IB's teacher education aims, and its philosophy and approaches to international education into their initial teacher education (ITE) and post-graduate education courses. Currently there are 45 universities worldwide offering the *IB Educator and Leadership Certificate* (IBEC) (formerly the *IB Teacher Certificate*), with five of these located in Australia (IB, 2019c, d). Outside of formal degree bearing studies, IB teachers are supported through ongoing IB professional development workshops offered in both online and face-to-face formats, across a variety of categories, levels and topics (IB, 2019e). The opportunities for formal study offered by universities, along with the professional development offered by the IB, support both pre-service and in-service teachers to enact and deliver the IB programmes to an increasing number of students in an increasing number of schools worldwide.

3   Teacher Education and Research

The importance of teacher education, from initial training to ongoing professional development "to deepen teacher understanding and advance their skills as expert practitioners", has gained momentum (British Educational Research Association-Royal Society for the Encouragement of the Arts, Manufacturing and Commerce (BERA-RSA), 2014, p. 5). How teachers are prepared and developed—the design, structure and content of teacher education—is of paramount importance. As Gorard, See and Siddiqui (2017) state, "there has been a recent worldwide movement towards demanding evidence-based policy and practice in education, with policy makers and practitioners wanting more practical and coherent answers from research" (p. xiii). Against a background of global policies; national economic needs; standards; and regulations, evidence and research are increasingly being used to inform and reform teacher education. Literature and research that is published provides empirical evidence which assists teacher educators in determining the content and design, delivery and assessment of teacher education programmes suitable for preparing globally aware teachers.

Like other countries, Australia has acknowledged the importance of research and evidence to improve teacher education. The report, *Action Now: Classroom Ready Teachers* (The Teacher Education Ministerial Advisory Group (TEMAG), 2014) stated, "the design and delivery of initial teacher education programmes must be

based on solid research and best practice" (TEMAG, 2014, p. x). Conceptions of research and evidence, according to TEMAG, should (a) inform practice; (b) provide the rationale for directions for reform in teacher education; and, (c) guide and shape teaching practice. As Brandenburg, McDonough, Burke and White (2016) suggest, the demand for research to improve teacher education in Australia "is a political priority with numerous calls from politicians, policy makers, principals and the wider education community for an increased knowledge or 'evidence' base" (p. 1).

There is a wealth of research providing insight into effective teacher education and preparation programmes. Reports and research (see Darling-Hammond, 2006a, b; Ingvarson et al., 2014) have synthesised best-practice and evidence that supports the development and delivery of teacher education programmes and approaches to professional practice. Other reports (e.g., National Research Council, 2010; Feuer, Floden, Chudowsky, & Ahn, 2013) have detailed best-practice and research on the features of programmes that prepare graduate teachers to meet country standards and regulations. Tatto and Furlong (2015) caution that while it is agreed that education systems cannot afford not to be informed by data and evidence from rigorous research, they debate what is meant by *evidence* and what constitutes reliable and relevant research. That said, many countries now ground the standards, course design, delivery and assessment of their initial teacher education programmes in robust best-evidence research. Research conducted by Darling-Hammond (2006a, b) provides the following synthesis of eight best-practice principles for teacher education programmes. These eight principles are also detailed by Ingvarson et al. (2014, p. 12), and are:

- *coherence* in coursework/practicum experiences;
- a *strong core curriculum*;
- closely linked *practicum experiences*;
- *standards of professional knowledge and practice*;
- *explicit strategies*;
- *an inquiry approach* connecting theory and practice;
- *strong school-university partnerships*; and,
- *assessment based on professional standards*.

Research has also identified several best-practices (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009) in providing in-service professional development to teachers and educators. Evidence comes from cross-sectional studies (Garet, Porter, Desimone, Birman, & Yoon, 2001), longitudinal studies (e.g., Desimone, Smith & Phillips, 2013), and literature reviews (Desimone, 2009). Five best-practice principles have been synthesised (see Desimone & Garet, 2015):

- *coherence* connecting professional learning with the school curriculum;
- *content focused* on subject matter;
- *active learning* with colleagues across a range of approaches;
- *sustained duration*; and,
- *collective participation* through collaborative participation.

The medical and health care professions (Kowalski, 2009) have recognised, nurtured and firmly established strong links between research and practice over a considerable period of time (Lemieux-Charles & Champagne, 2004). Similarly, the teaching profession recognises the essential role of research in informing content and design of teacher education. The purpose of this chapter is exploratory in nature and aims to establish the research evidence that underpins IB teacher education courses, and guides teacher educators in establishing best-practice IB teacher preparation programmes.

4   Research Design and Methods

A systematic literature review informed by the works of Fox and Diezmann (2007, 2017) and Mercer-Mapstone and colleagues (2017) was conducted to determine the research underpinning IB teacher education. Two research questions shaped the literature review to establish and examine the evidence-base that supports best-practice IB teacher education:

1. What research has been published between 2009 and 2019 investigating teacher education and the IB?
2. Does research align with best-practice principles for teacher education?

4.1   *Data Sources, Reduction and Analysis*

Initially a data set of articles was established. The search strategy covered only peer-reviewed journal articles because (a) they reflect the interests and values of mainstream research communities, and (b) credibility is determined through the peer-review process. Other publications, such as dissertations, conference proceedings, and editorial pieces, were excluded from the search. The data set was limited to a 10-year timeframe (2009 to 2019). Two data sources were analysed in this project.

The first source explored was the *ProQuest,* EBSCO*host,* and *A + Education* databases. These databases were chosen as they represent the largest education databases including scholarly journals published globally with up-to-date research. These databases were systematically searched by using the following search terms: "*university/universities*", "*teacher education*" and "*International Baccalaureate*".

To ensure that a broad range of articles and authors were comprehensively represented, the annotated bibliographies of IB-related research, which were published annually from 2010 to 2019 (a 9-year period) by the IB, were also examined. From 2010 to 2013 the bibliographies were compiled by the IB itself (see IB, 2011, 2012, 2013a, b), and from 2014 onwards, they were developed by authoring teams commissioned by the IB (see Dabrowski, 2016, 2017, 2018; Engle, Banks, Patterson &

Stehle, 2015; Popușoi & Holman, 2019). The bibliographies include a range of grey literature, but for this data pool, only refereed journal articles were considered. The same keyword search used for the first data source was conducted with the inclusion of the search term "*certificates*", so that papers which included focus on the IBEC could be found.

5 Results and Discussion

5.1 RQ1: What Research Has Been Published Between 2009 and 2019 Investigating Teacher Education and the IB?

A total of 200 journal articles were identified from the search of *Proquest* (n = 192), *EBSCOhost* (n = 7) and *A + Education* (n = 1). A subsequent manual check was conducted to ensure relevance. On closer examination of the abstracts and keyword searches, the data pool was reduced to only 4 papers. Findings of the search of IB annotated bibliographies discovered an additional 3 papers. In both searches, papers were excluded for a range of reasons including focus on IB programmes, and not on teacher education; IB World Schools were sites for the studies but not relevant to teacher education; teacher education was a keyword, but not a focus of the research; and, international education was the core theme, not the IB.

The total of 7 papers were read to confirm that the content of the paper addressed the research themes. The papers where divided into two categories—those which focused on pre-service teacher education and those which focused on in-service teacher education (or professional development/learning). Four papers (Papers 1, 2, 3 and 4) addressed pre-service initial teacher education and the IB, and three papers (Papers 5, 6 and 7) investigated in-service professional learning and the IB. Table 1 presents the papers listed in these two categories.

The pre-service papers were all authored by university-based teacher educators who were providing insights into their engagement with IB developed concepts in their ITE courses. Paper 1 describes the incorporation of the *IB Teacher Certificate* into an ITE programme. Papers 2 and 3 explore the IB concepts of international mindedness and social action through professional experience and partnerships with schools and Paper 4 identified parallels between IB professional learning and middle school best-practices. The papers focusing on teacher professional development discussed the implementation of IB professional learning programmes in school settings. Papers 5, 6 and 7 reported on the experiences and effectiveness of IB teachers' professional development activities. These papers identified several shortcomings in the professional learning offerings including timing, access, cost and some gaps in content.

The discovery of only 7 papers exploring teacher education and IB features is concerning. The implementation of IB programmes is steadily increasing yet there is limited research about the knowledges, understandings and skills that teachers need

Table 1 Details of the papers identified after searches of databases and IB bibliographies

Paper number	Title/Author(s) (Publication date)
Category 1: In-service papers	
1	"Preparing globally minded teachers through the incorporation of the International Baccalaureate"/Ryan, Heineke and Steindam (2014)
2	"Seeking justice through social action projects: Preparing teachers to be social actors in local and global problems"/Lash and Kroeger (2018)
3	"Primary school pre-service teachers' perspectives on primary years programme and its implementation"/Setyawan (2017)
4	"Intersection of principles: 'How this we believe' and International Baccalaureate align"/Dever and Raven (2017)
Category 2: Pre-service papers	
5	"Can CPD enhance student-centred teaching and encourage explicit instruction of International Baccalaureate approaches to learning skills? A qualitative formative assessment and summative evaluation of an IB school's in-house CPD programme"/Forrest (2018)
6	"Becoming an International Baccalaureate Middle Years Program: Perspectives of teachers, students and administrators"/Storz and Hoffman (2018)
7	"From theory to practice: A critical review of the International Baccalaureate Primary Years Programme"/Jamal (2016)

to successfully engage in these specific programmes. The paucity of research that provides teacher educators with evidence of best-practice needs to be considered and addressed. Robust evidence that informs best-practice in IB teacher education will ensure that teachers and teacher educators are prepared to teach 21st Century, globally engaged students.

5.2   RQ2: Does Research Align with Best-Practice Principles for Teacher Education?

A document analysis (Rapley & Jenkings, 2010) of the data set of 7 papers was conducted to determine connection to best-practices in teacher education. To facilitate the document analysis process, the papers were grouped and analysed according to the two categories established at the outset (see Table 1).

5.2.1   Pre-service Papers

Papers connected to ITE were analysed using pattern matching principles (Yin, 2009). The eight principles highlighted by research conducted by Darling-Hammond (2006a, b) and Ingvarson et al. (2014) were used to identify patterns. It is acknowledged that the papers reviewed may not give a detailed description of every aspect

of the initial education programme and therefore no attempt is made to provide a judgement on the specifics of courses described.

Evidence of best practices in ITE programmes was determined in three of the four papers (see Table 2).

An overview of each best-practice principle and examples of evidence identified follows:

Coherence. Coherence is determined by evidence of carefully sequenced courses that incorporate theory and standards which are acknowledged as an important feature of best-practice in teacher education programmes (Levine, 2006; Darling-Hammond, 2006a).

Paper 1 reflected on the mapping of a new ITE course which incorporated the IBEC. The authors mapped the course considering "professionalism in service of social justice, social constructivist approaches to teaching and learning, and global perspectives and advocacy" (Ryan et al., 2014, p. 41). Paper 2 contextualised an early childhood education (ECE) ITE programme and examined theoretical and philosophical underpinnings: "foundation in children, families, communities, curriculum, content, and methods; furthermore, field and student teaching experiences for the ECE students occur both in preschool and primary grades" (Lash & Kroeger, 2018, p. 693). Papers 3 and 4 only discussed components of the courses. For example, Paper 3 investigated global citizenship as an elective, and Paper 4 connected principles of learning to the IB Middle Years Programme (MYP), but not to the ITE course structure.

It is not surprising that evidence of coherent programmes was not a feature in these papers as most provided insight into one aspect of the IBEC within an ITE programme. Connecting the IB ideologies to theory and standards would produce a robust rationale which teacher educators could use for validating IB coursework.

Strong core curriculum. A strong ITE curriculum acknowledges and integrates the core components of (a) learners (i.e., how learning and development occurs); (b) content (i.e., curriculum goals, skills and subject matter, and the purpose of education); and, (c) pedagogy (i.e., knowledge, skills and understandings for teaching) (Darling-Hammond, 2006b). Paper 1, which described the incorporation of the requirements of the IBEC into the authors' university's teacher education courses, was the only paper where a core curriculum was discussed. The authors found that the principles underpinning the IB curriculum frameworks strongly aligned with their university's aims, and therefore provided a good fit: "the IB curriculum resonated with us, given the fact that our university's core curriculum emphasises international-mindedness, encourages study abroad within short-and long-term worldwide opportunities" (Ryan et al., 2014, p. 40). Given the rapid increase of IBEC in universities, attention to integrating IB into core components of the entire ITE course is essential to ensure consistency in approach, intent and goals of the course.

Practicum experiences. Darling-Hammond (2006b) describes practicum experiences as an integral feature of ITE courses allowing pre-service teachers to "learn to practice *in* practice" (original emphasis) (p. 307). Paper 1 outlined the revised format of practicum experiences after the requirements of the IBEC had been incorporated:

Table 2 Evidence of best practice in pre-service papers (Papers 1 to 4)

	Principles							
	Coherence	Strong core curriculum	Practicum experiences	Standards of professional knowledge & practice	Explicit Strategies	Inquiry Approach	School-university partnerships	Assessment based on standards
Paper 1	✓	✓	✓	✓	X	X	✓	✓
Paper 2	✓	X	✓	✓	✓	✓	✓	X
Paper 3	X	X	X	X	X	X	X	X
Paper 4	X	X	X	✓	X	X	X	X
Total matches	2	1	2	3	1	1	2	1

We developed modules ranging from 3 to 8 weeks in length that were designed with pre-service professional development in mind, with candidates engaged in teaching and learning in school sites. Strategically ordered across a 4-year undergraduate programme, the modules came together (Ryan et al., 2014, p. 44).

Paper 2 describes early childhood pre-service teachers' practical application of social action projects. Lash and Kroeger (2018) state that the "deliberative classroom experiences and assignments" (p. 693) are a feature of their ITE programme which assist pre-service teachers to observe the practical application of theory discussed during course work units. The authors go on to describe the strong links between the course work and field experiences for ECE students:

The coursework and classroom fieldwork are intertwined over five semesters to support the transition from theory to practice; that is, all classes each semester entail field assignments to seal the university classroom learning. This includes weekly reflection and processing of field experiences (Lash & Kroeger, 2018, p. 693).

Only two papers highlighted this core aspect of professional practice in ITE programmes. Praxis-oriented activity provides pre-service teachers opportunities to enact and practice IB knowledge and pedagogies. Insight into critical learning that occurs during practicum could contribute to best-practice knowledge.

Standards of professional knowledge and practice. The Australian Institute for Teaching and School Leadership (AITSL) (2014) gives an indication that ITE courses are moving towards a standards-based approach to inform and appraise pre-service teachers' course work and practicum experiences (Ingvarson et al., 2014). This move ensures that pre-service teachers have met commonly agreed minimum requirements before entering the profession. On analysis against these principles, Paper 1 provided a recount of the redesign of an ITE course connecting state-based standards and IB principles. Much detail is provided about the mapping process and how required knowledges, skills and dispositions connected with the standards and the foundational principles of IB. The authors state that,

… to prepare teacher candidates for state and local contexts, we grounded our programme in Understanding by Design …, a curriculum framework widely used in Illinois school districts, and focused on addressing the Common Core State Standards … required by the Illinois State Board of Education (Ryan et al., 2014, p. 39).

In Paper 2, the authors describe how their ECE course aligned with both national and state accreditation standards and requirements of the IBEC. They state,

The conceptual framework encompasses the specialized domains for national and state accreditations as indicated by the NAEYC and CAEP and the teacher performance domains of the Ohio Department of Education, USA, respectively. As of 2014, early childhood pre-service teachers earn the International Baccalaureate Certificate for Teaching and Learning; the university has been recognized by the International Baccalaureate Organization (IBO), and the conceptual framework of the ECE programme reflects IBO values (Lash & Kroeger, 2018, p. 693).

The authors of Paper 4 investigated the integration of the IB MYP values in undergraduate ITE courses and described and justified how the principles of the MYP aligned with the Association for Middle Level Education (AMLE) essential

characteristics. The authors stated that "the principles of the MYP as found in the IB programme standards … and AMLE characteristics are very similar [and] despite having different organisational structures, IB can be integrated into teacher preparation programmes fairly seamlessly" (Dever & Raven, 2017, p. 38). Teacher education is increasingly informed by standards, regulations, evidence and research. It is essential that the IB coursework is interwoven into the accountability structures of each country.

Explicit strategies. AITSL (2011) emphasises that teachers (both current and future) should actively seek to develop skills and strategies "to analyse, evaluate and reflect on their beliefs and practices" (Ingvarson et al., 2014, p. 41), and develop explicit "teaching strategies that are responsive to the learning strengths and needs of students from diverse linguistic, cultural, religious and socio-economic backgrounds" (AITSL, 2011, p. 10). The only paper which discussed explicit strategies was Paper 2. The authors, Lash and Kroeger (2018), provide a description of the strategies which were used to assist students to design and implement social action projects. These strategies helped students to both "confront their own deep-seated beliefs and assumptions, and to learn about experiences of people different from themselves" (Darling-Hammond, 2006b, p. 305). No other papers in this data set outlined any specific teaching and learning, analysation, evaluation or reflection strategies which pre-service teachers were exposed to during their ITE course. This implies that the importance of explicit strategies has not been thoroughly investigated, yet in internationally diverse settings these types of skills are essential.

Inquiry approach. It is recognised that best-practice in ITE programmes makes strong connections between theory and practice. Darling-Hammond (2006a, b) raises the importance of these connections stating an inquiry-based, constructivist approach which encourages "students to build their personal theory and philosophy of teaching through learning how to analyse and evaluate their practice" (Ingvarson et al., 2014, p. 39) enables pre-service teachers to become reflective practitioners. The authors of Paper 1 discuss inquiry approaches, but only as a feature of the IB programmes, and not in relation to the revision of their own ITE programmes. The authors of Paper 2, however, outlined how the inquiry-based approach of the IB programmes resonated with the university's faculty and were one of the key features which made the incorporation of the IBEC easier. Lash and Kroeger (2018) stated that the "faculty beliefs derive from and are enacted in an inquiry-based constructivist approach to teaching and learning that merges theory and practice to help pre-service teachers become effective critical educators and teacher leaders" (p. 692). An IB education aims to transform students and schools as they learn, through dynamic cycles of inquiry, action and reflection—thus research evidence investigating an inquiry approach is critical.

School-university partnerships. Ensuring that strong school-university partnerships are in place is another critical feature of best-practice in ITE programmes (Ingvarson et al., 2014). Paper 1 highlights the importance of partnering with stakeholders in school and community settings. The authors state that by "seeking to

embed our teacher preparation in schools and communities …, we enhanced our redesign efforts by deepening and expanding our school partnerships in and around Chicago" (Ryan et al., 2014, p. 46). It was clear that the development of strong school-university partnerships was particularly important for the ITE courses featured in Paper 2 as education students were required to investigate and implement solutions to a social problem as a part of the "field-based social action project" (Lash & Kroeger, 2018, p. 692). Strong reciprocal relationships between schools and universities not only allows pre-service teachers to learn effectively in situ, but they also allow for schools to develop and become sites "where advances in knowledge and practice can occur" (Darling-Hammond, 2006b, p. 309). Insights into university and IB school partnerships would provide case studies that teacher educators could use to inform best practices.

Assessment based on standards. Ingvarson et al. (2014) suggest that "assessment [is] based in professional standards that evaluates teaching through demonstration of critical skills and abilities using performance assessments and portfolios" (p. 12). The authors of Paper 1 describe that when redesigning their ITE programme, considerable attention was given to how student assessment aligned with the IB's values. They state that they required "an examination of our programme's understandings and the associated knowledge, skills, and dispositions that supported each and an assessment of how these interfaced with the IB's pedagogical values" (Ryan et al., 2014, p. 42) to be conducted. The authors described the framing of student assessment with IB's values indicating their intentional connection of these central principles (or standards) with their approach to student assessment. However, there is little evidence of the recognition of this principle within the literature. Further evidence into ITE assessment protocols and how they address IB principles and values is warranted.

5.2.2   In-service Papers

As with pre-service focused papers, in-service focused papers were analysed using pattern matching principles (Yin, 2009). The five principles highlighted by research conducted by Desimone and Garet (2015) were used to identify themes. Evidence of best practices in continuing IB professional development of in-service teachers was observed in two of the three papers (see Table 3).

Coherence. The principle of coherence has been identified in both pre-service and in-service education as a critical feature of effective professional development. As described by Desimone (2009) coherence refers to the connection between the professional development activity and the reality of the classroom, school curriculum, the needs of students, and school, in professional learning activities. Coherence was identified in only one in-service paper. The authors of Paper 5 indicate that they utilised "a 'training model' of CPD …, to integrate research, theory and practice" (Forrest, 2018, p. 263). They also describe their intent to develop coherence by stating, "each CPD activity was designed to build on previous learning, align with IB standards …, and give teachers practice with promoted instructional methods" (Forrest, 2018, p. 264).

Table 3 Evidence of best practice in in-service papers (Papers 5 to 7)

	Principles				
	Coherence	Content focused	Active learning	Sustained duration	Collective participation
Paper 5	✓	✓	✓	✓	✓
Paper 6	X	✓	✓	✓	✓
Paper 7	X	X	X	X	X
Total matches	**1**	**2**	**2**	**2**	**2**

The principle of coherence was not evident in Papers 6 or 7. This could be expected if the intent of the professional learning was purely explicit transferring of content which some IB developed professional development courses incorporate. Paper 6 investigated the teachers' response to curricula change due to the implementation of the IB in the school. Professional development was acknowledged as essential to the effective implementation initiatives but not described. Paper 7 provides a description of the types of professional development activities provided by the IB Organization including workshops; online modules; articles in the *IB Journal of Teaching Practice*; and a selection of videos titled "*In IB Classrooms*". How these professional learning offerings are associated with specific classroom contexts or the school nuances was not discussed. Connecting theory and practice in professional learning is critical but, to date, the literature does not address this principle in IB School contexts.

Content focus. Content focus refers to the knowledge and skills necessary for teachers to carry out their day-to-day work in the classroom with respect to the subject matter content of the professional learning. The clear and explicit articulation of content is also featured in best-practice principles for teacher education programmes. Paper 5 provided specific detail about the development and content of the professional learning which was informed by research evidences. These details include

> … after a review of research in the fields of SRL and approaches to learning …, six student-centred instructional approaches were selected as the basis of teacher learning: Effective Collaborative Learning, Cognitive Apprenticeship, Teaching for Self-Regulated Learning, Structured Inquiry, Assessment for Learning, and Problem-Based Learning (Forrest, 2018, p. 264).

Whilst the focus of Paper 6 was to examine how teachers and students at one urban middle school perceived the implementation of the IB MYP there was not specific details of the content. The teacher interview data presented positive and negative responses to the value of the professional development content. One teacher sent to external training indicated that the experience allowed her to "actually see what a unit looks like, how to plan a unit. It didn't feel like doing something extra. It was something that made a lot of sense" (Storz & Hoffman, 2018, p. 231). Yet other teachers did not find clarity in content or the delivery:

> I think for most people it is really overwhelming. The amount of information, and I think part of that is the way it has been presented to us. It is all top down. Here's what you need

to do. Read this book. We are going to bring in somebody who is going to come in and talk at you (Storz & Hoffman, 2018, p. 231).

There was little evidence about the clarity or relativeness of the content of the professional learning engagements designed by the IB.

Active learning. The principle of active learning implies opportunities to be actively engaged in meaningful discussion, planning, and practice during the professional development activity as opposed to passively listening. This principle claims that to be effective, professional development must involve opportunities to use, practice or apply what has been learned (Timperley, Wilson, Barrar, & Fung, 2007; Walter & Briggs, 2012). Two papers discussed active learning during professional development. Paper 5 shared an approach to professional development that required teachers to apply what they have learnt in real classroom situations: "Following a cyclical design informed by action research, this investigation aimed to involve teachers participating in a whole-school CPD programme in the formative assessment, improvement, and evaluation of that programme through a reflective, self-critical double-loop learning process" (Forrest, 2018, p. 268).

In Paper 6 the author describes a variety of professional development activities:

> Many teachers participated in sessions at already established and successful schools around the country. IB professional consultants were brought to the school to provide in-house PD on the various principles and required components of the programme. In addition, the principal, IB coordinator, and teacher leaders supported their colleagues in developing units and creating assessments through faculty and team meetings on a regular basis (Storz & Hoffman, 2018, p. 239).

However, the responses to the offered activities were not overly positive about active learning: "Despite the coaching and administrative support necessary for successful implementation of IB, there was little consensus among the teachers about the quality of the experiences and how successful those experiences were in assisting the teachers in the implementation process" (Storz & Hoffman, 2018, p. 239). Whilst the evidence is limited, the IB may need to review the engagement strategies that its workshops utilise to ensure maximum participation.

Sustained duration. Successful professional development for teachers needs to be of sufficient duration to enable engagement if intellectual and pedagogical change is to occur. O'Brien (2006) notes that "the most effective professional learning programmes consisted of multiple days, preferably based in schools, over a period of time" (p. 7), while Desimone (2009) suggests that professional development activities should be ongoing throughout the school year. The author of Paper 5 "designed an in-house, whole-school, 3-year continuing professional development (CPD) programme to support teachers in developing a more student-centred approach that could potentially facilitate explicit instruction of ATL skills" (Forrest, 2018, p. 263). Paper 6 described a study that was 2 years long and the professional development programme ran over the length of this time including in-house sessions, faculty, and department meetings.

The professional development activities described in both Papers 5 and 6 are sustained events which can provide time for teachers to learn new strategies in sufficient depth, apply and test them effectively in the classroom and embed them systematically as part of their practice. However, it must be noted that duration in itself does not guarantee effective teacher learning as other vital conditions and principles of best-practice interplay. For example, the nature of the activities and the availability of support throughout the duration of the programme is equally important (Higgins, Cordingley, Greany & Coe, 2015).

Collective participation. Best-practice principles in teacher professional development includes collaborative and collective participation of teachers (from the same grade, subject, school or community) to build interactive learning communities (Desimone, 2009). As previously discussed, Paper 5 provided significant details about the structure of the professional development offered and the research evidence that supported the development.

> As theoretical and research-based innovations for teaching for SRL are best developed within existing curriculum and in collaboration with teachers …, an inhouse approach may be particularly useful with regard to SRL-related CPD. The question, then, is how to design effective in-house training model CPD that utilises some of the strengths of the learning community model and results in the kind of 'warranted practice' … that emerges when teachers blend theory and new innovations with their own expertise and that of their colleagues (Forrest, 2018, p. 267).

The whole-school engagement in the professional development programme enabled teachers to capitalise not only on their colleagues' expertise, but also on the developing competence of their students: "Students and teachers were therefore co-constructors of new knowledge, attitudes, values, beliefs and practice, all contributing to a gradual shift in the school's culture" (Forrest, 2018, p. 280).

Paper 6 discussed collaborative collective participation in the professional development programme and the participants experience. The authors indicate that there were mixed opinions on the success of a collaborative model. According to Storz and Hoffman (2018) teacher professional collaboration is a required element of IB approval (IB, 2015) and therefore an intended feature of the programme. Teachers reported lack of emotional support from colleagues which impacted on how teachers perceived their collaborative experiences:

> We expected to hear from the teachers, in both the interviews and survey, about their collaborative planning experiences, and we did. The mixed reactions we heard could be, in part, a reflection on the makeup of the teams of teachers at each grade level (Storz & Hoffman, 2018, p. 238).

Little details were shared about the ways that collective participation could have been achieved but research indicates that involving teachers in solving problems or refining approaches together, peer observations, team teaching and joint planning and assessing are ingredients found in successful professional development programmes (Higgins et al, 2015). More research about how the IB focused professional learning addresses collective participation would be informative.

6   Conclusion

In response to the demands for globally competent teachers the IB have developed both pre-service and in-service teacher education programmes and increasingly these are incorporated into university-based teacher education. This research found three significant findings concerning the evidence-base that supports teacher educators in developing best practice.

Firstly, there is a dearth of research evidence that teacher educators can use to inform pre-service and in-service IB teacher training offerings. Only seven refereed journal articles were discovered in the last ten years pertaining to IB and teacher education. This is concerning given the increased uptake of these curriculum frameworks in schools around the world and the need to have prepared teachers who can effectively teach in these programmes. Currently, there is not enough robust evidence that teacher educators and policy makers can use to support IB teacher education best-practice. Secondly, 6 of the 7 papers were American based studies. Given the IB's global footprint, it is essential that teacher education represents the breadth of contextual nuances. In order for this research to be able to inform programmes, an authentic global view is critical. Finally, the in-service teacher research identified shortcomings in the offerings specific to relevance and cost. If the content of the professional development was not applicable to practicing teachers and the cost prohibitive, then the effectiveness of these programmes is greatly reduced. Further investigation into these adverse aspects is warranted given the importance of ongoing professional learning and the changing educational landscape.

The influence of teachers on student learning outcomes is well documented and thus attention must focus on teacher education, both initial teacher training and ongoing professional development. Teacher education programmes founded and built on best-practices will prepare globally aware teachers, renew teachers' knowledge and pedagogy, deepen their understanding and advance their skills as capable 21st Century practitioners. Therefore, to best prepare teachers to engage in international or global education (such as the IB programmes), teacher education must be *research-rich* and *evidence-rich*.

References

AITSL. (2011). *Australian professional standards for teachers*. Melbourne, Australia: Australian Institute for Teaching and School Leadership.

AITSL. (2014). *Early teacher development: Trends and reform directions.* Report prepared for the Asia Society's Global Cities Education Network. Retrieved from http://asiasociety.org/files/gcen-earlyteacherdevelopment.pdf.

BERA-RSA. (2014). *The role of research in teacher education: Reviewing the evidence: Interim report of the BERA-RSA inquiry*. London, United Kingdom: British Educational Research Association-RSA Action and Research Centre.

Brandenburg, R., McDonough, S., Burke, J., & White, S. (2016). Teacher education research and the policy reform agenda. In R. Brandenburg, S. McDonough, J. Burke, & S. White (Eds.), *Teacher education: Innovation, intervention and impact* (pp. 1–14). Singapore: Springer.

Clark, E., & Savage, G. (2017). Problematizing 'Global Citizenship' in an International School. In S. Choo, D. Sawch, A. Villanueva, & R. Vinz (Eds.), *Educating for the 21st Century: Perspectives, policies and practices from around the world* (pp. 405–424). Springer Science + Business Media: Singapore.

Dabrowski, A. (2016). *Research related to the International Baccalaureate: An annotated bibliography of 2015 studies*. Melbourne, Australia: The University of Melbourne. Report commissioned by the International Baccalaureate.

Dabrowski, A. (2017). *Researching the International Baccalaureate: An annotated bibliography of 2016 studies*. Melbourne, Australia: The University of Melbourne. Report commissioned by the International Baccalaureate.

Dabrowski, A. (2018). *The International Baccalaureate: A year in research: An annotated bibliography of 2017 studies*. Melbourne, Australia: The University of Melbourne. Report commissioned by the International Baccalaureate.

Darling-Hammond, L. (2006a). *Powerful teacher education: Lessons from exemplary programs*. San Francisco, CA: Jossey-Bass.

Darling-Hammond, L. (2006b). Constructing 21st-Century teacher education. *Journal of Teacher Education, 57*(3), 300–314.

Darling-Hammond, L., Wei, R., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and Abroad*. Dallas, TX: National Staff Development Council.

Desimone, L. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher, 38*(3), 181–199.

Desimone, L., & Garet, M. (2015). Best practices in teachers' professional development in the United States. *Psychology, Society, & Education, 7*(3), 252–263.

Desimone, L., Smith, T., & Phillips, K. (2013). Linking student achievement growth to professional development participation and changes in instruction: A longitudinal study of elementary students and teachers in Title I schools. *Teachers College Record, 115*(5), 1–46.

Dever, R., & Raven, S. (2017). Intersection of principles: How this we believe and International Baccalaureate align. *Middle School Journal, 48*(4), 36–44.

Engel, L., Banks, D., Patterson, J., & Stehle, S. (2015). *Research related to the International Baccalaureate: An annotated bibliography of 2014 studies*. Washington, D.C.: The George Washington University. Report commissioned by the International Baccalaureate.

Feuer, M., Floden, R., Chudowsky, N., & Ahn, J. (2013). *Evaluation of teacher preparation programs: Purposes, methods, and policy options*. Washington, D.C.: National Academy of Education.

Forrest, S. (2018). Can CPD enhance student-centered teaching and encourage explicit instruction of International Baccalaureate Approaches to Learning skills? A qualitative formative assessment and summative evaluation of an IB school's in-house CPD programme. *Journal of Research in International Education, 17*(3), 262–285.

Fox, J., & Diezmann, C. (2007). What counts in research? A survey of early years' mathematical research 2000–2005. *Contemporary Issues in Early Childhood, 8*(4), 301–312.

Fox, J., & Diezmann, C. (2017). The Australian Early Years Learning Framework and ICT: A part of life or apart from life? In M. Li, J. Fox, & S. Grieshaber (Eds.), *Contemporary issues and challenge in early childhood education in the Asia-Pacific region* (pp. 143–163). Singapore: Springer.

Garet, M., Porter, A., Desimone, L., Birman, B., & Yoon, K. (2001). What makes professional development effective? Analysis of a national sample of teachers. *American Education Research Journal, 38*(3), 915–945.

Ghosh, R. (2019). Teacher education in a globalized world. In J. Mueller & J. Nickel (Eds.), *Globalization and diversity: What does it mean for teacher education in Canada?* Halifax, Canada: Canadian Association for Teacher Education, 416–442.

Gorard, S., See, B. H., & Siddiqui, N. (2017). *The trials of evidence-based education: The promises, opportunities and problems of trials in education*. Oxon, United Kingdom: Routledge.

Higgins, S., Cordingley, P., Greany, T. & Coe, R. (2015). *Developing great teaching: Lessons from the international reviews into effective professional development.* London, United Kingdom: The Teacher Development Trust. Retrieved from http://tdtrust.org/wp-content/uploads/2015/10/DGT-Summary.pdf.

IB. (2011). *Research on the International Baccalaureate 2010.* Bethesda, MD: IB Global Research Department.

IB. (2012). *Research on the International Baccalaureate 2011.* Bethesda, MD: IB Global Research Department.

IB. (2013a). *Research related to the International Baccalaureate 2012.* Bethesda, MD: IB Global Research Department.

IB. (2013b). *Research related to the International Baccalaureate 2013.* Bethesda, MD: IB Global Research Department.

IB. (2015). *The IB Middle Years Programme.* Geneva, Switzerland: International Baccalaureate Organization. Retrieved from https://www.ibo.org/programmes/middle-years-programme/.

IB. (2019a). *Facts and Figures: International Baccalaureate.* Retrieved on from https://www.ibo.org/about-the-ib/facts-and-figures.

IB. (2019b). *Find an IB Word School: International Baccalaureate.* Retrieved from https://www.ibo.org/programmes/find-an-ib-school.

IB. (2019c). *IB educator certificates—International Baccalaureate.* Retrieved from https://www.ibo.org/professional-development/professional-certificates/ib-educator-certificates/.

IB. (2019d). *IB Educator and Leadership Certificates: University directory 2019.* Geneva, Switzerland: International Baccalaureate Organization.

IB. (2019e). *IB Workshops and Services 2019 Catalogue.* Cardiff, Wales: International Baccalaureate Organization.

Ingvarson, L., Reid, K., Buckley, S., Kleinhenz, E., Masters, G., & Rowley, G. (2014). *Best practice teacher education programs and Australia's own programs*. Canberra, Australia: Department of Education.

Jamal, S. (2016). From theory to practice: A critical review of the International Baccalaureate Primary Years Programme. *The International Schools Journal, 35*(2), 22–37.

Kowalski, T. (2009). Evidence and decision making in professions. In T. Kowalski & T. Lasley (Eds.), *Handbook of data-based decision making in education* (pp. 3–19). New York, NY: Routledge.

Lash, M., & Kroeger, J. (2018). Seeking justice through social action projects: Preparing teachers to be social actors in local and global problems. *Policy Futures in Education, 16*(6), 691–708. https://doi.org/10.1177/1478210317751272.

Lemieux-Charles, L., & Champagne, F. (Eds.). (2004). *The use of knowledge and evidence in health care: Multidisciplinary perspectives*. Toronto, Canada: University of Toronto Press.

Levine, A. (2006). *Educating school teachers*. Princeton, NJ: Education Schools Project.

Levy, J. & Fox, R. (2015). Pre-service teacher preparation for international settings. In M. Hayden, J. Levy & J. Thompson, *The Sage Handbook of Research in International Education.* London, United Kingdom: SAGE Publications, pp. 275–297.

McLuhan, M. (1964). *Understanding media: The extensions of man*. New York, NY: McGraw-Hill.

Mercer-Mapstone, L., Dvorakova, L., Matthews, K., Abbot, S., Cheng, B., Felten, P., Knorr, K., Marquis, E., Shammas, R. & Swaim, K. (2017). A systematic literature review of students as partners in higher education. *International Journal for Students as Partners*, *1*(1). https://doi.org/10.15173/ijsap.v1i1.3119.

National Research Council. (2010). *Preparing teachers: Building evidence for sound policy*. Committee on the Study of Teacher Preparation Programs in the United States, Center for Education.

Division of Behavioral and Social Sciences and Education. Washington, D.C.: The National Academies Press.

O'Brien, P. (2006, October). *Leading learners: teachers leading with agency.* Paper presented at the Australian Council for Educational Leaders (ACEL) Conference. Canberra, ACT, Australia.

OECD. (2008). *Tertiary education for the knowledge society* (Vol. 2). Paris, France: OECD Publications.

Popușoi, S. & Holman, A. (2019). *Annotated bibliography of IB-related studies (2018).* Bethesda, MD: International Baccalaureate.

Rapley, T., & Jenkings, K. (2010). Document analysis. In P. Peterson, E. Baker, & B. McGaw (Eds.), *International encyclopedia of education*. Boston, MA: Elsevier.

Rizvi, F., & Lingard, B. (2010). *Globalizing education policy*. London, United Kingdom: Taylor & Francis.

Ryan, M., Heineke, A., & Steindam, C. (2014). Preparing globally minded teachers through the incorporation of the International Baccalaureate. *Journal of Education, 194*(3), 39–51.

Setyawan, T. (2017). Primary school pre-service teachers' perspectives on Primary Years Program and implementation. *International Journal of Indonesian Education and Teaching, 1*(1), 42–61.

Singh, M. & Qi, J. (2013). *21st Century international mindedness: An exploratory study of its conceptualisation and assessment.* The Hague, The Netherlands: International Baccalaureate Organization.

Storz, M., & Hoffman, A. (2018). Becoming an international baccalaureate middle years program: perspectives of teachers, students, and administrators. *Journal of Advanced Academics, 29*(3), 216–248.

Tatto, M., & Furlong, J. (2015). Research and teacher education: Papers from the BERA-RSA Inquiry. *Oxford Review of Education, 41*(2), 145–153. https://doi.org/10.1080/03054985.2015.1017404.

TEMAG. (2014). *Action now: Classroom ready teachers*. Canberra, Australia: Department of Education, Australian Government.

Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education.

UNESCO. (2005). *Guidelines and recommendations for reorienting teacher education to address sustainability*, UNESCO Education for Sustainable Development in Action, Technical Paper No. 2 (Prepared by UNITWIN/UNESCO Chair on Reorienting Teacher Education to Address Sustainability [Charles Hopkins, Chair and Rosalyn McKeown, Secretariat] and the International Network of Teacher-Education Institutions). Paris, France: UNESCO.

Walter, C., & Briggs, J. (2012). *What professional development makes the most difference to teachers?*. Oxford, United Kingdom: Oxford University Press.

Wright, E., Lee, M., Tang, H., & Tsui, G. (2016). Why offer the International Baccalaureate Middle Years Programme? A comparison between schools in the Asia-Pacific and other regions. *Journal of Research in International Education, 15*(1), 3–7.

Yin, R. (2009). *Case study research design and methods* (4th ed.). Thousand Oaks, CA: Sage.

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Chapter 11
Pūrākau-ā-iwi and Te Tiriti o Waitangi: Reshaping Teacher Identities, Practices and Positioning in the Context of Globalisation

Willian Knight

Abstract This chapter looks to explore the ways in which teachers who have experienced a bicultural approach to initial teacher education (ITE) have enhanced their understandings of indigenous knowledge in a way which strengthens local identity. This local identity is seen as a buffer against homogenising pressures of globalisation and explores the links between colonisation in times past and globalisation today. Research has been conducted using Kaupapa Māori research methodologies, focusing on a narrative approach to changing teacher identities, and the ways in which bicultural education has supported this. This is supported by examining the role Te Tiriti o Waitangi (The Treaty of Waitangi) plays in informing these identities and underscoring the importance of kaitiakitanga (stewardship) in protecting indigenous knowledge. The research found significant shifts in teacher identity with relation to pūrakau-ā-iwi (traditional narratives) and greater understandings of Te Tiriti o Waitangi. This contributed to a better appreciation of a range of cultures within teachers' centres, and for teachers who were Māori, a reclaiming of their own identity as indigenous, and increased confidence in making that identity part of their teaching practice.

1 Kupu Whakataki—Introduction

Globalisation presents the world with unprecedented opportunities—opportunities for communication, sharing of ideas, research, culture and resources. Generally, we would see these as at least *potential* positives. However, globalisation presents some unprecedented challenges as well. In the face of global media and industrialisation, how do local communities, particularly indigenous communities, retain their sense of identity?

This chapter examines the ways in which *pūrākau-ā-iwi* (local, traditional narratives), coupled with a growing understanding of Te Tiriti o Waitangi (The Treaty of

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Waitangi—TTOW) can help teachers and educators to develop, reawaken, or retain their local identity, and the things that make us unique here in Aotearoa New Zealand.

I have undertaken a series of informal interviews, with a focus on the qualitative experiences of ECE teachers and members of the community who have expertise in these *pūrākau-ā-iwi*. I have focused on the transformative nature of mātauranga Māori (indigenous knowledge), and how this has shaped the identity of teachers as they engaged with an initial teacher education programme that embraces this *mātauranga Māori*—The Bachelor of Teaching (ECE) programme offered by our organisation—Early Childhood New Zealand *Te Rito Maioha* (ECNZ).

Owing to time constraints and an approval process, I have refrained from interviewing any current students of ECNZ and have instead chosen to interview past students. I have protected the anonymity of the interviewees by not using their names or places of work as identifiers.

Research for this chapter has been conducted under a *Kaupapa Māori* framework. Kaupapa Māori research refers to research that has been conducted in such a way as to conform to an indigenous, traditional *Māori* view of the world. This will be explained in more detail in the *research methods* section.

I would like to thank the wonderful, wise and ofttimes profound Early Childhood teachers who have given their time to contribute to the writing of this chapter. To the Napier Museum Theatre Gallery's Curator of Taonga Māori (Māori items of historical and cultural significance), Te Hira Henderson, *ngā mihi nunui ki a koe* (a great deal of thanks to you) for your contribution and depth of knowledge regarding the methods and effects of colonisation. I would also like to thank my colleague Erena Tomoana for her assistance in refining the topic of inquiry, and in locating past students of ECNZ who would be willing to be interviewed.

2 Ngā Tuhinga—The Literature

Pūrākau (narratives) have been the subject of some prior analysis in relation to the role they can play in countering the effects of globalisation. Ritchie (2016) discussed the normative pressures of western mindsets—specifically with how these affect notions of quality in ECE, and as a result, the way they can impact on indigenous tamariki (children) in ECE centres. It stands to reason then, that by introducing traditional pūrākau, that we can start to shift the balance, and restore value to indigenous worldviews. As discussed later, in the section on globalisation (*Te take—the issue*), globalisation depends on exploitation of natural resources, and in many cases, has taken advantage of indigenous populations in order to fuel economic growth. Vincent-Snow (2017) looks at the ways in which indigenous worldviews and mindsets have a role to play in shifting our approaches to kaitiakitanga, or stewardship of the environment. Within the realm of pūrākau, rivers, mountains, forests and other natural systems are acknowledged as living entities. This was even given legal precedent in Whanganui, with the Whanganui river (one of the largest in the country) being recognised as having rights equivalent to a person in 2017 (Warne, 2019).

Ware, Breheny and Forster (2018) examine the role of oral narratives (kōrero) as a means of storing cultural knowledge. Indeed, prior to colonisation all ancestral knowledge was passed down in this way, and this was the primary method in which Māori history was kept alive, by Māori. In the time since colonisation, written and recorded histories have taken precedence, and in fact, according to Māori historian Te Hira Henderson (Personal Communication, 10th December 2019) most Māori history has now been collated by Pākehā (person of European or British descent) historians. Reintroducing and prioritising traditional narratives can play an important role in restoring the place of this knowledge and ensuring the knowledge that we still do have remains intact. O'Brien (2015) extends this notion by acknowledging the homogenising effects of globalisation, while suggesting that globally, indigenous peoples are managing these pressures through 'compositing'. O'Brien describes compositing as a process of combining elements from different narratives in order to create representations of self and the world. The importance of this approach is in the fact that it reduces the risk of oversimplifying or generalising the discrete elements being composited. This was echoed by one of the interviewees, who described her ancestral world and the western world as being different bubbles, and that she felt empowered, through learning, to move between those 'bubbles' without becoming beholden to one or the other.

Glasgow (2010) and Jenkin (2014) also examine the process of protecting indigenous language and knowledge, within the context of the homogenising pressures of globalisation, in the context of the Cook Islands and Aotearoa New Zealand, respectively. Again, the focus leans towards teachers utilising both the indigenous and western language together in the context of an ECE centre. Jenkin (2017) extends on this by encouraging teachers in Aotearoa New Zealand to set their sights on treaty-based practice, with a view to honouring a meaningful partnership between Māori and the Crown — one which would uphold the commitment to protection of Taonga Māori such as language and culture. Jenkin (2017) also discusses the importance here of the intersection between a treaty-based, bicultural lens and the pressure of multiculturalism that has come with globalisation. A treaty-based approach acknowledges that while all cultures have value under Te Tiriti o Waitangi, the Crown has particular obligations to protect Taonga Māori. Of particular interest here is the importance of power-sharing, which was also echoed by Te Hira Henderson (Personal Communication, 10 December 2019). Interestingly, Te Hira felt that a common goal of both colonisation and globalisation was precisely the antithesis of power-sharing, that is, that imperial powers were (and perhaps still are) intent on retaining complete control over resources and cultural narratives, while sharing as little of that power as possible.

Metge (2015) also explores the historical value of Pūrākau as a means of transmission of ancestral knowledge. Environmental phenomena, such as a mist, river or forest were referred to as tūpuna (ancestors), driving home the notions of *tūrangawaewae* and *mana whenua* (a place to stand, and holding authority and responsibility over a geographical area, respectively). With these notions, for Māori, as for many other indigenous people, came a powerful sense of connection to the land. This is a theme that will be expanded on later in the research findings, as it was a recurring theme

in the feedback from interviewees. With this storytelling came an understanding of the concept of tapu (sacred/restricted), which was important for children to grasp in relation to the operation of te ao Māori. While there were places and activities that were tapu, there were also some aspects of knowledge that were tapu, and which children were not privy to (Metge, 2015).

The connection between the child and the land is further reinforced in New Zealand's Early Childhood curriculum document, *Te Whāriki* (Ministry of Education, 2017). *Te Whāriki* presents five strands as being crucial to a child's learning and development, the second being *mana whenua* (see above) which the writers have translated as 'belonging'. This notion of belonging to the land was echoed in the feeling of interviewees, particularly those who were either from overseas themselves, or who worked with children from overseas. Ritchie (2012) explores this connection of belonging and adds to it the essential Māori concept of manaakitanga (care/hospitality). This tikanga (protocol) is seen by some Māori commentators as perhaps being the central underpinning element of te ao Māori (Mead, 2003). This tikanga is particularly useful in addressing the balance between biculturalism and multiculturalism as discussed above. Ritchie (2012) posits, and I agree, that manaakitanga is the lens through which all cultures should be approached within the centre context. This suggests that all cultures should be welcomed, supported and given the opportunity to feel at home, while also recognising that the idea of 'home' is situated within the mana whenua status of Māori.

3   Te Take—The Issue

Technological advances in the area of communication have allowed ideas and information to be shared rapidly, even instantaneously, anywhere in the world, and have accelerated the process of globalisation (Siddharthan & Narayanan, 2017). The increasing necessity of shared economies and trade, prompted by the desire for ever-increasing economic growth, has also necessitated increased communication. This has put pressure on languages to be homogenised. One of the teachers I interviewed had grown up in Italy, and shared that prior to industrialisation, each community had its own dialect. As the process of industrialisation expanded, pressure came on the regional and local dialects to merge into the national language of Italian, and as a result, the local dialects were lost. Similar observations could be made about te reo Māori in Aotearoa New Zealand, where the pre-eminence of local *mita* (dialects) has become secondary to the nationalisation of a single *reo* (language).

Increasing international trade and economic growth has brought increases in the standard of living for many people, but one of the challenges has been the pressure that this has placed on natural resources, including indigenously owned land. This subject was explored in heartbreaking candour during my interview with Te Hira Henderson, who shared the stories of his father and his comrades returning from World War Two to find their ancestral lands had been surveyed for distribution to returning Pākehā soldiers. Te Hira Henderson also attributed much of modern Māori homelessness to

displacement due to colonising agendas, including imprisoning Māori who protested the removal of their land. When they returned, their land had been distributed to Pākehā settlers.

The increase in international trade brought about through globalisation encourages national economies to specialise (Layton, Robinson, & Tucker, 2016). This specialisation has economic benefits; however, it can also have a homogenising effect. For example, in New Zealand, Māori were encouraged or forced to leave rural areas, as these were desirable for New Zealand's specialisation in agriculture. Shifting into urban areas had a disruptive effect on iwi and hapū (sub-tribe/extended family) relationships and structures, and has also meant that many marae (traditional meeting houses) were left abandoned, or with dwindling and aging populations of people with traditional knowledge of the protocols and traditions of the marae, including the pōwhiri (welcoming ceremony) which requires a wide range of specialised skills (i.e. the karanga, a powerful and haunting call, whaikōrero, the art of oratory and waiata, song). Many marae now struggle to find enough kaumātua (elders) to conduct pōwhiri.

As well as placing homogenising pressures on regional dialects, the process of globalisation can push language as a whole towards homogenisation, as technology and trade drive increasing international communication. This places a second level of pressure on indigenous languages and cultures, as countries seek to emphasise international aspirations, rather than internal ones. Te Hira Henderson, as a Māori historian, felt that recognition of te ao Māori outside of Aotearoa was virtually non-existent—this despite the fact that New Zealand received a disproportionately high level of interest in international trade, particularly in monetary exchange. To illustrate the point, the Bank of International Settlements (2013) report that the New Zealand dollar is frequently, if not consistently among the 10 most highly traded currencies in the world, despite our relatively small economic size.

Globalisation, it would seem, is now an irreversible, irrefutable reality. It is unlikely that what has been done will be undone, or that homogenising pressures will ease. It is important then, that we turn our attention to what can be done to preserve indigenous knowledge in culture in the face of globalisation. Te Hira Henderson refers to this as *tiaki*—to steward or protect, so that which we still have can be retained for the future. If we can get this balance right, and progress with the rest of the world, without neglecting or forgetting where we are from, and what makes us unique, perhaps we can benefit from the best of both worlds.

4 Te Huarahi—Methodology

The research in this chapter has been conducted within a Kaupapa Māori framework. Kaupapa Māori research is described as being conducted 'by Māori, for Māori, or with Māori' (Bishop, 1998). While I am not Māori, the purpose of this research is to further illuminate a Māori worldview in relation to the education of graduating teachers, and exactly one-half of the interviewees are themselves Māori.

A Kaupapa Māori approach, which emphasises kōrero (dialogue) through informal or semi-structured interviews which focus on the subjective experiences of participants is seen as appropriate (Moyle, 2016). In keeping with the principles of this approach, data was gathered through semi-structured and informal interviews. These conversations sought to uphold the expertise of the subjects interviewed. Kaupapa Māori research places emphasis on the experiences of research subjects, and so it aligned with the qualitative approach I have employed. Kaupapa Māori research is viewed as being transformative (Pihama, Cram and Walker, 2002) and this aligned well with our overarching kaupapa—to examine the transformative effects that understanding and enhancing a local, indigenously rooted identity can have for kaiako (teachers) regardless of whether they themselves are indigenous. Within the context of pūrākau, I have employed the framework used by Wirihana (2012), which analyses the idea of pūrākau through its four constituent kupu (words).

> **Pū**—in this context is used as the short form of 'pūtake'—a root or source, which speaks to the origins or beginning of a matter.
> **Rā**—in te reo Māori, rā refers to the sun, or to shine. In this context, it is used to refer to the notion of shining a light on an issue or idea—to illuminate, reflect or examine.
> **Ka**—Ka is a Māori participle that can refer to an event that has happened, is happening or will happen, depending on the context. Here it illustrates the notion of the time-bound nation of the narrative, and how it is situated temporally.
> **Ū**—To bring forth from within. This highlights the important role of the individual in retaining, sharing and authoring their narratives, based on the significance of their own experiences.

The synthesis of these suggests that we are illuminating the source of a matter, by bringing forth from within events that have happened, will happen or are happening. This can be achieved through conversation, avoiding a highly structured approach so as to allow the interviewee the opportunity to express their experiences and perspectives authentically.

Kaupapa Māori research is also situated in a tendency for resistance (Rameka, 2015)—resistance against oppression, colonisation and, in the context of this chapter, globalisation. This resistance is enacted firstly through protection, and then revitalisation of indigenous identity and culture. This protection is an expectation under the tenets of Te Tiriti o Waitangi (The Treaty of Waitangi—New Zealand's founding document (TTOW)), however, in the absence of the realisation of this through administrative channels, responsibility falls to all those who have the whakapapa (genealogy) and/or knowledge to do so, to uphold this to the best of their abilities (Henderson, Personal Communication, 10 December 2019). We will explore this in more depth as we analyse the findings of our research.

Linking again to the notion of a resistive force in the face of globalisation, Kaupapa Māori research is particularly concerned with the notion of indigenous self-determination (Bishop, 1998). This was a key factor in the decision to undertake this research 'i raro iho i te maro' (under the mantle) of Kaupapa Māori research.

In keeping with the principles above, interviews were structured as informally as possible, with a view to emphasising the unique experiences of the individual. However, some general themes were used in questioning. Participants were asked to reflect on how te ao Māori (the Māori world) has impacted on their identity as a teacher. Participants were asked to reflect on the ways in which their identities have shifted through the course of their studies, and to consider these shifts in identity and practice in the face of globalisation. In addition to the five ECE teachers who were interviewed, I also interviewed Te Hira Henderson, a well-known local Māori historian.

5   Ngā Hua—Findings

The following narratives are a synthesis of the comments made by the teachers in response to the questions asked. Direct quotes are in italics and are denoted with quotation marks. In the interest of readability, synthesis and retaining relevance to the focus of the chapter, I have not attempted to provide an exact transcript, but rather a useful synthesis of the key points of the interviewees' perspectives.

While I am a lecturer with the organisation from which these teachers graduated, I have addressed potential power imbalances through ensuring that none of the teachers interviewed were part of class groups which I taught.

5.1   Teacher 1 (Pākehā Teacher, ECE Centre Owner)

Over the course of my study, I changed a lot in my understanding of te ao Māori. I knew a little bit growing up, but I learned a lot more at Te Rito Maioha while studying. "I feel like it resonated—I felt really passionate [about te ao Māori]".

It affected personal life as well, and also helped with the centre. I'm pretty proud of my centre, the te ao Māori perspective, we get a lot of positive community feedback. I believe that started with me, because that's how I started the centre.

"We have karakia (a traditional recitation, similar in some ways to a prayer) every morning. Children say their mihi". Shy children have shown confidence with this.

We use phrases/games/competitions each week/fortnight—teachers get a prize for using the phrase. Children start using the phrases, and adults are asking too.

My confidence has definitely increased—at first I was scared to even say "Kia Ora" (Greetings)

Children take songs from the centre home and sing them, which parents enjoy.

Advocacy [for te ao Māori] has increased with understanding—"How can you advocate for something you don't understand?"

When I did the TTOW assignment, I realised that Māori got a raw deal. We can protect the language, and the culture, we can do our best.

5.2   Teacher 2 (Kindergarten Teacher of Māori Descent)

I was a young mama, I was a little bit lost—I was immersed in te ao Maori [growing up], but went to a Mormon college, immersed in religion, so it laid dormant.

I didn't realise [during my study] that I would be faced with critical questions or assignments that would educate me again, re-educate to advocate for all tamariki, but especially tamariki Māori.

Transformation came through the assignments and awoke what I had already previously been taught. My father drummed into us everyday examples of tikanga and standing up for yourself.

"We would drive to Pōrangahau, and Dad would explain: 'That's your land, that got taken, that got taken'. I would have to formulate that into assignments—every assignment had a bicultural component to it. It wasn't necessarily the teacher; it came from what I had already from my father and my whanau. Also being challenged by classmates—you don't find your voice until you're challenged and have to explain things".

"I view every day and every tamaiti (child) through a TTOW lens, not just for Māori, but for Pākehā, tauiwi (immigrants)—they have just as much right to be immersed in te reo Māori, that's one of the TTOW gems as well—te katoa (everyone)".

That's why I weave te reo through assessments, and tikanga through rhythms of the day.

Globalisation and colonisation go hand in hand and work together, it's like you live in bubbles—te ao Māori, tikanga Māori, off to bible college, that's another bubble… you either step in and live in it for long periods of time, or you don't, or you just take what you want from the bubble.

You know who you are as a teacher, what to take on, what to be influenced by, what not to be influenced by. It's a great thing to be radical—you don't stay in the box— you're advocating. It's a compliment to be radical. I am passionate about being that kind of person. That's my response to global and especially colonising influences.

Pūrākau is a buffer, it's like an armour. Dad imbued in us lots of pūrākau that belonged to us, and some that didn't. I've made it an appraisal goal to assess through a pūrākau lens, we've got a pūrākau room. Didn't come from [my study] but from the awakening [which occurred during my study].

5.3   Teacher 3 (Italian ECE Teacher)

Coming from Italy, before starting study my identity was very much, I was a teacher, that had as a model, my teachers. I would be the result of the way I thought in Italy, and what I observed of other teachers, and the values and beliefs of my family that I grew up with. I love theatre, I used it a lot in the past, it has become one of the

languages I use with the children, because of the magic of theatre, and the ability to tell stories through metaphors and images.

After I started this course of study, and started to learn about Māori mythologies and stories, in a way that linked very well with my own strong love of theatre, stories, and the magic of using puppets and other things when working with children. After this course of study, it is still evolving, because I had the luck to be exposed to te reo Māori, kaupapa Māori, I had the chance to discover myself as a teacher, through this lens.

"Thanks to te ao Māori, I have developed a connection to this land, connection and I made peace with this country, thanks to getting to know my mihimihi and pepeha, every day, a mountain that is important to me, an awa that is important to me. When you do this for a child, they develop this soul and spiritual connection with the land too".

"In Italy industrialisation was the first thing that created a loss of connection to whanau/family. [Before that] we were in the countryside living together in Cascina, like farms, but we had to go to the city to work away from family. We had dialects, Italian came after 1860 and dialects were lost because we needed a language where everybody could understand each other to trade. I don't speak the dialects; I know a few words. Anyway, the older generation aren't passing them down, those things aren't important anymore—for example, we don't need to know how to knit etc.".

Before studying through Te Rito Maioha, I worked in different centres who knew about te reo Māori. If I didn't do this course of study, I think I would be unaware of all of these things, I have these responsibilities—it's a must. It's about social justice, it's not questionable now.

The good of te ao Māori is the spiritual aspect of it. It can be difficult to work with as an element of practice in the whole centre, it's too often [associated with] religion, so it's controversial. It's in Te Whāriki as 'holistic development'.

The creation story talks about qualities of Atua [which we can] relate to the children, what qualities they are expressing. Also, as a teacher you celebrate those qualities.

My understanding of te ao Māori is that everything is there for a reason, expresses a quality, a characteristic of something that has a right to exist—it has a usefulness. This to me, takes away, the need to see and define the thing as good or bad. Everything has a value. Looking at the characteristics of the gods, I thought, how can I use the qualities of the atua in my work, e.g. Tāwhirimātea, the wind, the breath, how can I use the breath, reminding myself to breathe, reminding the children to breathe, the importance of the rhythm.

Metaphors speak to the heart, not just the mind. If we understand them better and connect to the document, then we can approach the document using different parts of ourselves, integrating the heart and mind.

5.4   Teacher 4 (Kindergarten Teacher of Māori Descent)

During my study I went to visit a Puna Reo (Māori language based ECE-provider) in Wellington. I looked at links between assessment and atua and was inspired by that.

I thought about local pūrākau, and the balance between Wāhine (women) and Tāne (men) as well. I Started to introduce this in my assessments and to whanau, [this was] the start of learning conversations with whanau.

"Before the degree I was brought up through kohanga [reo]" (language nest), I chose Te Rito Maioha because of the bicultural component. My two sisters and I went to Kura (Māori language school). My sister struggled with English. "So, mum pulled us all out and we went into a bilingual unit". I felt for my sister, she got put down a grade, she needed learning support with English. "So, I promised my tamariki that they would get the best of both worlds and feel comfortable in te ao Māori and te ao Pākehā". That's why I chose [a bicultural ITE programme], from those experiences growing up.

My study reflected those ambitions and reminded me of te ao Māori. It was a huge reconnecting for me, revisiting, then strengthening that learning. The Māori lecturers made a big difference by setting examples. I wanted to be like them—that was it. It was the delivery, there was connection and awhi (support) for students when they needed it. Everything was through activities, through doing. You guys were so patient! We gained the understanding of how that approach is good for all of us (inclusion).

We did pepeha and mihimihi every day to identify each person. It was ok for each of them to be whichever whanau they were. Students were extending themselves. Pronunciation was supported. [Mistakes] weren't frowned upon—it was let's just keep correcting. We didn't whakaiti (belittle) anyone.

"Whanaungatanga (relationships) [were important]—we [the class group] still keep in contact now".

I took it upon myself to make sure I was a rangatira (leader) in the class.

"I gained strengths from that. Going into teaching I'm still the same, I try to contribute ideas all the time. I'm leading an inquiry now around how to make meaningful connections with whanau and community. The first step was to make sure all members of Kahungungu (local tribal group) were registered. They love it, we have 14 whanau who are registered now, they enjoy the benefits of being registered. I've given out forms for them to register their friends/whanau as well."

We also hosted a representative from Ngāti Kahungunu into ensure alignment with their reo and education strategies.

"We write a lot about mana (empowerment), mauri (life-force), wairua (spirituality), they know that it's good for them, it's going to make them feel good. You see it when they haka or perform waiata. For young tamariki it's a good way to acquire the reo—probably the most effective way. We all feel it".

5.5   Teacher 5 (ECE Teacher of Cook Island Descent)

"At first my knowledge [of te ao Māori] was very limited, but it's deepened. Learning about te ao Māori has influenced me to learn about my own culture (Cook Islands) and has influenced my teaching. [I am more] able to connect to Māori whanau, Māori tamariki, and it doesn't just stop there, Asian, Indian whanau, we are so multicultural, so it's being able to take that and incorporate that sense of whanaungatanga (relatedness) making whanau feel aroha, feel welcome, that's come through my learning, through study". It has impacted on building relationships across all cultures.

We have created a centre pepeha. Connecting to German whanau, they can connect to their maunga back in Germany [so it's] not just acknowledging the local area, but abroad, when I give my pepeha, I'm acknowledging my Cook Island heritage.

Acknowledging the individual is really important, we must respect each individual so in our centre, [so] "at first we just did the one pepeha, but then I realised the importance of recognising your own roots where you feel you stand firm, to have a deeper connection to where they're from, so it was about building their own individual pepeha" [for each child].

"I also notice a difference in our whanau, they are proud. When you are acknowledged as, for example, German, there's a sense of pride that comes with that, so for our whanau, we've uplifted them".

I also appreciate having knowledge and knowing what should happen on the marae—I think it's a lifelong thing that I will carry forever. At first I thought it was just Māori thing, I've had a whole shift in thinking that this is something we can embrace. At first, I wasn't sure if I was allowed but it's really built my confidence. At a tangi (funeral), I felt the confidence to sing the waiata after my uncle spoke.

5.6   Te Hira Henderson (Curator of Taonga Māori at Napier's Museum Theatre Gallery)

After WW2, I grew up at Pākōwhai, my father was 'taketake' (uncolonized).

We were just raised as children—we didn't know different, however, we used to go to the old shingle works, at the corner of Farndon and Pakowhai Road—there was a meeting house there, which has since been uplifted. We learned the history of how we were colonised and lost our lands. Dad would have altercations with Pākehā surveyors attempting to survey our land. That was my first experience of inequality—no equity!

Everyone's lands were surveyed while they were at war, then given out as land ballots when they returned from the war. Dad would put his body on the line—he would rather die than lose the land.

"When Dad died, they came in and surveyed, and the first rates bill collapsed my mother. No one knew what rates meant, but to sum it up, it meant land loss. 3ft [of

land] a year could be taken [if rates weren't paid]. There was a difference between
Māori and Pākehā, the treaty [of Waitangi] was a fraud. You were a 2nd class citizen,
without any rights".

I realised everything outside my gate was alien, geared to extinguish me. Inside
my gate, I was Tangata Whenua, (a person of the land) but subject to Pākehā law.

With all of this, I decided to back up a few things. In '78 I started at Avalon, making
Māori programmes, but always wanted to use it to preserve our history, modelled on
'Ngā Moteatea' (a collection of traditional oral histories compiled by Sir Āpirana
Ngata). In 1985 we started Māori language programmes such as 'Waka Huia', to
record and archive oral history from the native generation, born in the late 1800's
and early 1900s. Then I resigned from TVNZ and started my own company in 1994.

"My life has been to record, document and archive the last two taketake genera-
tions. My generation is different, we are not taketake. The last generation was raised
by their grandparents, the last cannibal generation. That mindset is now extinct".

"That has been my life's work. The last taura here (connecting thread) is these
taonga [referring to the taonga displayed in the 'Rongonui' exhibition, of which he
is the curator]".

"If it wasn't for these objects, we would have nothing to identify ourselves as
Māori to that world. So my view, if you have any proficiency, it is your responsibility
to archive, preserve, and use those things to direct into the future a mātauranga (body
of knowledge) for the Māori nation, otherwise you might as well be a Pākehā".

I'm coming very quickly to the end of my lifespan. 50% of those I grew up with
are dead, of those that remain, at least half are very ill. It is more difficult every year,
to produce programmes with people who can front the programmes and speak the
language. That is what makes me do what I do.

Colonisation in New Zealand is part of a wider picture, British globalisation, using
the economic base of indigenous people. They used India, for example, to build their
base and go out and colonise the world, sucked India dry, moved to South America,
just go and have a look at the indigenous people there. Look at Germany—the biggest
producers of coffee, and they don't produce one coffee bean. South Americans were
exploited for their resources, all the textiles came out of India. The resources they
exploited gave them the ability to come here, to the other side of the world to wipe
us out.

For us, that started in 1807 when the musket was introduced to Ngā Puhi, a
generation before any other iwi. Colonisation extended itself brutally with the musket.
It changed us forever, as did the new economic base of money. Technology furthered
this process—for example following the introduction of the printing press people
became literate, and Christians. This made us blind and we put our faith into people
like William Colenso.

"Nothing has changed, it's just been permeated. It doesn't matter what govern-
ment—it's the same bed, they've just changed the sheets. We have not got equity. We
have so many Māori in parliament now, but none of them are talking about equity.
Once you restore equity, everything will change".

"The Māori race has not gained one thing without argument or protest. That is the definition of colonisation and how it is affecting us today". The agenda of colonisation is power—and not to share it.

We invited Pākehā to share our resources, not to have power over us. "Manaakitanga means sharing. That was the deal. Many Pākehā I deal with are more Māori than the Māori, however, it has only just started. Māori need to get on board."

International perception of te ao Māori? Non-existent—under globalisation, any indigenous person does not exist. They're only there to be pillaged.

Up till now, Māori history has been written by Pākehā.

6 Whakatewhatewha—Analysis

6.1 Te Tuakiri—Identity

Identity was a key theme for teachers, particularly for teachers who were themselves Māori—this included two of the five graduates interviewed. Two of the other teachers were also from ethnic backgrounds, one being Italian and the other of Cook Island Māori descent. All five of the teachers reflected on the increase in confidence that they felt as a result of learning about te ao Māori, and the increased passion they felt for the culture through the process. One of the things that happened as a result of this, was an increased awareness of, and appreciation for, other cultures as well, particularly where these cultures were represented in the teacher's own centre.

For kaiako Māori (teachers of Māori descent), they found this education to be particularly useful in re-awakening their connection to their own indigenous culture. For both kaiako Māori interviewed, they had grown up with some exposure to te ao Māori, which subsequently waned as they got older. Pressures of work, relationships, religion and simply the homogenising pressures of living in a colonised society were cited as causes of this drift away, or separation from, indigenous culture. One teacher reported the experience her and her siblings had, of being educated within a kohanga reo (Māori language nest) setting, and then moving into a Māori language education school. One of her siblings was struggling with English language, and so the parents decided to move the children into a bilingual education unit. This is a further example of the ways that colonising or hegemonic pressures can affect indigenous languages and culture. Another teacher recounted how her religious life pulled her away from her cultural roots. The theme of religious impact and pressures on indigenous culture was also discussed by Te Hira Henderson, who discussed the impact of the printing press and distribution of bibles in eroding the indigenous belief systems of Māori.

For these teachers, engaging with te ao Māori through their course of study encouraged them to re-engage with their taha Māori (Māori aspect). This positioned these teachers to share their knowledge with their respective centres and had also resulted in one kindergarten that was looking to become bilingual in the near future. The same

kindergarten had also created a pūrākau room, decorated with images describing traditional narratives such as the story of Ranginui (the sky father) and Papatūānuku (the earth mother) whose separation marked the beginning of te ao mārama (the world). While these stories are told by most iwi (tribes) in New Zealand, each iwi has their own unique interpretation of the story, and so these can accurately be described as pūrākau-ā-iwi (local, tribal narratives).

For non-Māori teachers, an increase in their knowledge of te ao Māori led to an increase in their confidence to participate in Māori protocols. One teacher related her experience of going to a marae for the tangihanga (funeral procession) of a family member. She was able to support the speaker who represented her extended family by leading a waiata (song), immediately following his kōrero (speech). This aligns with the tikanga on marae, which generally stipulates that each speaker should be followed by a waiata. Generally, the speaker will be a male, and the waiata will be led by a female.

Another teacher who now owns and operates her own centre related to the importance of the knowledge she had gained over the course of her study in setting a biculturally responsive tone for the other teachers in her centre. Her team had responded to this and viewed it as valuable and authentic.

6.2 Pepeha—Tribal Sayings/Incantations

A pepeha tells the story of where a person is from, and who their people are. A pepeha will often contain reference to a person's whakapapa (genealogy), including their spouse and children. A person's marae might also be included. Ancestral landmarks, such as mountains and rivers are also seen to be irreducible components of one's identity and are included. The pepeha model was often recreated by teachers with the children they taught, demonstrating the flow-on impact of this aspect of their learning.

The teachers interviewed felt that this was particularly significant for the mana (pride, self-efficacy) of children who were either Māori or came from overseas, as this process of learning pepeha provided them with tūrangawaewae (a place for the feet to stand), or a sense of belonging and a place within the context of their centre. The openness and receptiveness of te ao Māori was highlighted by the two teachers I interviewed with overseas heritages—this is an example of *manaakitanga,* which is an underpinning tikanga for Māori.

6.3 Whakaahuatanga—Transformation

Depending on their own circumstances prior to undertaking study, teachers found the process transformative in different ways. As I have touched on above, teachers who were Māori found that learning about te ao Māori and Pūrākau-ā-iwi helped to

rekindle a connection to their ancestral heritage. This has had flow-on effects for the children they teach. Teachers from overseas felt a greatly increased sense of connection to Aotearoa New Zealand, with one teacher saying she felt she had 'made peace' with the country, through learning her pepeha. For Pākehā students, understanding te ao Māori can be a way to become more aware of their own culture, which is less visible because of its pervasiveness. One teacher described their knowledge of pūrākau as being like an 'armour' against the effects of colonisation and globalisation.

6.4   Tirohanga—Worldview

Within te ao Māori, it is believed that humankind descends from *ngā atua* (the gods). These atua represent aspects of the world, and of nature, and there are even some assessment frameworks which encourage teachers to assess children's learning and dispositions through the lens of the characteristics, and abilities of these atua. Several of the teachers interviewed shared how this worldview has translated into their teaching practice, through theatre, pūrākau and waiata. For tamariki Māori, there is tremendous value in seeing their culture alive in their centres, and for non—Māori tamariki, the universality of these pūrākau makes them nonetheless relevant. As I have mentioned elsewhere, one of the kindergartens where teachers worked had even set up a pūrākau room, with elements of various pūrākau displayed on the walls.

6.5   Taketaketanga—Indigeneity

The notion of *kaitiakitanga* is key here. Teachers who had drifted away from their heritage as Māori were keenly aware of the importance of this, but the point was really driven home by two other interviewees. Te Hira Henderson discussed at lengths the challenges brought about by colonisation, and the deliberate erosion of Māori culture and identity. An Italian teacher shared the story of the loss of local dialects, and the replacing of these with a national language as a result of industrialisation. This ran very close parallels to colonisation in Aotearoa New Zealand and this was underscored by Te Hira Henderson, supported by several of the teachers who agreed that colonisation and globalisation had the potential to mirror each other in many of their effects. Te Hira stressed the importance of protecting and retaining all things Māori wherever possible and referred in unambiguous terms to the generational loss of indigenous knowledge. Te Hira actually uses the term *taketake* to refer to those Māori who were untouched by the effects of colonisation, at least until their adult life. This distinction between 'taketake' and Māori emphasises that while Māori are Māori by descendancy, maintaining an unaltered, indigenous mindset is an altogether different and more difficult thing. Again, this underscores the overwhelming importance of protecting the indigenous knowledge that remains today.

6.6 Kotahitanga—Universality

One of the threads that came through in the conversations was the *universality* (in the modern context, at least) of te ao Māori. Two of the interviewees had personal heritages from elsewhere in the world (Cook Islands, Italy). They both felt that there were links between te ao Māori and their own indigenous cultures, and that there were universal commonalities present—essential human ideas presented in indigenous ways that could be translated from one culture to another.

In addition to this aspect, another key element of universality was the overwhelming sense that te ao Māori was available for all tamariki (children) but, also that we all have a responsibility in the kaitiakitanga of it. Te Hira Henderson, perhaps the most qualified of the interviewees in matters of Māori history, went out of his way to applaud the role that Pākehā have played in recent times in supporting the protection and restoration of te ao Māori.

A third, and perhaps unexpected aspect of this universality has to do with the concept of *Tūrangawaewae,* touched on above. This refers to having a connection to the land, and the learning of pepeha and mihimihi was a recurring theme for teachers in establishing this sense of tūrangawaewae. This had two important effects. For teachers from overseas, they felt, as a result of learning pepeha and mihimihi, that they had developed a much stronger connection, not just with Aotearoa, but with their own home countries as well. Of perhaps even greater significance was what they observed with international children in their centres. Children from all over the world (Germany and China were cited as examples) were observed by teachers as being able to gain a sense of belonging through learning mihimihi and pepeha. For tamariki Māori (Māori children) their sense of mana, or pride, in engaging with their own culture and seeing it evident in their centres was a significant positive outcome.

7 Kupu Whakakapi—Conclusion

The impacts of colonisation and globalisation were readily evident in both the literature, and the data gathered in the informal interviews. There is ample support for the idea that globalisation has prioritised economic growth above the interests of indigenous cultures and groups, and that increased international trade and communication, fuelled by technology and the desire for an ever-improving standard of living has put increasing pressure on the survival of indigenous languages and knowledge. This has been driven by the homogenising forces of globalisation, which emphasise the ability to trade efficiently over uniqueness and autonomy.

It is only natural, as educators, that we would seek to find balance to this equation, in ensuring that globalisation does not continue to erode indigenous identity, but rather that we can create and foster systems, curriculum and experiences that preserve indigenous language and culture. Schools and early childhood education

centres provide an excellent opportunity to pursue these aims, and engagement with communities and partnerships with families will allow us to further this work.

It is evident in the sentiments of the kaiako interviewed, that all of them have at least begun this journey. Some are even working in partnership with local iwi organisations to ensure that families are supported in implementing their indigenous language and culture in the home. This is an example of the *kaitiakitanga* that was stressed by Te Hira Henderson—the responsibility of those who have retained, redis- covered or received mātauranga Māori, to preserve it and pass it on, so that there is a body of indigenous knowledge available for future generations.

In weaving mātauranga Māori into teacher education programmes, we have sought to contribute to this process. In reviewing the feedback from the interviewees, it is evident that these kaiako are working to protect and preserve te ao Māori, and that this has had significant benefits for all tamariki in their centres—not just tamariki Māori. Te Hira Henderson applauded the work of Pākehā in supporting this work but pointed out that it has only just begun. This is an important point for us to be mindful of. Colonisation brought about catastrophic decline in the retention of mātauranga Māori, and not enough has been done to correct this course.

While the research conducted here has been contained within the Aotearoa New Zealand context, I think there are some very clear themes that can be transferred to any setting. One of the teachers referred to the 'universality' of concepts from te ao Māori, and felt that these ideas were analogous to concepts embraced by indigenous cultures from all around the world. A great number of industrialised countries have an indigenous or historical heritage, and in most cases, this knowledge has been lost to some extent over time. There is an opportunity for providers of initial teacher edu- cation to equip graduating teachers with an introduction to local indigenous cultures, and to the richness that a 'dual worldview' can provide. A sense of kaitiakitanga (stew- ardship and responsibility) can guide us in preserving indigenous knowledge, and as teachers, we are ideally positioned to preserve this mātauranga taketake (indige- nous knowledge) through the vehicle of *taonga tuku iho*—treasures passed down. When teachers understand their own *tūrangawaewae* they are empowered to bring the children they teach into that place.

Glossary

Atua God or gods.
Awhi Support, help or embrace.
Iwi Tribe.
Kaiako Teacher(s).
Kaitiakitanga Stewardship.
Kaumātua Elder(s).
Kaupapa Māori For Māori purposes, or conducted within a Māori worldview, or in accordance with Māori principles.
Kōrero Dialogue/stories.

Kupu Word(s).

Mana Whenua Power or authority over the land. Usually refers to the relationship of customary guardians to the land which their ancestors occupied.

Manaakitanga Care or hospitality. A key component, if not the key component of te ao Māori.

Marae Traditional meeting house.

Mātauranga Māori Māori indigenous knowledge.

Mātauranga taketake Indigenous knowledge.

Mihimihi Traditional recitation of greeting. Similar to, and will often include, a pepeha (see below).

Mita Regional diaelct.

Pākehā Person of British or European descent. Usually refers to New Zealanders of British or European descent but can also refer to white-skinned individuals descending from western countries including Europe, Scandinavia and the United States.

Pepeha A tribal recitation or saying, usually unique to each person. The pepeha will usually refer to the speaker's mountain, river, marae and extended family.

Pōwhiri A traditional welcoming ceremony, usually onto a Marae.

Pūrākau Narrative(s).

Pūrākau-ā-iwi Pūrākau belonging to a specific, (usually geographically located) tribe (iwi).

Taha Māori Māori dimension of a person.

Taketake Indigenous, untouched by colonisation.

Tamariki Children.

Tangata Whenua A person of the land – descended from the land's original inhabitants.

Taonga Treasure or item of significance. Also includes non-tangible treasures such as language, culture and traditional knowledge.

Taonga Māori Treasure or items of cultural significance to Māori.

Taonga tuku iho A treasure passed down from one generation to the next.

Tapu Sacred or restricted.

Tiaki To protect or defend (preserve).

Tikanga Traditional protocols and customs.

Te ao Māori The Māori world; the world as seen through a Māori worldview.

Te Tiriti o Waitangi The treaty of Waitangi, generally considered to be New Zealand's founding document, signed in February 1840 at Waitangi.

Tūrangawaewae Literally '*A place for the feet to stand*'. Refers to a person's birthplace and/or a place that a person calls home.

Waiata Song, or to sing.

Whakapapa Genealogy.

Whakatauki Traditional proverb of uncertain origin.

References

Anonymous Teacher 1. (2019, November 29). Personal interview conducted at Te Rito Maioha, 120 Market St. North, Hastings, Hawkes Bay, New Zealand.

Anonymous Teacher 2. (2019, December 3). Personal invterview conducted at Te Wānanga o Aotearoa ki Heretaunga, 215 Hastings St. South, Hastings, Hawkes Bay, New Zealand.

Anonymous Teacher 3. (2019, December 5). Personal interview conducted at Te Rito Maioha, 120 Market St. North, Hastings, Hawkes Bay, New Zealand.

Anonymous Teacher 4. (2019, December 13). Personal interview conducted at Te Rito Maioha, 120 Market St. North, Hastings, Hawkes Bay, New Zealand.

Anonymous Teacher 5. (2019, December 16). Personal interview conducted at Te Rito Maioha, 120 Market St. North, Hastings, Hawkes Bay, New Zealand.

Bank of International Settlements. (2013). *Triennial Central Bank Survey Foreign exchange turnover in April 2013: Preliminary global results*. Retrieved from https://www.bis.org/publ/rpfx13fx.pdf.

Bishop, R. (1998). Freeing ourselves from neo-colonial domination in research: A Maori approach to creating knowledge. *International Journal of Qualitative Studies in Education*, *11*(2), 199–219.

Glasgow, A. (2010). Measures to preserve indigenous language and culture in te reo kuki airani (Cook Islands Maori language): Early childhood education models. *AlterNative, 6*(2), 122–133.

Henderson, T. (2019, December 10). Personal interview conducted at Museum Theatre Gallery, Tennyson St, Napier, Hawkes Bay, New Zealand.

Jenkin, C. (2014). Bicultural babies: Implementing Tiriti-based curriculum with infants and toddlers. *Australasian Journal of Early Childhood*, *39*(3), 129–137. Retrieved from https://doi.org/10.1177/183693911403900316.

Jenkin, C. (2017). Early Childhood Education and Biculturalism: Definitions and Implications. *New Zealand Journal of Teachers' Work*, *14*(1), 8–20. https://doi.org/10.24135/teacherswork.v14i1.100.

Layton, A., Robinson, T., & Tucker, I. (2016). *Economics for today* (5th ed.). South Melbourne, Victoria, Australia: Cengage Learning Australia.

Mead, H. (2003). *Tikanga Māori: Living by Māori values*. Wellington, New Zealand: Huia Publishers.

Metge, J. (2015). Storytelling. In *Tauira: Maori methods of learning and teaching* (pp. 211–237). Retrieved from https://ebookcentral.proquest.com/lib/opt/reader.action?docID=1990590&ppg=221.

Ministry of Education. (2017). *Te whāriki: He whāriki mātauranga mō ngā mokopuna o Aotearoa: Early childhood curriculum*. Wellington, New Zealand: Author.

Moyle, P. (2016). A model for Māori research for Māori practitioners. *Aotearoa New Zealand Social Work, 26*(1), 29. https://doi.org/10.11157/anzswj-vol26iss1id52.

O'Brien, S. P. (2015). *Not the whole story: Narrative responses to contemporary globalization*. Dissertations. 1484. Retrieved from https://ecommons.luc.edu/luc_diss/1484.

Pihama, L., Cram, F., & Walker, S. (2002). Creating methodological space: A literature review of Kaupapa Maori research. *Canadian Journal of Native Education, 26*(1), 30–43.

Rameka, L. (2015). Whatu: A Māori approach to research. *Waikato Journal of Education (2382–0373), 20*(2), 39–47. Retrieved from http://10.0.61.47/wje.v20i2.204.

Ritchie, J. (2012). An overview of early childhood care and education provision in "mainstream" settings, in relation to kaupapa Māori curriculum and policy expectations. *Pacific-Asian Education Journal*, *24*(2), 9–22. Retrieved from http://search.ebscohost.com.libraryproxy.openpolytechnic.ac.nz/login.aspx?direct=true&db=ehh&AN=97441913&site=ehost-live.

Ritchie, J. (2016). Qualities for early childhood care and education in an age of increasing super-diversity and decreasing biodiversity. *Contemporary Issues in Early Childhood, 17*(1), 78–91. https://doi.org/10.1177/1463949115627905.

Siddharthan, N. S., & Narayanan, K. (Eds.). (2017). *Globalisation of technology*. Retrieved from https://ebookcentral.proquest.com.

Vincent-Snow, C. (2017). Bicultural approaches to sustainability within early childhood settings in Aotearoa/New Zealand. *He Kupu, 5*(2), 69–75.

Ware, F., Breheny, M., & Forster, M. (2018). Kaupapa Kōrero: A Māori cultural approach to narrative inquiry. *AlterNative: An International Journal of Indigenous Peoples, 14*(1), 45–53. Retrieved from http://10.0.4.153/1177180117744810.

Warne, K. (2019). *The Whanganui river in New Zealand is a legal person. A nearby forest is too. Soon, the government will grant a mountain legal personhood as well. Here's how it happened, and what it may mean.* Retrieved from: https://www.nationalgeographic.com/culture/2019/04/maori-river-in-new-zealand-is-a-legal-person/.

Wirihana, R. (2012). *Ngā pūrākau o ngā wāhine rangatira Māori o Aotearoa* (*The stories of Māori women leaders in New Zealand: A thesis presented for the degree of Doctor of Philosophy in Psychology*). Retrieved from http://hdl.handle.net/10179/4672.

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Chapter 12
Responding to Superdiversity Whilst Upholding Te Tiriti O Waitangi: Challenges for Early Childhood Teacher Education in Aotearoa New Zealand

Angel Chan and Jenny Ritchie

Abstract Countries with a superdiverse population due to increases in migration have been slow in recognising and addressing social inequalities driven by this situation (Vertovec, 2007). In Aotearoa (New Zealand), there are now more than 200 different ethnic groups and 27.4% of its population was born overseas (Statistics New Zealand, 2019), and there is also an increasing number of students with diverse cultural, linguistic and migration backgrounds enrolled in the country's early childhood teacher education programmes. The manifestation of superdiversity in Aotearoa is particularly complex and challenging since it occurs within a legislated 'bicultural' context (Royal Society of New Zealand, 2013). In light of these concerns, this paper reports findings from a study which utilised a methodology of critical discourse analysis (Gee, 2011; Jørgensen & Phillips, 2002) to examine several key institutional policy documents in order to interrogate the responsibilities of early childhood teacher education in supporting both the country's commitment to 'biculturalism' and its current superdiverse demographics. The theoretical analysis draws on Vertovec's (2007) superdiversity approach, critical multiculturalism (May, 1999) and critical and Indigenous pedagogies of place (Penetito, 2009; Perumal, 2015). While all the documents make explicit references to 'bicultural' commitments, minimal attention is given to migration-related inequality issues. Our analysis highlighted complex inter-relationships and tensions between honouring 'biculturalism' and catering for superdiversity. Recognising and addressing this complexity is important in future policy development, and teacher education providers need to ensure that their graduates have the knowledge and skills to work equitably with children, families and communities in order to address inequalities emanating from the history of colonisation in Aotearoa as well as the current superdiversity situation.

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1 Introduction

Increased mobility of populations globally generates challenges for education systems in responding to demographic complexities such as the recent phenomenon of superdiversity (Vertovec, 2007, 2019), and in Aotearoa (New Zealand), these challenges and complexities have to be considered within the local 'bicultural'[1] legislative context. This chapter offers a critical discourse analysis (CDA) of key policy documents with regard to superdiversity and 'biculturalism' in early childhood (EC) teacher education in Aotearoa. Teacher education programmes in Aotearoa are increasingly enrolling students who have diverse ethnic, cultural, linguistic and migration backgrounds. This chapter aims to interrogate the roles and responsibilities of initial and in-service EC teacher education with regard to addressing issues of identity, equity and social justice in light of the changing demographic landscape in Aotearoa, a country that has a history of colonisation and is also now considered 'superdiverse' (Royal Society of New Zealand, 2013). Previous research has highlighted challenges for teacher education in relation to honouring a commitment to Te Tiriti o Waitangi (Ritchie, 2002), and subsequent Education Review Office[2] (ERO) reports have expressed concerns regarding the ongoing challenges faced by the early childhood education (ECE) sector in this regard (ERO, 2010, 2012, 2013). It has been pointed out that policies and practices in many countries with a large population of diverse migrants have yet to adequately respond to the more recent superdiversity phenomenon (Vertovec, 2007). Similar concerns were raised by a recent study in Aotearoa (Chan, 2019a) which examined how the revised national EC curriculum *Te Whāriki* (Ministry of Education, 2017) addresses issues emerging from the nation's current superdiversity situation. This chapter utilises a range of theoretical approaches and a methodology of CDA to examine several key policy documents and consider the implications for initial and in-service EC teacher education of increasing superdiversity in a country which is yet to reconcile its history and ongoing legacy of the colonisation of the Indigenous Māori, despite the 1840 treaty commitments that had led Māori to believe that their authority would be respected (Spoonley, 2017; Walker, 2004). From this perspective, the chapter reviews and contests changes and challenges emerging in the field of EC teacher education in relation to globalisation, internationalisation and local contextual issues.

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[1] We choose to problematise the terms 'bicultural' and 'biculturalism'. Although they derive from recognition of the two original parties to the 1840 Tiriti o Waitangi, the Indigenous Māori and the British Crown, subsequent migration policies have resulted in a greater diversity of ethnicities and languages.

[2] The Education Review Office is the government department that regularly evaluates individual ECE services and schools, and also publishes national reports on specific issues.

2 Historical Context

As Freire (1972) wisely informed us, education is neither politically neutral nor ahistorical. Early childhood teacher education is no exception. In order to appreciate the educational implications of the current situation of superdiversity in Aotearoa, it is important to understand these within the particular historical context of comparatively recent British colonisation. Māori are estimated to have arrived in Aotearoa from the South Pacific around 1300CE (King, 2003). After various early encounters between Māori and European explorers, sealers and whalers (Salmond, 1991), the first British missionaries arrived in 1814. The 1835 affirmation of New Zealand as a Māori sovereign nation in He Whakaputanga o te Rangatiratanga o Nu Tireni | Declaration of Independence of the United Tribes of New Zealand preceded the 1840 signing of Te Tiriti o Waitangi[3] between the British Crown and Māori chiefs (Orange, 1988; Walker, 2004). The latter treaty, whilst allowing for British settlement, also gave important undertakings to Māori: recognition that they would retain their tribal self-determination over their lands, villages and everything of value to them, including their language; that they would be equal citizens to the British; and that their belief systems would also have equal status to the religions of the British and French missionaries present at the treaty signing (Orange, 1988).

Despite the clearly worded articles of Te Tiriti o Waitangi, the British Crown chose to assume the rights of sovereignty, as stated in the English language version of the treaty, the Treaty of Waitangi, which was not the same as the kawanatanga (governance) ceded by Māori in the original Tiriti document signed by the vast majority of Māori chiefs.[4] The 1852 New Zealand Constitution Act resulted in the establishment of a British settler government that ignored its Te Tiriti o Waitangi obligations, and excluded the voices and rights of Māori. The government thereafter passed innumerable laws and policies which served to alienate Māori from their lands, language, traditions and cultural identities (Orange, 1988; Walker, 2004). Māori were thus denied basic human rights that were available to the settlers, such as access to education in their own language and to higher levels of education, through wide-scale state-imposed policies and practices of disenfranchisement and discrimination. Ongoing Māori activism resulted in the treaty finally, after 135 years, being recognised in legislation in the Treaty of Waitangi Act (1975) which established the Waitangi Tribunal to consider treaty breaches. However, the long-term legacy of this systemic discrimination is that Māori continue to be negatively represented in social statistics including those related to educational achievement, poverty, imprisonment and youth suicide (Radio New Zealand (RNZ), 2019a).

Whilst the legitimate expectations of Māori, based in treaty assurances, were largely ignored by the colonisers, Māori have consistently sought to have these upheld (Walker, 2004). Slowly over the past three decades, substantive Māori grievances

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[3]Te Tiriti o Waitangi refers to the original treaty written and signed in te reo Māori, the Māori language.

[4]Te Tiriti o Waitangi, the Māori text, was signed by over 500 chiefs, and the English version by only 39 (Orange, 2017).

have received official recognition albeit with token compensation by successive governments. One aspect of this recognition is an ostensible policy of 'biculturalism' which purports to give equal status to Māori but which has been criticised in that governments have largely continued to fail to share power, resources and decision-making with Māori (Walker, 2004). Languages encapsulate cultural beliefs and knowledge systems. It could, therefore, be assumed that bilingualism (both English and te reo Māori, the Māori language) should feature strongly in a 'bicultural' policy. This has not been the case in Aotearoa. The Māori language was belatedly recognised in 1987 as the official language (New Zealand Parliament, 1987). Whilst "Maori communities have over a long period made claims to the establishment to include their language, knowledge, history and practices into the curriculum" (Penetito, 2002, p. 98), the number of speakers of te reo Māori remains low. Only 11% of Māori report that they can speak te reo very well or well, but 45% are unable to speak anything beyond a few words or phrases (Ministry of Social Development, 2016).

A further serious critique of the policy of 'biculturalism' is that it fails to adequately recognise Māori as the first nations peoples of this land. Retired High Court Judge and former Chair of the Waitangi Tribunal Sir Eddie Taihakurei Durie has offered an inclusive Tiriti-based paradigm which both affirms Māori as tangata whenua (people of this land) and, in addition, considers all those who have migrated subsequently to be 'tangata tiriti', people who live in this land "by right of Te Tiriti o Waitangi" (Turia, 2016, p. 36). The latter includes all those who reside in Aotearoa due to Te Tiriti having allowed initial British settlement followed by subsequent migration under kawanatanga | government policies. These policies were for many years covertly racist, favouring 'Whites only' (Brawley, 1993). Policy changes post World War II brought a huge increase of 'non-white' migrants, firstly from various Pacific nations, and since the 1987 Immigration Act, predominantly from Asia (Spoonley & Bedford, 2012).

3   Current Demographic Context

The population landscape of Aotearoa has transformed significantly over the years. The most recent census revealed that 27.4% of respondents were not born in New Zealand, whilst Māori currently represent 16.5% of the overall population (Statistics New Zealand, 2019).[5] An even more seismic demographic shift can be seen in the relative proportions of ethnic groups represented in ECE enrolments, whereby those of Pākehā | European ancestry now account for only 48.21%, Māori 23.72%, and the remainder comprising a diverse range of ethnicities (Education Counts, 2018). A similar increased diversity is evident in statistics on the ethnicity of EC teachers in that "Māori teaching staff accounted for 9.0% of all teaching staff [and] Asian teaching

[5]There were demonstrable difficulties related to a low response rate with the first ever e-census, conducted in 2018, the implications of which are acknowledged as being particularly concerning for Māori and raise issues of Indigenous data sovereignty (Kukutai & Cormack, 2018).

staff now make up 11.5% of all teaching staff in teacher-led services" (Education Counts, 2014, p. 9).

Immigration New Zealand (2019) now lists EC teachers in the 'skill shortage' category with regard to eligibility for a residency visa. At the same time, universities in Aotearoa continue to market their programmes to international students, increasing the enrolments of such students in EC teacher education programmes. These situations have implications for Aotearoa's EC teacher education in terms of the nation's commitment to social justice, equity and Tiriti-based[6] (rather than 'bicultural') policy and practice, along with our responses to superdiversity. In a Tiriti-based paradigm, Māori are recognised as having the right of tino rangatiranga (self-determination) as tangata whenua, and te ao Māori (the Māori world) as expressed through te reo Māori is given prominent recognition. This paradigm also acknowledges the increasing diversity of tangata tiriti, all those whose ancestry is other than Māori.

4 Theoretical Positioning

We draw upon a range of theoretical and conceptual frameworks including Steven Vertovec's (2007) superdiversity approach; critical multiculturalism (May, 1999; May & Sleeter, 2010) and critical and Indigenous pedagogies of place (Penetito, 2009; Perumal, 2015; Williams, Bunda, Claxton, & MacKinnon, 2018) to analyse relevant discourses promoted in several key institutional documents. These frameworks are used to highlight inequalities and social justice issues in EC teacher education in order to facilitate transformation of policies and pedagogies with the intentions to both foster connectedness with local Māori histories and mātauranga (knowledge) *and* cater to superdiversity complexities.

Since its inception more than a decade ago, the term 'superdiversity' has been applied in studies across multiple disciplines including early childhood education (Chan, 2019a, 2019b); migration (Spoonley, 2015); social inequality (Aptekar, 2019) and language (Blommaert, 2013). This approach goes beyond examining conventional diversity issues in relation to ethnicity, culture and language. Instead, it highlights the interactivity of complexities generated from contemporary migration situations, focusing in particular on social inequality issues driven by migration.[7] It responds to "the search for better ways to describe and analyse new social patterns, forms and identities arising from migration-driven diversification" (Vertovec, 2019, p. 125), and highlights the need to transform policies and practices to cater for superdiverse demographics.

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[6]We use the term 'Tiriti o Waitangi based' (or more simply Tiriti based) instead of 'bicultural' to recognise the first nations status of Māori and the obligations that government, and by extension, teachers have under Te Tiriti o Waitangi to recognise Māori self-determination over their lands, language, knowledges and resources.

[7]For example, recent reports have highlighted the need to recognise health issues (Tolley, 2019) and exploitation of migrants (Hickey & Grieveson, 2019) in Aotearoa.

Contemporary migrants are extremely diverse and highly mobile. They are diverse not only in ethnicity, culture and language; but also in terms of their migration patterns and statuses, which are two key considerations in the superdiversity approach (Vertovec, 2007, 2019). Differing patterns (for example, permanent settlement in the host countries or transnational migration which involves ongoing commuting activities between the home and host countries) and statuses (for example, voluntary skilled and investment migrants or involuntary migrants with a refugee background) mean contemporary migrants are more heterogeneous than ever before. This heterogeneity means that migrants may not all have the same rights and resources. Voluntary transnational migrants, for example, may have the opportunities to benefit from resources offered in the home and host countries, but because their time is divided across two countries, they may struggle to develop a sense of belonging and identity in the host country (Chan, 2018; Chan & Spoonley, 2017). Some host country locals may perceive this group of migrants to be disloyal and destabilising of national identity and collective heritage, and therefore marginalise and exclude them (Goldberg, 2002).

The notions of transformation and heterogeneity are also emphasised in critical multicultural studies. Critical multicultural scholars have long argued that it is unjust to homogenise any cultural or ethnic group and that it is inequitable to assume that members of each group have similar needs and to therefore provide only static and standardised supports (May, 1999). A recent study (Chan, 2019b) connected key ideas of the superdiversity approach and critical multicultural theorising, suggesting the cross-application of these to transform policies and practices to be responsive to migration-related inequality issues in ECE. In light of the migration patterns and statuses emphasised in a superdiversity approach, the complex layers of migration-related inequalities must be taken into consideration along with recognition of the rights and histories of tangata whenua when reviewing and enacting institutional policies such as those mandated by the New Zealand Teaching Council.[8]

As the severity of the current climate and biodiversity extinction crisis becomes increasingly evidenced (Stockholm Resilience Centre, 2019; United Nations, 2019), recognition of the connections between histories of colonisation and environmental degradation leads us to consider the necessity for teacher education programmes to include a focus on critical and Indigenous pedagogies of place (Chan & Ritchie, 2019). Such pedagogies recognise the historical, political, economic, cultural and social contexts that underpin the place-based locatedness of educational work in order to take a decolonising approach that validates local Indigenous traditional ecological knowledges (Penetito, 2009; Perumal, 2015; Williams et al., 2018). The United Nations Sustainable Development Goals for 2030 require education systems to equip children with the knowledges and skills to enable them to contribute to the "transformation of human-social structures towards the goal of social–ecological

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[8]The current title for the body that oversees the teaching profession and initial teacher education programme approvals in Aotearoa is 'Teaching Council New Zealand | Matatū Aotearoa'. Originally the Teacher Registration Board (as per the 1989 Education Act), from 2002 it was called the 'Teachers Council' and from 2014 to September 2018, it was entitled the 'Education Council | Matatū Aotearoa'.

resilience" (Williams et al., 2018, p. 50). The repertoires of Māori traditional wisdom along with those of migrant children and families can contribute to such work, drawing upon families' ancestral funds of knowledge (Gonzalez, 2005) regarding ways of living sustainably and caring for Aotearoa collectively. In applying critical and Indigenous pedagogies of place, EC teachers can support migrant children and families to understand the histories of the host country and Māori traditional knowledges, and to develop a sense of connection and belonging to Aotearoa.

5 Critical Discourse Analysis (CDA) as an Analytical Tool

Methodologically, we utilise a critical discourse analysis (Gee, 2011; Jørgensen & Phillips, 2002; Locke, 2004) of several key documents to identify dominant discourses influencing EC teacher education in Aotearoa and to also consider discourses which may be silenced and/or marginalised. Discourses are socio-historically constructed, determining the salient knowledge and arranging the social order (Gee, 2011). Dominant and institutional discourses are naturalised over time to become taken-for-granted and 'common-sense' knowledge (Gee, 2011; Locke, 2004). Policy documents mandated by the Ministry of Education and the Teaching Council through the promotion of particular discourses influence and regulate teacher education in Aotearoa. If these discourses are not challenged through thoughtful examination, they have the potential to become ingrained beliefs and practices that are uncritically performed by practitioners. The power of such normative discourses is such that "subscribers of non-powerful discourses are therefore marginalised and relatively disempowered" (Locke, 2004, p. 37). Rendering the norms and hierarchies of discourses visible is important when reviewing documents and policies in order to disrupt power relations, and to transform policies and practices so that they become inclusive of diverse discourses (Locke, 2004). The purpose of CDA is

> to provide opportunities for critical detachment and review of the ways in which discourses act to pervade and construct our textual and social practices in a range of contexts. (Locke, 2004, p. 89)

Discourses promoted and mandated by institutions usually reflect the social and political contexts within which they were created. This study therefore considers whether current key EC and teacher education documents are reflective of not only ongoing commitments to tangata whenua but also responsive to current superdiverse demographics.

Language and other linguistic expressions can also be interrogated using a CDA approach to identify underlying discourses in narratives (Gee, 2011; Locke, 2004). We utilised the work of Jørgensen and Phillips (2002) whose take on CDA as both theory and methodology builds on the work of Ernesto Laclau and Chantal Mouffe, as well as of Norman Fairclough. This approach recognises that identities are "discursively constituted through chains of equivalence where signs [also termed 'key signifiers'] are sorted and linked together in chains in opposition to other chains

which thus define how the subject is, and how it is not" (Jørgensen & Phillips, 2002, p. 45). We thus identified 'key signifiers' from selected texts, which as contextualised within 'chains of equivalence' (phrases which indicate shared meanings), "are combined with other signs that fill them with meaning" (Jørgensen & Phillips, 2002, p. 50). These key signifiers (in this paper, we use key statements from the documents) are then examined in relation to their historicity and with consideration as to how entities such as discourses and identities "are always established relationally, in relation to something they are not" within shared social spaces (p. 50). This framing has relevance to complexities of tangata whenua | tangata Tiriti and superdiversity dynamics in Aotearoa and to the potential of applying critical and Indigenous place-based pedagogies to address the possible polarisations, and prevent the perpetuation of social, cultural and ecological injustices.

6   Findings and Discussion

In order to understand the discursive context of EC teacher education pertaining to Te Tiriti o Waitangi in relation to both tangata whenua and tangata tiriti, including the current superdiversity situation, we began our analysis by considering key statements across three highly influential documents:

1. *Te Whāriki. He whāriki mātauranga mō ngā mokopuna o Aotearoa* (Ministry of Education [MoE], 2017), hereafter *Te Whāriki 2017*;
2. *Our code, our standards*: *Code of professional responsibility and standards for the teaching profession*[9] (Education Council, 2017a), hereafter *Code and Standards; and*
3. *He taonga te tamaiti. Every child a taonga. Early learning action plan 2019–2029* (MoE, 2019), hereafter *Early Learning Action Plan*.

These documents were chosen as representative of key discourses that emanate from the Ministry of Education and the Teaching Council, and which have direct bearing on EC teacher education programmes in their preparation of future teachers. The first two documents are the mandated EC curriculum and the *Code and Standards* which are required to be demonstrated by all graduating and registered teachers. The third document, the *Early Learning Action Plan,* is the recently released Ministry of Education strategic plan for the entire ECE sector.

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[9]This document sets out a list of code of professional responsibility and standards for the teaching profession. The code and standards are required to be used by all teacher education providers to ensure that their student-teachers work towards them during their study and by the Teaching Council in overseeing applicants' suitability to be granted teacher registration. We also make reference to a fourth document from the Teaching | Education Council (2017b) which provides 'Examples in practice' as a companion document to the *Code and Standards*.

6.1   Commitment Statements: Te Tiriti O Waitangi

In this section, we have created a table by selecting segments from each of the key statements prominently positioned at the start of each of the three key documents that outline commitments required of teachers in relation to Te Tiriti o Waitangi. We have highlighted in bold key signifiers for analysis and discussion that follows.

6.1.1   Analysis and Discussion: Inter-Relationships and Tensions

We now draw from some of the key signifiers[10] identified in Table 12.1 to analyse the implications employed within the three key documents. We then go on to discuss some of the tensions that arise from this analysis. Both the Ministry's *Early Learning Action Plan* and the Teaching Council's *Code and Standards* reference only Te Tiriti o Waitangi, the original treaty written in te reo Māori. Upholding the mana of Te Tiriti o Waitangi is important, as it contains specific undertakings to Māori that are not mentioned in the English language version, specifically in Article Two te tino rangatiratanga [absolute authority] over whenua, kainga and taonga katoa [lands, villages and everything of value] and in Article Three, ngā tikanga katoa rite tahi…[equal rights] (Orange, 2017). Notably, the *Early Learning Action Plan* is the only document to expressly recognise tino rangatiratanga as affirmed in Article Two of Te Tiriti, literally the absolute authority of the chiefs, often translated as Māori self-determination. However, in *Te Whāriki 2017*, reference is made to both versions of the treaty: Te Tiriti o Waitangi and the English language Treaty of Waitangi. To regard the two (significantly different) texts as having equal status has been the official government position since 1975, ignoring the fact that the Māori text was signed by a much larger number of Māori chiefs (see footnote #4) and contains the significant affirmation of tino rangatiratanga.

In its reference to 'partnership, participation and protection', *Te Whāriki 2017* perpetuates a discourse commonly referred to as the 'three'p's', and this was a simplistic interpretation of treaty 'principles'. This trope has had ongoing traction, perhaps because it allows users to ignore the significance of the specific commitments in the Tiriti articles as outlined above. It also ignores the significant body of work from the Courts and Waitangi Tribunal which has catalogued a complex array of principles emergent over subsequent years (Hayward, 2004). Whilst *Te Whāriki 2017* and the *Code and Standards* make specific reference to im/migrants in outlining Tiriti obligations, the *Early Learning Plan* does not do so, referring several pages later to increasing ethnic diversity but not in relation to tangata whenua | tangata tiriti relationships. Only the *Code and Standards* makes explicit reference to addressing the injustices caused by colonisation and states that both previous and new settlers should respect the commitments in Te Tiriti.

Our discussion now considers some of the inter-relationships and tensions involved in the obligations for teachers regarding the currently mandated Tiriti o

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[10]Unfortunately space prevents us from pursuing a more in-depth analysis of the key signifiers.

Table 12.1 Te Tiriti o Waitangi statements: identifying key signifiers

Te Whāriki 2017 (p. 3)	Early learning action plan	Code and standards (p. 4)
Te Tiriti o Waitangi | the Treaty of Waitangi is New Zealand's founding document	The Government is **committed to honouring the Crown's commitments** arising from **Te Tiriti o Waitangi** (p. 8)	**Te Tiriti o Waitangi** affirmed **Māori rights as tangata whenua** and provided a place and a shape of **governance for Pākehā** in Aotearoa
Provided the foundation upon which **Māori and Pākehā** would build their **relationship** as citizens of Aotearoa New Zealand	It recognises both the **tino rangatiratanga** of Māori and the **kawanatanga** of the Crown in the design and delivery of the education system (p. 8)	Te Tiriti o Waitangi provided a basis for ongoing, **peaceful power-sharing relationships** between the **first peoples** and **all others** who would come in later years
A spirit of **partnership** and the acceptance of **obligations** for **participation and protection**	This will ensure [teachers] are able to **build genuine partnerships with Māori** to support the identity, language and culture of Māori children (p. 8)	**A commitment** under which **Māori and all other New Zealanders** may live together in the spirit of **honourable relationships,** with the **promise to take the best possible care of each other**
Equitable outcomes for **Māori** and ensuring that **te reo Māori** not only survives but thrives	It also includes the **obligation** to **protect** and **actively promote the use of te reo Māori** in all settings, recognising **iwi Māori as kaitiaki** of this taonga (p. 8)	This requires the **injustices caused by colonisation to be addressed** and **all New Zealanders** to **engage** in creating a positive future that **honours Te Tiriti o Waitangi**
Te Tiriti | the Treaty is seen to be **inclusive of all immigrants** to New Zealand, whose welcome comes in the **context of this partnership**	While the biggest range of ethnicities is found in Auckland, **increasing diversity has been seen throughout the country**[a] (p. 11)	New Zealand is an increasingly multicultural nation, and **Te Tiriti o Waitangi is inclusive of today's new settlers**
Respond to the changing demographic landscape by **valuing and supporting the different cultures**	The expectations that different groups bring to early learning services have **implications for how services interact with families and whanau** (p. 11)	**As with earlier immigrants,** their 'place to stand' comes with an expectation that **they will live here in a way that respects the commitments of Te Tiriti o Waitangi** and the position of Māori as tangata whenua

[a]There is no mention of 'immigrants' or 'migrants' in the *Early Learning Action Plan*, and no reference to diverse groups in relation to Te Tiriti within the statement on page 8

Waitangi based discourse juxtaposed alongside the current context of superdiversity. Reference to Te Tiriti o Waitangi is positioned prominently near the beginning of all three documents, signalling its foundational importance. *Our Code, Our Standards* (Education Council, 2017a) is explicit in the expectation that "As teachers, we are committed to honouring Te Tiriti o Waitangi and we understand this has implications in all of our practice" (p. 4). At the same time, the document recognises that Aotearoa is a "multicultural nation" and explains that "Te Tiriti o Waitangi is inclusive of today's new settlers" (p. 4), although without specifying *how* this is the case. It states that "Te Tiriti o Waitangi provided a basis for ongoing, peaceful power-sharing relationships between the first peoples and all others who would come in later years" and notes that migrants are expected to "live here in a way that respects the commitments of Te Tiriti o Waitangi and the position of Māori as tangata whenua" (p. 4). This signals the relevance of critical and Indigenous pedagogies of place as foundational within initial teacher education (ITE) in ensuring that these commitments are acknowledged and prioritised by all teachers.

With the increasing numbers of overseas EC teachers recruited via the skill-based migration policy and of international students enrolling in EC teacher education programmes, we question the extent and nature of supports available for teachers and student-teachers who are new to Aotearoa in relation to the Teaching Council's commitments to Te Tiriti. One of the standards in the document states that teachers are expected to "design and plan culturally responsive, evidence-based approaches that reflect the local community and Te Tiriti o Waitangi partnership in New Zealand" (Education Council, 2017a, p. 20). We argue that a deep connection to place and a strong sense of belonging and civic responsibility in promoting and advocating social justice are key to supporting this partnership and advocating for Māori children and families. Hence, we are concerned about how one-year ITE qualifications, in particular, might sufficiently assist those teachers who are relatively new to Aotearoa to interpret and enact their commitment to "affirming Māori learners as tangata whenua and supporting their educational aspirations" (Education Council, 2017a, p. 10).

In the companion document, *Examples in Practice*, the Council provides examples of "behaviour that does not affirm Māori learners as tangata whenua or actively support their educational success" (Education Council, 2017b, p. 14), such as refusing to learn how to correctly pronounce Māori names including those associated with a child's whakapapa (genealogical connections) "such as their whānau, hapū, iwi, tūpuna, marae, waka or maunga[11]" or displaying disrespect towards tikanga Māori (values and practices of Māori) (p. 14). Missing from this list of unacceptable practices is acknowledgement that often those who are not committed to inclusion of Tiriti-based commitments may render te reo me te ao Māori (the Māori language

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[11]Whakapapa are genealogical inter-connections; whānau are extended families; hapū are sub-tribes; iwi are tribes; tūpuna are ancestors; marae are tribal meeting places; waka are the original voyaging canoes of particular tribal ancestors; maunga are mountains. All of these serve as important markers of identity and connection.

and worldview) invisible in their teaching. It takes time and commitment to master accurate pronunciation of te reo Māori, to understand the historical and political positioning of Te Tiriti, to appreciate and accurately express whakapapa, mātauranga (knowledge) and tikanga, and to demonstrate as teachers our responsibility to support Māori in their role as kaitiaki (guardians) of these taonga (things of value). Considering that currently only 4% of our population can speak te reo Māori (Statistics New Zealand, 2019), much needs to be done to ensure that student-teachers and teachers who are new to Aotearoa are provided with resources and equitable support to enable them to learn the language and develop a deep connectedness to te ao Māori (the Māori world). New arrivals are unlikely to have similar funds of knowledge (Gonzalez, 2005) to those of local student-teachers who were born and raised in Aotearoa, even though we recognise that within this latter group there is a varied mix of expertise levels. Teacher pre- and in-service education programmes should therefore carefully consider and respond to the contextual backgrounds and learning needs of the full spectrum of local Māori student-teachers, domestic student-teachers with diverse migrant backgrounds, and international student-teachers who may be totally new to the country, by modelling and promoting understandings related to critical and Indigenous pedagogies of place.

The assumption of white/western superiority is a commonality across historical colonisation internationally, underpinning the ongoing racism directed in our country towards those who are not visibly Pākehā (Pihama & Lee-Morgan, 2018), and it is a responsibility of teacher education programmes to disrupt these entrenched discourses. Whilst our brief application of CDA to the documents has illuminated reliance on such Te Tiriti related discourses as 'partnership' [ostensibly between the Crown and Māori], the subtler implications of recognition of the rights of tangata whenua, whilst discursively acknowledged, are easily dismissed, fading into the shadows in the light of more dominant teaching-related discourses. The desire to 'treat all children the same' first identified by Simon in her 1980s research (1990) remains a powerful assimilative discourse within ECE in Aoteaora (Education Review Office, 2012), one that homogenises cultural differences, ignoring the discourses of inclusion and equity.

6.2   Commitment Statements: Diversity, Inclusion and Equity

This section considers three main discourses: diversity, inclusion and equity, identified from the documents reviewed. While the word 'diversity' is typically used in reference to ethnicity, culture, identity and language, the superdiversity approach goes beyond this conventional application to highlight migration-driven diverse social issues (Vertovec, 2007, 2019). Yet, a review of the documents shows that traditional understandings of diversity prevail. Issues that are specific to migrants as highlighted in the superdiversity approach are largely invisible. Table 12.2 highlights a range of key signifiers that illustrate how the discourse of diversity, inclusion and equity are constructed across the three influential documents.

Table 12.2 Diversity, inclusion and equity: identifying key signifiers

Te Whāriki 2017	Early learning action plan	Code and standards
Te Whāriki supports children from all backgrounds to grow up strong in **identity, language and culture** (p. 7)	Respecting the diversity of the **heritage, identity, language and culture** of all learners and their families and whanau (p. 25)	Respecting the diversity of the **heritage, language, identity and cultures** of all learners (p. 10)
Able to support the **cultural and linguistic diversity** of all children as part of promoting **an inclusive environment** (p. 59)	Objective 1: Children and whānau experience environments which promote their wellbeing and support **identity, language and culture** (p. 6)	Learners can be confident in their **identities, languages, cultures and abilities** (p. 20)
Teaching inclusively means that kaiako (teacher/s) will **work together with families, whānau and community** (p. 13)	Objective 2: All children are **able to participate** in quality early learning and **have the support they need** to learn and thrive (p. 6)	Develop a culture that is … characterised by respect, **inclusion**, empathy, collaboration and safety (p. 20)
Kaiako promote **equitable opportunities** for children and **counter actions or comments that categorise, stereotype or exclude people** (p. 40)	The notion of '**equity from the start**' is a key value of this action plan (p. 13)	Work in the best interests of learners by being **fair** and effectively **managing [their] assumptions and personal beliefs** (p. 18)
[Kaiako are] thoughtful and **reflective** about what they do, using evidence, **critical inquiry** and problem-solving to shape their practice (p. 59)	ITE providers will need to show evidence that graduates are equipped with the theory and **reflective abilities** that will enable them to practice in the unfamiliar contexts where they might ultimately be employed (p. 25)	**Critically examine** how [teachers'] **own assumptions and beliefs**, including cultural beliefs, impact on practice and the achievement of **learners with different abilities and needs, backgrounds, genders, identities, languages and cultures** (p. 18)

6.2.1   Analysis and Discussion: Responding to Superdiversity

The *Code and Standards* (Education Council, 2017a) states that teachers in Aotearoa are expected to demonstrate commitment to "respecting the diversity of the heritage, language, identity and cultures of all learners", and to develop a culture that "is characterised by respect, inclusion …" (p. 20). These can be achieved through creating an environment "where learners can be confident in their identities, languages, cultures and identities" (p. 20). Disrespecting, dismissing, or "making discriminatory or derogatory comments about a learner's heritage, language, identity, beliefs or culture" are illustrated as "examples of not promoting respect" (Education Council, 2017b, p. 13) for these diversities. These four 'types' of diversity, along with the

notion of inclusive practices are similarly specified in both *Te Whāriki 2017* and the *Early Learning Action Plan* as identified in Table 12.2.

Since more than a quarter of our population was born overseas, and that our nation is now home to more than 200 ethnic groups and 160 different languages (Royal Society of New Zealand, 2013), a respectful and inclusive attitude towards diverse heritages, languages, cultures, and identities is critical to ensuring social justice and cohesion. The multiplicity of Māori, Pākehā and migrant families' specific linguistic and cultural funds of knowledge should all be recognised and included. However, we argue that simply viewing diversity in terms of heritage, identity, language, and culture is inadequate. The context of heightened rates of *migration* as the main reason for the emergence of these diversities in this country needs specific acknowledgement. The two additional layers of diversity and complexity highlighted in the superdiversity approach: migration statuses and patterns (Vertovec, 2007) are not visible in any of the documents. In fact, while each of the terms 'immigrant' and 'migrant' appears just once in *Te Whāriki 2017* and once in the *Code and Standards*, neither term (including im/migration) is found in the *Early Learning Action Plan*. The word 'superdiversity' does not appear in any of the documents reviewed.

Without an awareness of the complex migration statuses and patterns of the migrant families they work with, teachers may not understand why some children have to frequently engage in transnational activities which may require them to be absent from EC centres to return to their home countries for an extended period of time. Teachers may assume that transnational migrant families do not take their children's education seriously or that they have no intention of settling in Aotearoa. Differing migration patterns and statuses means that families with migrant backgrounds are extremely heterogeneous and their status may hinder their access to social services. Teachers should indeed "work together with families, whānau and community" (MoE, 2017, p. 13), in order to find out their specific needs and that they have access to appropriate support services related to health, legal matters, language support and so on. In light of the complex layers of diversity and social inequality issues driven by migration, we contend that it is timely to challenge, expand and transform conventional diversity discourse by integrating key ideas from the superdiversity approach (Vertovec, 2007, 2019). This will diversify understandings, address migration-driven inequality issues, and highlight the importance of equitable teaching practices.

The *Code and Standards* (2017a) also expects teachers to "work in the best interests of learners by being fair and effectively managing [their] assumptions and personal beliefs" and to "critically examine how [their] own assumptions and beliefs, including cultural beliefs, impact on practice and the achievement of learners with different abilities and needs, backgrounds, genders, identities, languages and cultures" (p. 18). The importance of respecting heterogeneity and applying critical pedagogies to respond equitably to individual needs is emphasised in critical multiculturalism (May, 1999; May & Sleeter, 2010). Chan (2019b) suggested applying both critical multicultural pedagogies and a superdiversity approach to work with diverse migrant families in ECE settings to "promote equitable opportunities for children" (MoE, 2017, p. 13). In order to critically examine one's assumptions and

beliefs and to advocate for social equity, teachers need to have a disposition of criticality and the ability to engage in self-reflection, which is an expectation highlighted by the Teaching | Education Council (2017a, 2017b). These skills and dispositions, however, are developed through experiencing and socialising in democratic and just education systems and societies. We agree with the statement in the *Early Learning Action Plan* that "all children should have equitable access to a well-qualified early learning workforce that mirrors the diverse cultures and genders that constitute Aotearoa New Zealand" (MoE, 2019, p. 22). We are concerned that some teachers or student-teachers who are new to Aotearoa may be from places where democracy and critical thinking were not encouraged, and that they may struggle with negotiating their own identities and developing a sense of belonging in their host country. It is therefore important that during their course of study, they experience an equitable learning environment, develop facilities in criticality, and have the opportunity to explore their identities within the context of a Tiriti-based Aotearoa, so that they are well-positioned to advocate for social equity and to support children's increasingly complex identities.

7 Concluding Considerations

In a recent article addressing postcolonial considerations for teacher education, Gupta (2020) suggests embracing cultural and pedagogical hybridity, proposing that a "more balanced teacher education curriculum" (p. 52) should be culturally responsive and include diverse global and local knowledges. Such a hybrid approach requires transformative thought and action. The notion of transformation towards a more just society, as promoted in both the superdiversity approach and critical multiculturalism theorising, when applied in the context of EC teacher education in Aotearoa, needs to be grounded in a pedagogical approach that incorporates Te Tiriti o Waitangi commitments to tino rangatiratanga, te reo Māori, taonga katoa, and equal citizenship rights. With the September 2019 announcement that Aotearoa history will from 2020 be taught across the curriculum (Ardern & Hipkins, 2019) along with the newly introduced Education and Training Bill 2019, which positions the "Treaty of Waitangi at the centre of education" (RNZ, 2019b), we anticipate some interesting and long overdue developments in this regard.

Yet recently arrived migrants, both student-teachers, teachers, children and families, will most likely have had little opportunity to access these understandings. We have suggested that teacher education programmes should include an in-depth focus on critical and Indigenous pedagogies of place *and* superdiversity related issues in order to ensure that all graduating teachers have a strong foundational understanding of te ao Māori conceptualisations, a critical analysis of the impacts of colonisation and of discourses of white supremacy, along with related transformational pedagogical strategies to employ in their future work as teachers. Also required is equitable support to new 'Kiwi' student-teachers so that, grounded in a sense of their own

identity, they can competently apply understandings of their responsibilities in relation to the linguistic and cultural specificities of Māori and tangata tiriti children and families. Such support is important for student-teachers to experience and understand how theories are translated into actual practices, so that they are prepared to apply theory-based pedagogies to advocate for families, thereby also bridging the gap between theory and practice (Gupta, 2020). Student-teachers need to experience an equitable teacher education before they can work equitably with diverse children and families.

References

Aptekar, S. (2019). Super-diversity as a methodological lens: Recentring power and inequality. *Ethnic and Racial Studies, 42*(1), 53–70. https://doi.org/10.1080/01419870.2017.1406124.

Ardern, J., & Hipkins, C. (2019). *NZ history to be taught in all schools*. Retrieved from https://www.beehive.govt.nz/release/nz-history-be-taught-all-schools.

Blommaert, J. (2013). Citizenship, language, and superdiversity: Towards complexity. *Journal of Language, Identity & Education, 12*(3), 193–196. https://doi.org/10.1080/15348458.2013.797276.

Brawley, S. (1993). 'No "White Policy" in NZ'. Fact and fiction in New Zealand's Asian immigration record, 1946–1978. *New Zealand Journal of History, 27*(1), 16–36.

Chan, A. (2018). Transnational parenting practices of Chinese immigrant families in New Zealand. *Contemporary Issues in Early Childhood, 19*(3), 219–230. https://doi.org/10.1177/1463949117691204.

Chan, A. (2019a). Te Whāriki: An early childhood curriculum in a superdiverse New Zealand. *New Zealand Journal of Educational Studies, 54*(2), 245–259. https://doi.org/10.1007/s40841-019-00138-z.

Chan, A. (2019b, online first). Superdiversity and critical multicultural pedagogies: Working with migrant families. *Policy Futures in Education*, 1–14. https://doi.org/10.1177/1478210319873773.

Chan, A., & Ritchie, J. (2019). Critical pedagogies of place: Some considerations for early childhood care and education in a superdiverse 'bicultural' Aotearoa (New Zealand). *International Journal of Critical Pedaogy, 10*(1), 51–74. Retrieved from http://libjournal.uncg.edu/ijcp/issue/view/139/showToc.

Chan, A., & Spoonley, P. (2017). The politics and construction of identity and childhood: Chinese immigrant families in New Zealand. *Global Studies of Childhood, 7*(1), 17–28. https://doi.org/10.1177/2043610617694730.

Education Council. (2017a). *Our code our standards*. Wellington: Education Council. Retrieved from https://educationcouncil.org.nz/content/our-code-our-standards.

Education Council. (2017b). *The code of professional responsibility: Examples in practice*. Retrieved from https://teachingcouncil.nz/sites/default/files/Code%20Guidance%20FINAL.pdf.

Education Counts. (2014). *Annual ECE census summary report 2014*. Wellington: Ministry of Education. Retrieved from https://www.educationcounts.govt.nz/__data/assets/pdf_file/0005/184748/Annual-ECE-Census-Summary-Report-2014.pdf.

Education Counts. (2018). *Enrolments in early childhood education*. Retrieved from https://www.educationcounts.govt.nz/statistics/early-childhood-education.

Education Review Office. (2010). *Success for Māori children in early childhood services*. Wellington: Education Review Office. Retrieved from https://www.ero.govt.nz/publications/success-for-maori-children-in-early-childhood-services/.

Education Review Office. (2012). *Partnership with whānau Māori in early childhood services*. Wellington: Education Review Office. Retrieved from http://www.ero.govt.nz/National-Reports/Partnership-with-Whanau-Maori-in-Early-Childhood-Services-Feb-2012.

Education Review Office. (2013). *Working with Te Whāriki*. Wellington: Education Review Office. Retrieved from http://www.ero.govt.nz/publications/working-with-te-whariki/.

Freire, P. (1972). *Pedagogy of the oppressed*. London: Penguin.

Gee, J. P. (2011). *An introduction to discourse analysis: Theory and method* (3rd ed.). New York: Routledge.

Goldberg, D. T. (2002). *The racial states*. Malden, MA: Blackwell.

Gonzalez, N. (2005). Beyond culture: The hybridity of funds of knowledge. In N. Gonzalez, L. Moll, & C. Amanti (Eds.), *Funds of knowledge: Theorizing practices in households, communities, and classrooms* (pp. 29–46). Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.

Gupta, A. (2020). Preparing teachers in a pedagogy of third space: A postcolonial approach to contextual and sustainable early childhood teacher education. *Journal of Research in Childhood Education, 34*(1), 43–58. https://doi.org/10.1080/02568543.2019.1692108.

Hayward, J. (2004). "Flowing from the Treaty's words": The principles of the Treaty of Waitangi. In J. Hayward & N. R. Wheen (Eds.), *The Waitangi Tribunal: Te Roopu Whakamana i te Tiriti o Waitangi* (pp. 29–40). Wellington: Bridget Williams Books.

Hickey, B., & Grieveson, L. (2019). *The Dubai of the South Pacific in Reporoa*. Retreived from https://www.newsroom.co.nz/2019/12/18/953079/the-dubai-of-the-sth-pacific-in-reporoa.

Immigration New Zealand. (2019). *Skill shortage list checker*. Retrieved from https://skillshortages.immigration.govt.nz/early-childhood-pre-primary-school-teacher/.

Jørgensen, M., & Phillips, L. (2002). *Discourse analysis as theory and method*. London: Sage.

King, M. (2003). *The Penguin history of New Zealand*. Auckland: Penguin.

Kukutai, T., & Cormack, D. (2018). Census 2018 and implications for Māori. *New Zealand Population Review, 44,* 131–151.

Locke, T. (2004). *Critical discourse analysis*. London: Continuum International Publishing Group.

May, S. (1999). Critical multiculturalism and cultural difference: Avoiding essentialism. In S. May (Ed.), *Critical multiculturalism: Rethinking multicultural and antiracist education* (pp. 11–41). London: Falmer Press.

May, S., & Sleeter, C. E. (2010). Introduction. Critical multiculturalism: Theory and praxis. In S. May & C. E. Sleeter (Eds.), *Critical multiculturalism: Theory and praxis* (pp. 1–16). New York: Routledge.

Ministry of Education. (2017). *Te Whāriki. He whāriki mātauranga mō ngā mokopuna o Aotearoa. Early childhood curriculum*. Retrieved from https://www.education.govt.nz/assets/Documents/Early-Childhood/Te-Whariki-Early-Childhood-Curriculum-ENG-Web.pdf.

Ministry of Education. (2019). *He taonga te tamaiti. Every child a taonga. Early learning action plan 2019–2029.* Retrieved from https://conversation-space.s3-ap-southeast-2.amazonaws.com/SES_0342_ELS_10YP_Final+Report_Web.pdf.

Ministry of Social Development. (2016). *The social report*. Retrieved from http://socialreport.msd.govt.nz/.

New Zealand Parliament. (1987). *Maori Language Act 1987*. Retrieved from http://www.legislation.govt.nz/act/public/1987/0176/latest/whole.html.

Orange, C. (1988). *The Treaty of Waitangi - A historical overview*. Wellington: New Zealand Planning Council.

Orange, C. (2017). *The Treaty of Waitangi | Te Tiriti o Waitangi 1840*. Wellington: Archives New Zealand | Te Rua Mahara o te Kāwanatanga; National Library of New Zealand | Te Puna Mātauranga Aotearoa; Bridget Williams Books.

Penetito, W. (2002). Research and context for a theory of Maori schooling. *McGill Journal of Education, 37,* 89–110.

Penetito, W. (2009). Place-based education: Catering for curriculum, culture and community. *New Zealand Annual Review of Education, 18,* 5–29.

Perumal, J. C. (2015). Critical pedagogies of place: Educators' personal and professional experiences of social (in)justice. *Teaching and Teacher Education, 45,* 25–32. https://doi.org/10.1016/j.tate.2014.09.004.

Pihama, L., & Lee-Morgan, J. (2018). Colonization, education, and Indigenous peoples. In E. A. McKinley & L. T. Smith (Eds.), *Handbook of Indigenous Education* (pp. 1–9). Singapore: Springer Nature.

Radio New Zealand. (2019a). *Increase in suicides for Māori and teens, latest stats show*. Retrieved from https://www.rnz.co.nz/news/te-manu-korihi/397516/increase-in-suicides-for-maori-and-teens-latest-stats-show.

Radio New Zealand. (2019b). *Education Minister Chris Hipkins details changes in big new bill*. Retrieved from https://www.rnz.co.nz/news/national/404702/education-minister-chris-hipkins-details-changes-in-big-new-bill.

Ritchie, J. (2002). *"It's becoming part of their knowing": A study of bicultural development in an early childhood teacher education setting in Aotearoa/New Zealand.* (Ph.D. thesis). University of Waikato, Hamilton, NZ.

Royal Society of New Zealand. (2013). *Languages in Aotearoa New Zealand*. Retrieved from https://royalsociety.org.nz/what-we-do/our-expert-advice/all-expert-advice-papers/languages-in-aotearoa-new-zealand/.

Salmond, A. (1991). *Two worlds: First meetings between Māori and Europeans, 1642–1772*. Auckland: Viking.

Simon, J. (1990). 'Good intentions, but…'. In R. Steele (Ed.), *Whakamana Tangata. A beginner's guide to cultural identity* (pp. 44–48). Wellington: Ministry of Education.

Spoonley, P. (2015). New diversity, old anxieties in New Zealand: The complex identity politics and engagement of a settler society. *Ethnic and Racial Studies, 38*(4), 650–661. https://doi.org/10.1080/01419870.2015.980292.

Spoonley, P. (2017). Renegotiating citizenship: Indigeneity and superdiversity in contemporary Aotearoa/New Zealand. In J. Mann (Ed.), *Citizenship in transnational perspective. Politics of citizenship and migration* (pp. 209–222). Cham: Palgrave Macmillan.

Spoonley, P., & Bedford, R. (2012). *Welcome to our world? Immigration and the reshaping of New Zealand.* Auckland: Dunmore Publishing Ltd.

Statistics New Zealand. (2019). *New Zealand's population reflects growing diversity*. Retrieved from https://www.stats.govt.nz/news/new-zealands-population-reflects-growing-diversity.

Stockholm Resilience Centre. (2019). Time for an emergency response. Retrieved from https://stockholmresilience.org/research/research-news/2019–11-27-time-for-an-emergency-response.html.

Tolley, P. (2019). *Forever home - Why immigrants chose New Zealand*. Retrieved from https://www.rnz.co.nz/national/programmes/insight/audio/2018722176/forever-home-why-immigrants-chose-new-zealand.

Turia, T. (2016). A Māori political leader's perspective. *Te Manutukutuku,* 69, 36. Retrieved from https://www.waitangitribunal.govt.nz/assets/Documents/Publications/WT-69-Te-Manutukutuku.pdf.

United Nations. (2019). *UN report: Nature's dangerous decline 'unprecedented'; species extinction rates 'accelerating'*. Retrieved from https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/.

Vertovec, S. (2007). Super-diversity and its implications. *Ethnic and Racial Studies, 30*(6), 1024–1054. https://doi.org/10.1080/01419870701599465.

Vertovec, S. (2019). Talking around super-diversity. *Ethnic and Racial Studies, 42*(1), 125–139. https://doi.org/10.1080/01419870.2017.1406128.

Walker, R. (2004). *Ka Whawhai Tonu Matou. Struggle without end* (revised ed.). Auckland: Penguin.

Williams, L., Bunda, T., Claxton, N., & MacKinnon, I. (2018). A global de-colonial praxis of sustainability—undoing epistemic violences between Indigenous peoples and those no longer Indigenous to place. *The Australian Journal of Indigenous Education, 47*(1), 41–53. https://doi.org/10.1017/jie.2017.1025.

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Chapter 13
"I Think That's My Job": What Motivates Teachers to Partner with Teacher Educators in ITE?

Check for updates

Corinne A. Green, Michelle J. Eady, and Sharon K. Tindall-Ford

Abstract Policymakers and researchers internationally have advocated school–university partnerships as an innovative means of strengthening initial teacher education (ITE) through the integration of theory and practice. These partnerships provide valuable learning opportunities for the pre-service teachers, in-service teachers, university teacher educators, and school students involved. While there has been ample literature discussing the implementation and benefits of school–university partnerships, there is currently a paucity of research investigating what motivates teachers' involvement in these collaborations. This chapter provides a local response to this research gap by presenting an Australian-based case study. Informed by the Reasoned Action Approach (Fishbein & Ajzen, 2010), this study revealed that participants' involvement was grounded in their commitment to the teaching profession, coupled with the strong professional learning culture of their school. This chapter explores why teachers choose to become involved in a school–university partnership, and how it can contribute to a transformative global approach to ITE.

1   Background

Around the world, the nature of teacher professionalism has been shifting (Alexander, Fox, & Gutierrez, 2019; Vanassche, Kidd, & Murray, 2019). Teachers and teacher educators face increasingly politicised work environments with government agencies in Australia, the United Kingdom (UK), the United States of America (USA), and elsewhere prioritising standard agendas and managerial discourse over individual teachers' professional judgement (Evans, 2011; Sachs, 2016). While these measures

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can be used to build capacity and legitimacy in the teaching profession, they can also result in misleading notions of what teaching involves, and how best to develop quality teachers (Darling-Hammond, 2017; Sachs, 2016).

In the UK, teaching is seen as a craft that is best learned through apprenticeship (Evans, 2011; Vanassche et al., 2019). Within this technicist approach, teacher professionalism is shaped by professional standards that focus "predominantly on teachers' behaviour, rather than on their attitudes and their intellectuality" (Evans, 2011, p. 851). Adding to this practice-based view of the profession, ITE has become school-led (rather than the exclusive domain of universities) through programs such as School Direct (McNamara, Murray, & Phillips, 2017). Vanassche et al. (2019) recognise the dangers of this apprenticeship-based model by asserting that "however able or accomplished these exemplars of practice are, we accept and recreate rather than transform and renew current schooling" (pp. 484–485) by learning only from the practices of those who have gone before.

In the USA, the prevailing understanding of teaching is that the underlying knowledge base is relatively easy for anyone to learn (Darling-Hammond, 2017). This attitude is evidenced in the fast-track teacher education schemes, such as Teach for America, that have taken root in the USA and spread internationally (Darling-Hammond, 2017; Scott, Trujillo, & Rivera, 2016). The Teach for America organisation has been criticised for assuming that little teacher preparation and theoretical understanding is required to teach effectively (Darling-Hammond, 2017; Scott et al., 2016).

Within Australia, a steady upwards trajectory of regulation and control has been exerted by policymakers (Alexander et al., 2019; Bourke, 2019). A plethora of educational reviews and policy documents have positioned teacher education as a policy problem that can allegedly be solved through national regulation (Alexander et al., 2019; Sachs, 2016). Bourke (2019) and Sachs (2016) argue that a high level of regulation serves to de-professionalise teachers and teacher educators by "casting teachers into the role of compliant practitioner" (Sachs, 2016, p. 422).

In contrast, Darling-Hammond (2017) has identified a number of countries where teachers are highly respected professionals. Efforts have been made in Finland, Singapore, and Canada to strengthen connections between theory and practice and develop quality teachers with the capacity to provide excellent and accessible education for all students. To do so, Finland has prioritised the implementation of high-quality ITE "that integrates research and practice" (Darling-Hammond, 2017, p. 292). In Singapore, a highly developed performance management system has been implemented that generates a range of leadership opportunities throughout a teacher's lifelong career (Darling-Hammond, 2017). The approach adopted in Canada has been a commitment to strong standards with a focus on improvement and capacity building instead of punishment (Darling-Hammond, 2017).

These international examples align with what Sachs (2016) and Bourke (2019) describe as the difference between managerial professionalism, which is concerned with performance and accountability; and democratic professionalism, which involves "collegial relations and collaborative work practices" (Sachs, 2016, p. 419).

Transformation to democratic professionalism, they argue, is predicated on a commitment to ongoing professional learning, deep engagement in research, and collaborative practices throughout the teaching profession (Bourke, 2019; Sachs, 2016).

One strategy for enacting this democratic professionalism is through closer connections between universities and schools. The relationship between universities and schools, and theory and practice, has been internationally recognised as vital components of quality ITE programs (Darling-Hammond, 2017; Zeichner, 2010). In recent years, considerable efforts have been made around the world to intentionally implement school–university partnerships that foster meaningful collaboration between teachers, teacher educators, researchers, and pre-service teachers (PSTs) (Forgasz, 2016; Green, Tindall-Ford, & Eady, 2020). For example, clinical practice settings have been developed where quality teaching practices can be demonstrated for PSTs, as is common in teaching hospitals for medical students (Darling-Hammond, 2017; Passy, Georgeson, & Gompertz, 2018). In other school–university partnerships, teachers have contributed to the design of ITE programs, university coursework has been delivered in the school setting, and collaborative professional development sessions for teachers, PSTs, and teacher educators have been developed (Green et al., 2020; Zeichner, 2010). Additionally, teachers and teacher educators may take up work at the other's institution, as hybrid teacher educators or through an exchange program (Darling-Hammond, 2017; Vanassche et al., 2019).

Regardless of the specific activities involved, these "collaborative partnerships… result in collective wisdom" (Bourke, 2019, p. 40) with teachers and teacher educators sharing and co-creating knowledge, and developing mutual understandings and expertise. When these intentional, deliberate school–university partnerships are collaborative and non-hierarchical in nature, they can be described as operating in the 'third space', where the domains of school and university intersect (see Fig. 1).

Third space theory has been used by Soja (1996), who described the third space as the 'lived space' where the 'real' (first space) and 'ideal' (second space) can

Fig. 1 Visual representation of third space theory (Zeichner, 2010)
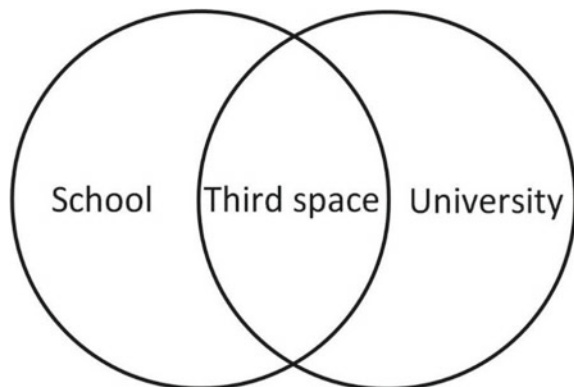
be reimagined. Conversely, Bhabha (1994) used the term to facilitate the exploration of cultural identities. In this sense, the third space "explains how cultures and individuals interact to redefine their identity" (Watters, Diezmann, & Dao, 2018, p. 241). More recently, Zeichner (2010) has applied the notion of the third space to teacher education. In this framing, third space theory advocates for crossing traditional boundaries, such as those between schools and universities. Third space partnerships enable school teachers, PSTs, and university-based teacher educators to share and co-create knowledge (Passy et al., 2018; Watters et al., 2018). As Zeichner (2010) describes, the third space can disrupt binary attitudes (such as theory vs. practice) through integration: "an either/or perspective is transformed into a both/also point of view" (p. 92).

These partnerships have been implemented across Australia (Green et al., 2020) and around the world (Darling-Hammond, 2017). The research literature has demonstrated the benefits associated with their implementation, as well as considering the challenges of working in the third space (Forgasz, 2016; Green et al., 2020; McDonough, 2014). However, the foundational aspects of school–university partnerships—such as the factors that motivate the involvement of stakeholders within the partnership—have not yet been explicitly explored either in the Australian context or elsewhere (Green et al., 2020).

This chapter sits within this research gap by exploring, from the perspective of teachers at one Australian school, what motivates their involvement in a school–university partnership. It presents the findings of a case study based in Queensland where staff at Grevillea Primary School (GS) and Grey Gum University (GU) (pseudonyms) have been working in the third space to collaboratively implement high-quality school-based experiences for PSTs. By revealing what motivates GS teachers' involvement in the school–university partnership, this chapter considers not just the what and the how, but importantly the why, of implementing this innovative practice within ITE.

2   Methodology

The research question for the case study is as follows:

For teachers who are involved in a school–university partnership that develops pre-service teachers, what motivates their involvement in the partnership?

The case study design is an appropriate choice for this research question, as it prioritises context-dependent knowledge and experience from the perspective of those embedded in the case to develop a deep, holistic, and nuanced understanding of the phenomenon (Flyvbjerg, 2006; Harland, 2014). This research design has enabled the study to rely on the teachers' voices to illuminate their motivation regarding involvement in a school–university partnership, while also considering the contextual factors that impact those decisions.

In this study, typical case selection, where the selected school is representative of a broader set, has been employed to allow the formation of a comprehensive

understanding of the phenomenon (Robinson, 2014). The case selected is therefore an ordinary example of a school in a third space school–university partnership that seeks to develop PSTs (Harland, 2014; Stake, 2006).

The GS–GU partnership was identified through Australia-wide teacher education networks, facilitating a purposive sampling strategy and allowing diverse options to emerge (Robinson, 2014). We asked a range of teacher education colleagues to suggest school–university partnerships that may be appropriate for this study, based on a provided description of third space school–university partnerships in ITE. Through this process, the GS–GU partnership was identified as a suitable case and GS staff indicated their interest in this study. Ethics approval was sought and gained from all relevant committees.

2.1 Theoretical Framework

The study has been informed by Fishbein and Ajzen's (2010) Reasoned Action Approach (RAA). This comprehensive motivation theory proposes that people's behaviours are largely motivated by their intentions to perform that behaviour. This intention is informed by three constructs:

- one's attitude towards the behaviour, that is, "the evaluation of an object, concept, or behaviour along a dimension of favour or disfavour" (Fishbein & Ajzen, 2010, p. 78),
- their perceptions of the social norm, or the "perceived social pressure to perform (or not to perform) a given behaviour" (Fishbein & Ajzen, 2010, p. 130), and
- their perceived behavioural control, that is, "the resources and the obstacles that either facilitate or impede engagement in the behaviour" (Wang & Ha, 2013, p. 225) (see Fig. 2).

RAA was intentionally developed as a general theory that could "provide a unifying framework to account for any social behaviour" (Fishbein & Ajzen, 2010, p. 27), as evident in its wide-ranging use to describe and predict behaviours (de Leeuw, Valois, Ajzen, & Schmidt, 2015; McEachan et al., 2016). Meta-analyses and systematic reviews conducted within a variety of fields of study have revealed that attitudes are a strong predictor of intentions, as is perceived behavioural control, with a weaker relationship between social norms and intentions (Lipnevich, MacCann, Krumm, Burrus, & Roberts, 2011; McEachan et al., 2016).

RAA research has been mostly quantitative in nature, as it seeks to predict behaviour and identify statistical links between and among the components of the framework, intentions, and behaviour (Lipnevich et al., 2011; McEachan et al., 2016). The use of RAA within qualitative research, although relatively limited, has also been informative (de Leeuw et al., 2015; Wang & Ha, 2013). In educational research, RAA has been found to adequately explain the issue at hand, such as young peoples' intentions to engage in pro-environmental behaviour (de Leeuw et al., 2015) and PSTs' use of a particular constructivist approach in their teaching (Wang & Ha, 2013).
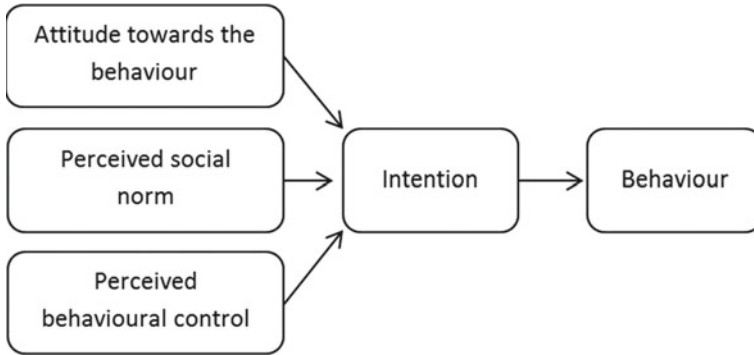
Fig. 2 Reasoned Action Approach (Fishbein & Ajzen, 2010)

In this qualitative study, RAA was considered when developing the questions for the semi-structured interviews as well as providing a framework for data analysis (de Leeuw et al., 2015; King, Horrocks, & Brooks, 2019) (see Fig. 3). By understanding the participants' *attitudes*, perceptions of the *social norm*, and perceived *behavioural control* through individual and focus group interviews, we sought to understand their *intention* (captured in the research question) to perform the *behaviour* of partnering with GU to prepare PSTs.

2.2 Context

Grevillea Primary School (GS) is a government primary school in a major city in Queensland. It has 700 students between Prep and Year 6, and 59 teaching staff (Australian Curriculum, Assessment and Reporting Authority, 2018). The school is located in an area of relative advantage, with a score of 8 out of 10 on the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) (Australian Bureau of Statistics (ABS), 2016). Relative socio-economic advantage and disadvantage is broadly defined "in terms of people's access to material and social resources, and their ability to participate in society" (ABS, 2016, n.p.).

GS's partner university, Grey Gum University (GU), is a research-intensive institution with a campus located 23 km (a half hour drive) from GS. It is in an area of relative disadvantage, with an IRSAD score of 4 out of 10 (ABS, 2016).

The partnership between GS and GU began in 2014, when the Principal and Deputy Principal at GS noticed that the PSTs coming to their school for Professional Experience (PEx) placements did not seem ready for the teaching profession. They began a conversation with the Director of PEx at GU, who suggested that they collaborate to implement a program that GU had run in other regions. The program consisted of PSTs volunteering in a partner school throughout the school year while they complete the final year of their ITE degree. When the GS leadership team visited
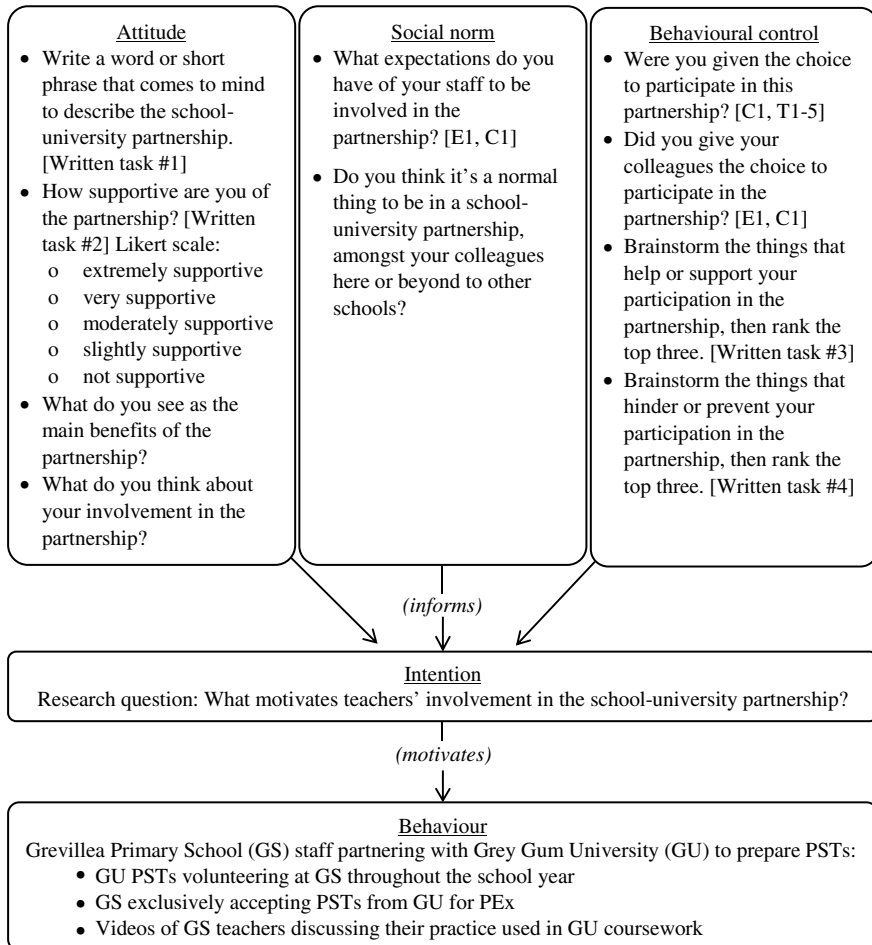
Fig. 3 Use of the Reasoned Action Approach (Fishbein & Ajzen, 2010) in this study

GU to learn about the program, they recognised a synergy between the philosophy of the program and that of their school. The program has now run at GS for two years, with a total of 8 PSTs selected to partake so far.

In addition to running the PST volunteer program, GS also decided to exclusively accept PSTs from GU for PEx. Ordinarily, a school may take PSTs from a range of universities in their local area for PEx placements. Instead, GS accepts only GU students, which has simplified the logistical demands associated with PEx placements and facilitated a close relationship between the school and university.

The activities of this partnership also take place in the university setting, as GU staff have recorded videos with GS teachers discussing various aspects of the teaching profession and their teaching practice. These videos are made available to all GU PSTs as part of their ITE course material.

2.3   Participants

Invitations to participate in the research project were extended to GS staff as a purposive sampling technique (King et al., 2019). A stratified sample was targeted to allow the findings to be representative of the different groups of people involved, further illuminating what motivates involvement in a school–university partnership from a range of perspectives (Robinson, 2014; Stake, 2006).

The participants, in this case, were the school principal (E1), the in-school co-ordinator (C1), and five teachers (T1–T5) (see Table 1). The codes A1 and A2 are also used in this paper, to denote the two GU academics involved in the partnership (although these individuals were not participants in this research project).

Individual interviews were held with E1 and C1, and a focus group interview was conducted with T1–T5. This arrangement minimised the effect of any potential power dynamics, while maximising the quality of the data collected (Millis, 2004; Robinson, 2014).

In all interviews, semi-structured interview questions informed by RAA were used to elicit participants' attitudes, their perceptions of the social norm, and their perceived behavioural control with regards to the GS–GU partnership (see Fig. 3). The individual interviews with E1 and C1 also included questions about the context of the partnership, which informed the rich description provided above. The four short written activities provided each participant with the opportunity to document their thoughts and reflect personally prior to discussing their responses (King et al., 2019; Millis, 2004). The Likert scale developed for Written task #2 (see Fig. 3) was informed by the work of Millis (2004) and Jamieson (2004).

2.4   Data Analysis

Prior to coding each interview transcript, we created a provisional template for analysis informed by the key tenets of RAA (Fishbein & Ajzen, 2010; King et al., 2019). We then employed constant comparison analysis to code sections of text to appropriate descriptors and thereby generate a set of themes (Leech & Onwuegbuzie, 2007). The provisional template was adjusted through this process, with descriptors consolidated and re-classified as necessary (King et al., 2019).

The participants' responses to Written tasks #3 and #4 were also coded according to the analysis template. These coded responses were then allocated values according to the priorities given by the participants within the interview—Priority 1 was allocated 4 points, Priority 2 was allocated 3 points, and Priority 3 was allocated 2 points. Any additional factors that participants documented but did not rank in their top three priorities were given one point. By analysing the qualitative data in this manner, the most important issues for participants were revealed, confirming our initial interpretations (Millis, 2004; Verdinelli & Scagnoli, 2013).

Table 1 Demographics of the participants

Participant	Role at GS	Number of years at GS	Responsibilities in the GS--GU partnership	Data collection strategy
E1	Principal	6	Maintaining oversight of the partnership; driving the direction of the school	Individual interview
C1	Deputy principal	18	Main contact between school and university; co-ordinating PSTs while at the school in various capacities	Individual interview
T1	Deputy principal	5	Supervising and mentoring PSTs while at the school; involved in PEx	Focus group interview Note that smaller groups were formed to record ideas for Written tasks #3 and #4: Group TA: T1, T2, T3; Group TB: T4, T5
T2	Classroom teacher	10	Supervising and mentoring PSTs while at the school; involved in PST volunteer program and PEx	
T3	Classroom teacher	11	Supervising and mentoring PSTs while at the school; involved in PEx	
T4	Classroom teacher	20	Supervising and mentoring PSTs while at the school; involved in PST volunteer program and PEx	
T5	Classroom teacher	14	Supervising and mentoring PSTs while at the school; involved in PST volunteer program and PEx	

We sent summaries of our initial interpretations, along with interview transcripts, to each participant for member checking purposes. All participants were given the opportunity to assess the accuracy of the interpretations and provide clarification when necessary (Koelsch, 2013; Leech & Onwuegbuzie, 2007). This step improved the validity of the study by ensuring we had an accurate understanding of the participants' worldview (Koelsch, 2013).

3   Results

The results are presented below, organised according to the tenets of RAA (Fishbein & Ajzen, 2010). Findings relating to the participants' attitudes are presented first, drawn from all participants' responses to the first two written tasks and additional open-ended interview questions. This is followed by participants' perceptions of the social norm, drawn from all participants' responses to relevant open-ended interview questions. Finally, findings related to the participants' perceived behavioural control are presented, drawn from all participants' responses to the final two written tasks and additional open-ended interview questions.

3.1   Attitude

At the start of each interview, participants were invited to write down a word or short phrase to describe the GS–GU partnership (Written task #1), as well as to rate their level of support for the partnership (Written task #2) (see Table 2). The participants described the school–university partnership as supportive and mutually beneficial. All participants indicated that they were extremely supportive of the partnership.

Table 2 Participants' description of the GS–GU partnership, and level of support

Participant	Description of GS–GU partnership (Written task #1)	Level of support for GS–GU partnership (Written task #2)
E1	Mutually beneficial	Extremely supportive
C1	Supportive learning	Extremely supportive
T1	Supportive	Extremely supportive
T2	Invaluable	Extremely supportive
T3	Deliberate	Extremely supportive
T4	Rewarding but also hard work	Extremely supportive
T5	Threeway partnership (teacher/student/uni)—supporting one another	Extremely supportive

Elaborating on their attitudes about their involvement, the participants discussed their sense of professional obligation to build and develop the next generation of teachers. Their views were informed by the ageing workforce and high attrition rates of early career teachers. T4 commented, "As we age and start to retire, we want to make sure there's people there to hold the baton and take it on for the next generation." Similarly, E1 declared that it is her "ethical responsibility to make sure that we do pass the baton on, [so that PSTs] are definitely inspired by what they see, and want to be in it for the long haul." For C1, being involved in the partnership gave the opportunity to be a part of "shaping pre-service teachers to be quality educators." Part of this professional obligation, E1 and C1 recognised, included having difficult conversations with PSTs who perhaps were "not going to make it" (E1) in the teaching profession. The ultimate goal of this responsibility to the profession for all participants was clear: to ensure good outcomes for school students both now and into the future.

Each of the teachers spoke highly of the partnership and described being involved as a positive experience. T5 recognised that the PSTs "bring new things into the classroom that I couldn't offer" and provided opportunities for the teachers to reflect on their practice. T4 valued the collegial discussions she continued to have with a former PST as a result of the partnership. T5 noted that "every year level… has a pre-service teacher, if not two," and interpreted this as "a pretty good indication that people are willing across the school… to be part of the program." It was clear through these comments that the teachers had positive attitudes about their involvement in the partnership.

3.2 Social Norm

GS has a strong culture among its staff regarding sharing their teaching practice with one another, based on Marzano's (2007) pedagogical framework. This framework was introduced by E1 when she started at GS and has been established as a consistent whole-school approach. It is championed by the school leadership, leading T5 to determine that the school leaders "see the value in us [teachers]… sometimes it needs someone else to point out those things they're seeing in you." Furthermore, it is manifested in the teachers' regular practice—"We're not afraid to step across year levels and say, 'Oh, I really like what you're doing'" (T2). This openness to sharing and discussing their teaching practices extended to teachers' interactions with PSTs. As T4 described,

> Because of our coaching and mentoring model, we see that responsibility not just in our own staff, but then for the… next generations coming through. … It's already there that it's a given that we're going to be doing that. I don't know that… a lot of schools have pedagogical frameworks like that.

This comment reinforces T4's commitment to developing the next generation of teachers, with this sense of responsibility to the profession echoed by other participants. Significantly, it also shows how the idea of learning from and coaching not only their colleagues but also any PSTs they interact with has become normalised at GS. Developing PSTs through the school–university partnership is thereby an extension of (rather than additional to) the teachers' everyday practices.

The enduring school culture at GS, where it is standard practice that teachers work alongside one another to encourage and support quality teaching practices, is reflected in the expectations of C1 and E1 regarding their teachers' involvement in the partnership activities. Both mentioned that while they don't have a quota for how many teachers should be involved, the whole staff team "know that this is what we do, and it's E1 and my agenda to keep an alliance with GU and produce high quality pre-service teachers" (C1). C1 and E1 supported a flexible approach, recognising that there are some teachers who may not want to be involved (such as those who have had a recent negative experience with a PST), as well as some teachers that they do not want to be involved (including early career teachers who are just establishing themselves). E1 was pleased with the willingness of GS teachers, saying that occasionally they have more spaces available than GU PSTs coming in.

The impact of GS leaders championing this collegial culture was further evidenced when T1 contrasted GS with her experiences at other schools, noting that "the difference here is that the culture has been built [by the school leaders] around the fact that having a pre-service teacher is a very positive experience. You will be very well supported, and… it's what we do." It was evident that there was alignment between the expectations of the school leaders and the experiences of the teachers with regards to being involved in the school–university partnership.

To probe further the perceived social norms regarding their involvement, participants were asked whether they see school–university partnerships as being normal, or unusual, beyond their school. In response, C1 recognised other schools in their area who accept PSTs for PEx placements, and E1 named a principal of a nearby secondary school who is developing pathways for her students to higher education by establishing a partnership with a university. Conversely, the active involvement and partnership that GS has with GU were perceived to be an uncommon venture by E1 and several of the teachers. T2 viewed the partnership as "sort of futuristic," echoing T4's comment that "we probably do more than most other schools from my experiences at other schools. I think we're very proactive." E1 didn't know of any other schools "being active like [GS and GU]." T1 and T4 again noted the impact that GS's culture has on their involvement, suggesting that GS is unique because at other schools "there's not that positive culture around championing [working with the university]" (T4).

According to C1, there may be more instances of similar partnerships in the future, with several schools and universities in the region in the process of formalising arrangements and implementing initiatives for a range of purposes. She saw this as a relatively new approach, in the last six years or so, as educators begin to look beyond their own institutions to "help enhance the education of our students" (C1).

3.3 Behavioural Control

As discussed above, the data from Written tasks #3 and #4 has been represented visually by coding the responses and assigning values based on participants' priorities (see Figs. 4 and 5). The visual representation of this data enabled us to see the most
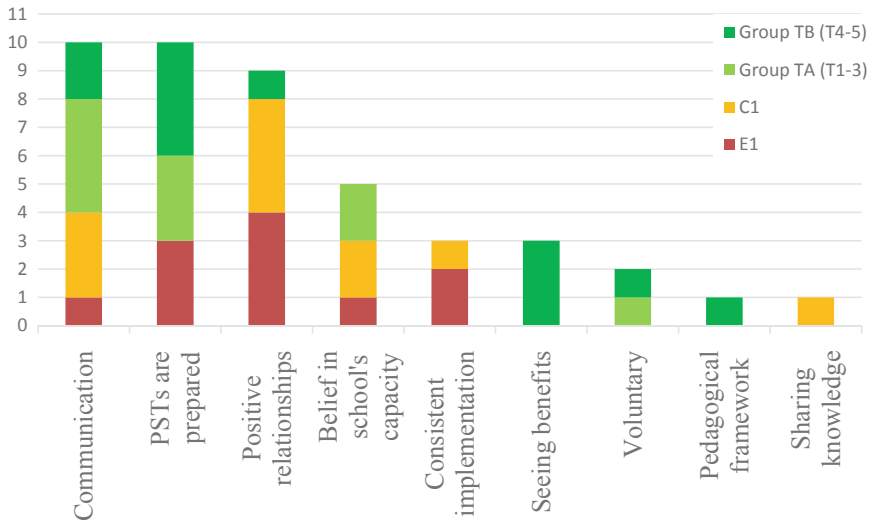
Fig. 4 Factors that help/support participants' involvement in the school–university partnership
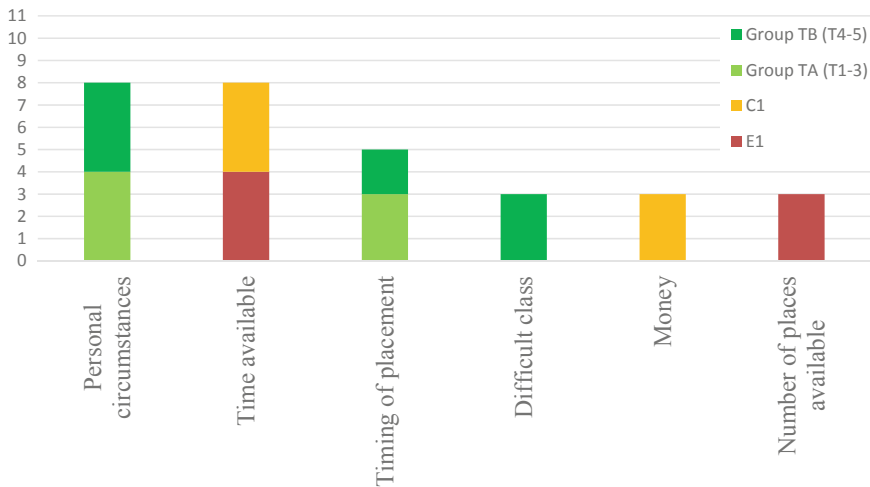
Fig. 5 Factors that hinder/prevent participants' involvement in the school–university partnership

important issues for all participants, and confirmed our initial interpretations (Millis, 2004; Verdinelli & Scagnoli, 2013).

3.3.1 Factors that Help/Support Involvement

Participants were able to list a variety of factors that they felt supported their involvement in the GS–GU partnership (see Fig. 4). Some factors were mentioned by teachers but not executive staff, such as being able to see the benefits of the partnership and the fact that their participation in the partnership was voluntary. Conversely, C1 and E1 noted the consistent implementation of the partnership activities from year to year, and the opportunities to share knowledge that the partnership provided, as supportive factors. The highest ranked items for each group were communication (Group TA), the preparedness of PSTs prior to visiting GS (Group TB), and positive relationships between GS and GU staff (E1; C1).

All participants mentioned clear communication as a factor that supports their involvement in the school–university partnership. C1 talked about how the PSTs are contacting the school straight away, which she said "could only come from the university saying, 'It would be wise of you to [contact the school]… and say 'Hello, this is who I am'.'" The teachers appreciated the correspondence they received from the university, including having any documents related to PEx provided before the placement begins. It was also clear to all participants who they could contact for further support if needed—primarily C1 at the school, and A1 and A2 at the university.

The teachers and E1 commented that the PSTs are obviously prepared by the university before they visit the school, which participants felt contributed to their own positive attitude regarding the partnership. E1 noted that "it's very obvious, when we have that first meeting… [the PSTs] know what they're coming to, which is great." Group TA's discussion of supportive factors included T2's comment that "if [the PSTs] were not prepared, we wouldn't be having this high level conversation of we feel positive about [our involvement in the partnership]." As a result, they ranked PST preparedness as the #2 factor supporting their partnership involvement.

The most important supportive factor for both E1 and C1 was the positive relationship they have with A1 and A2 at GU. This relationship has developed over a period of several years, through numerous in-person meetings as well as ongoing written communication. It was through this relationship that the partnership was first discussed, and it has been a key aspect of the continued implementation of the partnership activities. C1 was certain of the strength of the relationship, to the point where she could say, "Whenever we ask, A1 will come." The stability of the staff in these university-based roles, and their responsiveness to the school's needs, was incredibly important to E1. She spoke of how A1 and A2 "get on top of things straight away," saying "That's a big support. If they weren't responsive, we'd be going, 'Well, does anybody care?' But they do."

Another way, from the teacher's perspective, that GU has shown their care for GS is through their demonstrated belief in the school's expertise. By creating recordings of the teachers discussing their teaching practices, and including these within the

PST's coursework, the teachers "feel valued, that [GU] recognises that we know what we're doing and that we are leaders in our field" (T1). E1 noted that there is "good support from the university around what we're about, which makes us want to participate."

3.3.2 Factors that Hinder/Prevent Involvement

Identifying factors that hinder or prevent their involvement in the partnership was a more difficult task for the participants. As E1 stated, "We're really comfortable with the way it's conducted… We don't find many things hinder it, because we believe the university is responsive." Both C1 and T4 emphatically stated that, for them, "it's worth the hard work" (T4).

When comparing responses to Written task #4 across participant groups, it is apparent that the teachers' responses were distinct from those of E1 and C1 (see Fig. 5). The teachers tended to focus on practical concerns that might prevent their individual participation for a period (including personal circumstances, or unfortunate timing of the PST's visits). Conversely, E1 and C1 tended to speculate about factors that might prevent GS's participation altogether, such as if it required too much time or money.

Both Group TA and Group TB hypothesised that they, or a colleague, might choose not to be involved in the partnership due to their personal circumstances. They recognised the practical and emotional toll that supporting a PST can take, acknowledging:

> If you're in a place personally where you don't have that time and energy to give, GS teachers are pretty good at actually identifying that for themselves and saying, "Look, I don't want to do a half-baked job… I'm not going to be able to give [the PST] the best experience right now, so I'm going to sit this one out." (T1)

T4 echoed this sentiment, declaring, "If you aren't there with 100%, or 110% to give, you're doing the other person a disservice." The voluntary nature of their involvement was therefore crucial, enabling them to take a step back as they saw fit.

The teachers also noted that the timing of the partnership activities might hinder their involvement. Group TA discussed that teachers may be unable to give the PSTs the appropriate amount of attention if they visit in the midst of assessments and report writing. A similar conflict may occur at the beginning of the year, as Group TB discussed, when the teacher is establishing routines and rapport with their new class. Again, the determining factor for the teachers' involvement was that "you want to set people up for success, not for failure, so you need to consider these things" (T4). The fact that the PSTs who volunteer at the start of the school year are just observing and assisting where needed was "fabulous" (T4).

In contrast to the hindering factors the teachers identified, related to individual's involvement, E1 and C1 discussed resources that, if lacking, might prevent GS's involvement in the partnership altogether. The time required of time-poor teachers was key for both C1 and E1, although C1 speculated that you could "take pre-service

teacher commitment away…and I would still say that [teachers are time-poor]." C1 also considered that GS might need to invest more money into the partnership to release teachers from their regular duties to better support PSTs. However, as it stands now, these resources are not a hindrance to the GS–GU partnership because "our teachers are the resources. Our knowledge is the resource" (C1).

4 Discussion

The participants in this study have detailed a partnership between Grevillea Primary School and Grey Gum University that has, at its core, a dedication to building up the teaching profession for the benefit of school students now and into the future (see Fig. 6). GS staff saw it as their "ethical responsibility" (E1) and "moral purpose and professional obligation to make sure that the next generation of teachers that come
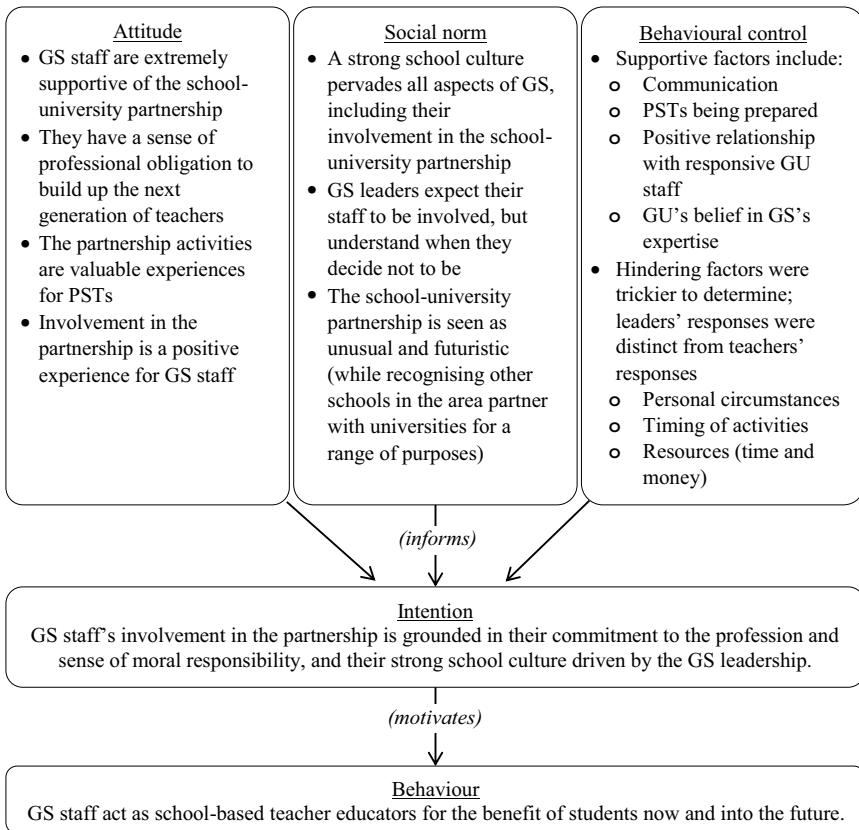

Fig. 6 Summary of results aligned with the Reasoned Action Approach (Fishbein & Ajzen, 2010)

are good, and they've got the skills they need" (T1). This motivated their mentorship of PSTs and their involvement in GU coursework.

It was clear that the collegial school culture, established and supported by the school leadership, played a crucial role in each participants' involvement in the school–university partnership. This aligns with Andreasen, Bjørndal, and Kovač's (2019) assertion that "leadership support and trust [is linked to] higher levels of organisational citizenship and willingness to voluntarily go beyond minimum job obligations" (p. 3). GS teachers spoke about the way that C1 and E1 "see value in us… They're pointing out, 'Hey, we love the way you do this', we're getting that constant feedback" (T5). E1 drove the development of this culture, consistent with Marzano's (2007) pedagogical framework. Along with other leaders at GS (including C1), E1 established a social norm in which teachers are supported to continually learn from others and share their expertise with colleagues and PSTs whenever possible (Andreasen et al., 2019; Passy et al., 2018).

This supportive culture has, according to the teachers, increased both their self- and collective efficacy with regards to mentoring their colleagues and PSTs. T5 noted that, because of the affirmation and feedback she and her colleagues receive from GS leadership and one another, "we feel good about ourselves, [so] we want to have someone in to share." Research shows that confidence in one's own capability to mentor, and confidence of the same in one's colleagues, can promote collaborative relationships and a commitment to partnering with other teacher educators (Andreasen et al., 2019; Donohoo, Hattie, & Eells, 2018). Importantly, PSTs have been found to have more successful experiences in "schools that are characterised by collegial cultures that promote professional learning" (Andreasen et al., 2019, p. 33). In this way, the support that the GS leaders provide has a flow-on effect through the GS staff and on to the PSTs they interact with.

Contemporary global discussions regarding teacher education and school–university partnerships include the notion that school teachers involved in ITE (as GS staff are) should be recognised as teacher educators in their own right (Andreasen et al., 2019). While none of the participants in this study explicitly identified as school-based teacher educators, they did make comments that aligned with this position. For example, when C1 spoke about her reasoning for being involved in the partnership, she stated, "To me, it's shaping pre-service teachers to be quality educators. I think that's my job. … I see that as my job every day with my own staff." Participants spoke of this as a natural extension of their existing teacher identities. This was a less confronting shift than has been reported by other Australian teachers involved in school–university partnerships (Forgasz, 2016; McDonough, 2014).

Encouraging school staff to take on a dual role as both teachers and teacher educators can cause dilemmas due to conflicting loyalties (Andreasen et al., 2019; McDonough, 2014). For the GS staff, it was clear that their allegiance was ultimately with their school students. This was repeated throughout each interview, with comments like: "It's worth the hard work, because ultimately you wouldn't be in this job if you didn't want good results for children in the end" (T4); "I have an ethical responsibility to children to make sure that they're going to get a fantastic education" (E1); and "It's about outcomes for kids at the end of the day" (C1). It was for this

reason that the teachers valued the voluntary nature of the program. They knew that an individual teacher would be able to withdraw themselves from the partnership activities for a period if, for whatever reason, they felt they could not give PSTs a valuable experience while still ensuring the success of their students and their own wellbeing.

5   Limitations

One limitation that could be claimed is that this single case study has investigated the motivations of teachers in one school–university partnership, and thereby cannot be generalised to other contexts. This assertion is described by Flyvbjerg (2006) as one of five key misunderstandings regarding the use of case study as a legitimate means of scientific research. Harland (2014) and Stake (2006) also advocate for case study as a valid methodology within social science research. By examining one case embedded in its context, this research study has added to the depth (rather than breadth) of understanding (Flyvbjerg, 2006; Leech & Onwuegbuzie, 2007).

It was important for this study that the perspectives of teachers be foregrounded, given that their perspective and professional judgement is frequently dismissed in discussions regarding the teaching profession (Alexander et al., 2019; Bourke, 2019). However, we note that the motivating factors of other stakeholders (including university academics and PSTs) also warrant further exploration.

The roles and responsibilities of teacher educators have undergone major changes over the past decade (Vanassche et al., 2019). Indeed, McNamara et al. (2017) argue that "teacher educators and their work have become changed and increasingly undervalued across the teacher education system" (p. 25). Even so, a number of university academics (including A1 and A2) are making significant commitments of time and resources within school–university partnerships (Green et al., 2020). Understanding what motivates these individuals to partner with schools and teachers, despite the challenging circumstances they work under, will deepen our understanding of what works in different contexts (Darling-Hammond, 2017).

With regard to PSTs' involvement in school–university partnership activities, some of the participants in this study hypothesised that PSTs may be hindered by the limited time available to them (given competing demands of study, work, and family life). The teachers also wondered whether PSTs' participation would be incentivised by credit or assessment tasks linked to their involvement. Hearing from PSTs themselves regarding their motivations would be a valuable piece of future research in this area (Forgasz, 2016; Watters et al., 2018).

Further research in diverse contexts will add to our understanding of the factors that motivate various stakeholders to participate in school–university partnerships that develop PSTs. These new understandings can inform policy and practice to strengthen future partnerships and the teaching profession.

6 Conclusion

This case study provided a contextualised understanding of the motivating factors behind the involvement of teachers and school executive in a partnership with a university. This innovative partnership is grounded in the sense of professional obligation and responsibility that GS staff have to the teaching profession. It is nurtured by the strong school culture which has been championed by the school leadership, where collegial discussions and the sharing of teaching practices are everyday expectations. Involvement in the school–university partnership and its activities are thereby a logical extension of what the teachers, in-school co-ordinator, and principal enact daily as part of their professional identities.

By revealing these foundational aspects of the GS–GU partnership, this case study has added to our understanding of innovative third space school–university partnerships. The stratified sample of participants has allowed the findings of this case to be representative of the school staff involved in this school–university partnership (Stake, 2006). This is significant, as the voices of practitioners are frequently lacking in policy debates (Alexander et al., 2019; Bourke, 2019).

The findings of this study can inform future school–university partnerships locally and internationally. The study showed school–university partnerships are strengthened through the recognition by schools and universities of their shared responsibility to the teaching profession. To transform ITE and the teaching profession, the study highlighted the benefits of institutional cultures that are based on coaching, sharing, and capacity building. Furthermore, it shows that third space partnerships are sustained through explicit and timely communication, responsive and trusting relationships, and a recognition of expertise in both the school and university settings. The local case presented in this chapter makes evident that third space school–university partnerships have the power to disrupt the binary attitudes that have historically been held within teacher education, and to create positive change within teacher education around the world.

Glossary

Professional Experience (PEx) "Professional experience is the component of an initial teacher education program in which pre-service teachers develop and demonstrate their skills in the classroom… It is above all else a period of workplace-based learning." (Australian Institute for Teaching and School Leadership, 2015, p. 2)
Australian Institute for Teaching and School Leadership. (2015). *Professional experience: Participant roles and responsibilities*. Melbourne, VIC: Australian Institute for Teaching and School Leadership.

References

Alexander, C., Fox, J., & Gutierrez, A. (2019). Conceptualising teacher professionalism. In A. Gutierrez, J. Fox, & C. Alexander (Eds.), *Professionalism and teacher education: Voices from policy and practice* (pp. 1–23). Singapore: Springer.

Andreasen, J. K., Bjørndal, C. R. P., & Kovač, V. B. (2019). Being a teacher and teacher educator: The antecedents of teacher educator identity among mentor teachers. *Teaching and Teacher Education*. https://doi.org/10.1016/j.tate.2019.05.011.

Australian Bureau of Statistics. (2016). Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA) 2016. Retrieved from www.abs.gov.au.

Australian Curriculum, Assessment and Reporting Authority. (2018). My School. Retrieved from www.myschool.edu.au.

Bhabha, H. K. (1994). *The location of culture*. New York, NY: Routledge.

Bourke, T. (2019). The changing face of accreditation for initial teacher education programmes in Australia. In A. Gutierrez, J. Fox, & C. Alexander (Eds.), *Professionalism and teacher education: Voices from policy and practice* (pp. 27–45). Singapore: Springer.

Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education, 40*(3), 291–309. https://doi.org/10.1080/02619768.2017.1315399.

de Leeuw, A., Valois, P., Ajzen, I., & Schmidt, P. (2015). Using the theory of planned behavior to identify key beliefs underlying pro-environmental behavior in high-school students: Implications for educational interventions. *Journal of Environmental Psychology, 42,* 128–138. https://doi.org/10.1016/j.jenvp.2015.03.005.

Donohoo, J., Hattie, J., & Eells, R. (2018). The power of collective efficacy. *Educational Leadership, 75*(6), 40–44.

Evans, L. (2011). The 'shape' of teacher professionalism in England: Professional standards, performance management, professional development and the changes proposed in the 2010 White Paper. *British Educational Research Journal, 37*(5), 851–870. https://doi.org/10.1080/01411926.2011.607231.

Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York, NY: Psychology Press.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12*(2), 219–245. https://doi.org/10.1177/1077800405284363.

Forgasz, R. (2016). Rethinking the observation placement: A community/cohort approach to early professional experiences. In R. Bradenburg, S. McDonough, J. Burke, & S. White (Eds.), *Teacher education: Innovation, intervention and impact* (pp. 99–116). Singapore: Springer.

Green, C. A., Tindall-Ford, S. K., & Eady, M. J. (2020). School-university partnerships in Australia: A systematic literature review. *Asia-Pacific Journal of Teacher Education, 48*(2). https://doi.org/10.1080/1359866X.2019.1651822.

Harland, T. (2014). Learning about case study methodology to research higher education. *Higher Education Research & Development, 33*(6), 1113–1122. https://doi.org/10.1080/07294360.2014.91125.

Jamieson, S. (2004). Likert scales: How to (ab)use them. *Medical Education, 38*(12), 1217–1218.

King, N., Horrocks, C., & Brooks, J. (2019). *Interviews in qualitative research* (2nd ed.). London, UK: SAGE Publications.

Koelsch, L. E. (2013). Reconceptualizing the member check interview. *International Journal of Qualitative Methods, 12*(1), 168–179. https://doi.org/10.1177/160940691301200105.

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly, 22*(4), 557–584. https://doi.org/10.1037/1045-3830.22.4.557.

Lipnevich, A. A., MacCann, C., Krumm, S., Burrus, J., & Roberts, R. D. (2011). Mathematics attitudes and mathematics outcomes of U.S. and Belarusian middle school students. *Journal of Educational Psychology*, *103*(1), 105–118. https://doi.org/10.1037/a0021949.

Marzano, R. J. (2007). *Art and Science of Teaching: A comprehensive framework for effective instruction*. Alexandria, VA: Association for Supervision & Curriculum Development.

McDonough, S. (2014). Rewriting the script of mentoring pre-service teachers in third space: Exploring tensions of loyalty, obligation and advocacy. *Studying Teacher Education, 10*(3), 210–221. https://doi.org/10.1080/17425964.2014.949658.

McEachan, R. R. C., Taylor, N. J., Harrison, R., Lawton, R. J., Gardner, P., & Conner, M. (2016). Meta-analysis of the Reasoned Action Approach (RAA) to understanding health behaviors. *Annals of Behavioral Medicine, 50*(4), 592–612. https://doi.org/10.1007/s12160-016-9798-4.

McNamara, O., Murray, J., & Phillips, R. (2017). *Policy and research evidence in the 'Reform' of primary initial teacher education in England*. York, UK: Cambridge Primary Review Trust.

Millis, B. J. (2004). A versatile interactive focus group protocol for qualitative assessments. *To improve the Academy: Resources for faculty, instructional, and organizational development, 22,* 125–141.

Passy, R., Georgeson, J., & Gompertz, B. (2018). Building learning partnerships between schools and universities: an example from south-west England. *Journal of Education for Teaching, 44*(5), 539–555. https://doi.org/10.1080/02607476.2018.1516346.

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology, 11*(1), 25–41. https://doi.org/10.1080/14780887.2013.801543.

Sachs, J. (2016). Teacher professionalism: Why are we still talking about it? *Teachers and Teaching: Theory and Practice, 22*(4), 413–425. https://doi.org/10.1080/13540602.2015.1082732.

Scott, J., Trujillo, T., & Rivera, M. D. (2016). Reframing teach for America: A conceptual framework for the next generation of scholarship. *Education Policy Analysis Archives, 24*(12–18), 1–29. https://doi.org/10.14507/epaa.24.2419.

Soja, E. W. (1996). *Thirdspace: Journeys to Los Angeles and other real-and-imagined places*. Cambridge, MA: Blackwell.

Stake, R. E. (2006). *Multiple case study analysis*. New York, NY: The Guilford Press.

Vanassche, E., Kidd, W., & Murray, J. (2019). Articulating, reclaiming and celebrating the professionalism of teacher educators in England. *European Journal of Teacher Education*, 1–14. https://doi.org/10.1080/02619768.2019.1628211.

Verdinelli, S., & Scagnoli, N. (2013). Data display in qualitative research. *International Journal of Qualitative Methods, 12,* 359–381.

Wang, L., & Ha, A. S. (2013). The theory of planned behaviour: Predicting pre-service teachers' teaching behaviour towards a constructivist approach. *Sport, Education and Society, 18*(2), 222–242. https://doi.org/10.1080/13573322.2011.558572.

Watters, J. J., Diezmann, C. M., & Dao, L. (2018). Using classroom videos to stimulate professional conversations among pre-service teachers: windows into a mathematics classroom. *Asia-Pacific Journal of Teacher Education, 46*(3), 239–255. https://doi.org/10.1080/1359866X.2017.1401585.

Zeichner, K. M. (2010). Rethinking the connections between campus courses and field experiences in college-and university-based teacher education. *Journal of Teacher Education, 61*(1–2), 89–99. https://doi.org/10.1177/0022487109347671.

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Chapter 14
Learning by Doing: The Challenge of Aligning Theory and Practice in School-Based, Post-graduate, Teacher Education Programmes

Mark Sheehan

Abstract This chapter addresses the thematic questions in the book to do with innovations in Initial Teacher Education (ITE) and, in particular, the contributions that they make to the secondary school teaching community. Informed by the literature on threshold concepts, the chapter reports on a qualitative study of a post-graduate ITE programme that blended Master's level professional studies, with an extensive year-long practicum; working closely with a high calibre Teacher Mentor and a research active Academic Mentor. Data was gathered from student teachers who graduated from this programme in 2016, in the latter stages of their first-year teaching (2017). It is argued that this approach has the potential to improve teacher quality (and quality teaching) in secondary schools as it inducts student teachers into professional communities of practice over an extended period and develops the dispositions, knowledge and expertise for beginning teachers to operate as critically reflective, confident practitioners who align theory and practice in their pedagogical decision making. The introduction of post-graduate ITE programmes were a significant shift in how New Zealand educates its teachers and to place this into context the chapter provides a brief social/historical context of teacher education over the last 50 years.

1 Introduction

New Zealand introduced a number of post-graduate Initial Teacher Education (ITE) programmes in 2014/2015, with the aim of improving teacher quality and preparing teachers to effectively teach students at risk of underachievement. This was a significant shift for ITE and the new programmes attracted additional government funding. Upgrading teacher's qualifications was seen as a key feature of addressing the widening gap between advantaged and disadvantaged school communities as well as the increasing disparities between different learners within schools. In New Zealand the education system is far from equitable. There are significant gaps between the

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achievements of high and low achievers. Learners from low socio-economic status (SES) communities, who are often Māori and Pasifika, are over-represented in the low achieving group, while students from affluent communities, 'mainly European and Asian are over-represented in the high achieving group' (Grudnoff et al., 2016, p. 251).

In working to increase teacher qualifications, New Zealand reflects international trends and many countries have upgraded ITE qualifications from a Bachelor's to a Master's level. However, while there is generally a consensus that teacher quality is essential to education reform, there is not widespread agreement about what teacher quality looks like (Alcorn, 2014). Nor is there a consensus over the best way to prepare pre-service teachers to develop the sort of knowledge and pedagogical abilities to address the needs of diverse learners. Furthermore, the extent that teacher qualifications make a difference to those students who are at risk of underachievement, is as yet unclear. The focus of policymakers in ITE has largely been on the question of teacher quality rather than the complexities of quality teaching that is far much more complex to investigate (Fitchett & Heafer, 2018).

This chapter contributes to this question in reporting on a qualitative study of a Master's ITE programme that blended professional studies with an extensive year-long practicum where students worked with a Teacher Mentor and a research active Academic Mentor. In particular it focused on beginning teachers who graduated from one Master's programme in 2016, in the latter stages of their first year of teaching (2017). By collecting the data towards the conclusion of their first year of classroom teaching, it provides the opportunity to investigate the extent to which a school-based, post-graduate ITE model shaped how beginning teachers operate. It is argued that this model contributed to building vocational capability among pre-service secondary teachers. While there are challenges with the programme, this approach to teacher education has the potential to make a substantial difference to teacher quality (and quality teaching) in that it inducts student teachers into professional communities of practice over an extended period and aligns this with Master's level professional and curriculum studies. In doing so, it prepares them with the dispositions, knowledge and expertise to operate as critically reflective, confident practitioners who align theory and practice in their pedagogical decision-making.

It is timely to provide a critical perspective on post-graduate school-based programmes given the recent government initiative to train additional secondary teachers over the next four years in New Zealand.[1] This is an exciting initiative but this project sounds a note of caution about an approach that prioritises practical training at the expense of theoretical knowledge. It argues that the strength of the ITE programme discussed in this paper, is that it combines ***both*** professional practice and theory at an advanced level. In ITE, theory and practice are often seen in binary terms with critics characterising teacher education as too much of a focus on tertiary-based theory and not enough on the practical process of learning how to teach (Whatman & MacDonald, 2017). Theory and practice however, are closely aligned and are an essential feature of an ITE programme where beginning teachers are prepared for the wide

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[1] https://www.beehive.govt.nz/release/thousands-more-teachers-schools.

range of challenges they face in the initial years of teaching. This includes developing the curriculum knowledge, pedagogical skills and professional dispositions to address the persistent problem of improving outcomes for diverse learners.

2 The Master of Teaching and Learning (Secondary)

The notion that learner-practitioners develop competence in a professional field by workplace experiences and, that theory can be aligned with professional practice, was a central principle of the government's initiative to introduce 'exemplary' post-graduate initial teacher qualifications after several years of a moratorium on any new ITE programmes. The first exemplary post-graduate initial teacher courses began operating in 2014 (at the University of Otago and Waikato University) and over the subsequent 18 months, Masters-level ITE qualifications were introduced in other universities throughout the country. This chapter focuses on the Victoria University of Wellington *Master of Teaching and Learning* (MTchLrn) secondary programme. A one-year Master's ITE programme that began in 2015 and combines the expertise of high calibre specialist teacher practitioners (known as Teacher Mentors) and research active teacher educators (known as Academic Mentors). Student teachers are placed in a host school, with their Teacher Mentor for the duration of the school year (except for three weeks in an alternative school context) and attend university courses throughout this time (typically one day a week). In addition, as well as wider professional courses, students work closely with an Academic Mentor in their teaching subject who is responsible for developing their curriculum knowledge. Assessments for the course are closely aligned with students teaching practice. The Academic Mentor also has a pastoral role in guiding them professionally (including conducting observations of students' practice in their host schools).

The MTchLrn places a high priority on developing vocational capability and learning about the complexities of teaching by actively participating in communities of practice over an extended period. Students engage with curriculum and pedagogical knowledge in a university setting, while embedded in a school community for the full school year. There is a rigorous application process for the MTchLrn in which Academic Mentors and Teacher Mentors collaborate with the selection. Applicants are required to have a minimum Grade Point Average (GPA) of B+ for entry to be considered (as well as referees). There is a strong focus on critical and creative thinking in the course and an emphasis on catering for differences as well as addressing the needs of diverse learners. The MTchLrn requires a high degree of active involvement from all parties and is based on establishing and maintaining professional relationships. The key feature of the selection process is an extensive interview with a panel of Academic Mentors and Teacher Mentors and this is where the enduring partnerships and mentoring relationships are established. Teacher mentors are involved in selecting who would best fit in their school and applicants are consulted as to who they feel most comfortable working with over an extended period.

The Teacher Mentors are typically highly committed to teaching with a substantial workload. The process of mentoring is also complex, especially when it involves making judgements on students' progress (Haigh & Ell, 2014). In addition, there is little financial incentive to mentor a Master's student for a full year. However, Teacher Mentors in this study found the process rewarding. They felt (as is very much the case) that they were making a substantial contribution to the success of the programme and to the wider profession. Along with being exposed to new ideas, what motivated teachers to take on this role was a strong sense of responsibility towards the profession and developing teacher quality:

> My biggest incentive for doing it, was actually that sense of duty and responsibility. We really need good teachers, and if we're not willing to put in the effort to make good teachers, then we can't whinge about not having enough good teachers. So I felt that's a responsibility of experienced teachers; to take a role in training our teachers, especially if we feel that training them mostly within a classroom in a university is not the way to go. If we think the best way to go is to have them in schools, seeing the reality, practicing; we have to be prepared to do that. But in addition, I am looking for some really fresh ideas. I'm passionate about teaching … I still like to see what's new out there, and what the students are learning now, and wanted to be able to get some fresh ideas from them. (Teacher Mentor, 2016 cohort)

3   Teacher Education in New Zealand

In comparison to the globalised education environment, where post-graduate teacher education qualifications have been a standard in countries such as Finland for many years (Kansanen, 2003), teacher education policy in New Zealand has been shaped around the economic imperatives of 'supply and demand'. These policies have been characterised by 'short-termism', rather than building and maintaining the social and human capital in ITE to ensure that beginning teachers are well prepared for the classroom. The introduction of the Masters-level ITE was a substantial shift in New Zealand and it currently only applies to a minority of ITE programmes. However, within the wider education community, the underlying principle of improving teacher quality by requiring increasing levels of university qualifications, has been a key feature of ITE over the last 50 years (Alcorn, 2014).

Until the 1970s teacher education was under the auspices of the Department of Education. Secondary teachers, after completing an undergraduate degree, completed a 1-year teacher education programme at a Secondary Teachers Training College in either Auckland or Christchurch (Alcorn, 2014). The 1980s, however, saw a breakdown in consensus over education (Openshaw, 2009) and the worsening economic situation, combined with a low birth rate and net migration falling, led to a reduced demand for teachers. Responding to issue as a question of 'teacher supply', the 1980s saw significant losses of staff in Teachers Training Colleges and the closure of North Shore and Admore Teachers College (Alcorn, 2014). This was in line with the neoliberal, market-orientated economic approach that dominated New Zealand at the time, where it was argued the solution to this country's problems was to reduce the role of

the centralised government and let what was called 'market forces' shape responses to the challenges that were faced (Byrnes, 2009; Mein Smith, 2016). The *Tomorrow's Schools* reforms reflected this ethos. It saw the government step away from their responsibilities to administer schooling and schools became self-managing and autonomous and could make decisions that were aligned with the priorities in their local community (Openshaw, 2009).

It is in this context that the provision of teacher education became autonomous. Training Colleges were renamed as Colleges of Education. They could now award their own degrees; decide on the curriculum they offered and were expected to operate on a competitive model. In addition, they were no longer under the auspices of the Department of Education that was abolished in 1989 and played a minimal role in ITE, teacher recruitment and retention:

> The change to 'self-managing schools' created a market for teachers and changed the dynamic between ITE providers and schools. Supply of teachers could now exceed demand, and schools could choose which institutions or programmes they hired their teachers from. Effectively, this also created a teacher education market, resulting in a proliferation of providers and courses (Ell, 2011, p. 433)

While some Colleges of Education enthusiastically embraced the opportunities that came with less restrictions, financially these institutions struggled with reduced rates of government funding. In 1993 funding for secondary education was cut by a 1/3 (Alcorn, 2014). Colleges of Education came under financial pressure to actively recruit more fee-paying students annually to maintain the same level of financial stability. However, although there was a growing perception that the standard of teacher quality was falling, by the mid-1990s, with increasing immigration, there was a looming teacher shortage. Colleges of Education were not well placed to address the shortage because of drastic cuts to staff over the previous decade that had seen many highly experienced teacher educators made redundant (Alcorn, 2014).

The government response to the teacher shortage was in line with neoliberal principles; a distrust in bureaucracy, a commitment to privatisation of government services, deregulation of the market, competition and the reduction of State responsibilities. It also reflected a narrow economic approach to teacher supply by viewing the issue as largely a problem of 'supply and demand'. Given the neoliberal mindset that dominated policymaking in the 1990s, what was needed (it was argued) was a more open and flexible model of teacher education that reflected how rapidly New Zealand was changing (Byrnes, 2009; Mein Smith, 2016). In 1996 the government opened up ITE to any provider who could offer an approved programme (Alcorn, 2014; 2013). Colleges of Education were not well placed in how to respond to these new providers given the competitive ethos that dominated the sector at this time (Jesson, 2000; O'Neill, 2012). Although the Teacher Registration Board (TRB) had been set up in 1990 to register teachers and was responsible for approving teacher education programmes and the New Zealand Qualifications Authority (NZQA) approved any course outside the university sector, there were now few checks and balances in regards the quality of ITE (Alcorn, 2014). The New Zealand Council for Teacher Education (NZCTE) 'feared new providers would lack resources, cut corners and

lower standards' (Alcorn, 2014, p. 450). An increasing number of providers (who had no experience in ITE) began to offer primary, secondary and early childhood programmes that were of variable quality. This had a particularly severe effect on secondary programmes that required subject specialists who had a good grasp of their senior curriculum learning area.

By the early 2000s there were increasing concerns about teacher quality in this highly autonomous ITE environment. For example, the ERO report of 1999 expressed concern at the competencies of beginning teachers (ERO, 1999). The newly elected Clarke Labour-Alliance coalition government's response was to build on existing connections between the Colleges of Education and their local universities. Waikato and Massey universities had already merged in 1991 and 1996, respectively, and, during the first decade of the twenty-first century, Colleges of Education were amalgamated with their local university. Along with codes of practice that were developed by the New Zealand Teachers Council the platform was now set up for university-based Faculties of Education to begin the process of offering higher levels of ITE qualifications (Alcorn, 2014).

4   Methodology and Theoretical Perspective

This was a qualitative research project focused on identifying among beginning teachers (in their first year of teaching) particular threshold experiences that contribute to learner–practitioners developing vocational capability. Namely, aligning theory and practice in their pedagogical decision-making and being inducted into a professional community of practice. In particular the focus was on looking for evidence of exemplary practice that went beyond simply developing technical competence in teaching. The project drew on the 2016 cohort of Teacher Mentors and pre-service secondary teachers in their first year of teaching. There were 23 pre-service teachers in the 2016 MTchLrn cohort and 14 volunteered to participate in the study. Six Teacher Mentors also participated. Data was collected using semi-structured interviews, elicitation tasks, focus groups and journaling. Critical thematic analysis, that involved both open and closed coding, was used for the analysis process. Data was gathered in August–November 2017 (in the latter half of participant's first-year teaching). As the author played a leading role in the MTchLrn programme during 2016 (but not in 2017) all the data gathering was conducted by researchers outside of the Faculty of Education; who were largely unknown to participants. All data collected was rendered anonymous (no names/schools) during the transcription process and prior to the author engaging with the data.

The project was informed by the literature on threshold concepts that provide an insight into theoretical understandings of teaching as 'troublesome knowledge' that have the potential to shift thinking about classroom practice in a meaningful way (Meyer & Land, 2003). Threshold concepts contribute to emerging teachers being open to new ideas and being motivated to shift their practice through experiences such as receiving feedback. This was a useful perspective as the project investigated the

challenges for emerging teachers of what Vaughan et al. (2015) have termed 'threshold experiences'. In *Knowing Practice*, Karen Vaughan, Linda Bonne and Jan Eyre examined the authentic learning experiences, mentoring and support arrangements and ontological challenges among three groups of industry practitioners in New Zealand: GP registrars, carpenters and engineering technicians. The study extended Myer and Land's notion of threshold concepts to consider 'vocational thresholds'; that is, opportunities 'to move to a new level of capability and vocational identity that integrates what they know, what they can do, and *how they are* as practitioners' (Vaughan et al., 2015, p. 2).

In looking at the MTchLrn students in their first year as beginning teachers, this project focused on how vocational identity shifted from thinking about teaching and learning concepts to teaching and learning experiences. As the project developed, this became an investigation into what Vaughan et al. (2015) have termed threshold experiences. That is the sustained self-reflection from interviews, elicitation tasks and focus groups provided points of reference to examine, as participants reflected on the doubt and discomfort that is part of the process of becoming professional critically reflective teachers (Meyer & Land, 2003).

5 Findings

5.1 Theory and Practice: Student Teachers

The majority of participants were positive about the alignment of theory and practice and in particular not just learning theories but applying them to their classroom practice. There was only one of the participants who felt 'The theory was detached from the practice' and their primary focus was about 'keeping my head above water'. However, this was atypical. Even for this participant, while the focus was on getting to grips with the basics of secondary school assessment and the day-to-day pressures of teaching, they still saw the value of theory and research. They anticipated incorporating this in their future teaching once they had firmer grasp of the intense day-to-day demands of being a first-year teacher.

The majority saw the course as having given them a good foundation of theory and practice and recognised it prepared them for the variability of classroom teaching. For example, what is planned in a lesson does not always eventuate as envisaged:

> Theory and practice was at time conflicting/ paradoxical because what's going on in the classroom is usually much messier/ more chaotic than what it sounds like on paper (Student Teacher)

Participants noted how they could discuss theoretical questions with their mentors and peers, and that the 'back and forth' between theory and practice was really useful. Some students specifically mentioned theoretical perspectives such as culturally responsive pedagogy as being especially useful in the first year of classroom teaching. In addition, participants felt they had a much stronger understanding of theory;

especially in comparison to other teachers at their school and this contributed to them having confidence in their practice.

5.2 Theory and Practice: Teacher Mentors

The Teacher Mentors were impressed that their students were aware of how theories underpinned their pedagogy and that MTchLrn students were engaged more with theories than other students they had worked with. They also really appreciated discussing how to transfer the theory into practice with their student:

> I think it's really important that the next generation of teachers coming through, come through with a strong understanding of a pedagogy and theory. I think we need to move past in many respects some of the skill-focused type teaching … I like the idea of having academic teachers coming out who are not just academic in their discipline but actually have a strong understanding of teaching and learning, because those are the teachers that will more than likely be able to make those inter-connections and drive us forward with personalised learning and modern approaches (Teacher Mentor)

However, whereas Teacher Mentors saw the theory and practice alignment as useful, several felt it could 'pull the students in two different directions' as it was closely connected to university assignments. Given that their students were typically high academic achievers the theoretical aspects of theory often took their focus away from classroom practice. What was useful from the Teacher Mentor perspective was aligning theoretical knowledge with practice. In particular, student teachers working through how these ideas in challenging situations. This was seen as a really valuable experience that could be hindered by the demands of university assignments.

> The high level theories are good and we understand where they are coming from but their teaching practice also needs to be really strong. Sometimes the master's student could be in class observing teaching but then would be focusing on other concepts and sometimes their focus was is quite distracted by their course work, if they have to get it done. (Teacher Mentor)

5.3 Inducted into Teaching Community

Teacher Mentors felt their students were fully initiated into the host school and fully involved with the various sides of their learning community. They felt that they were part of the long-term personal and professional gradual development of their student and found this really rewarding. Student teachers were also included in the school faculty of their teaching subject, with other colleagues who supported and advised them. In addition, student teachers were not only seen as part of the staff by their colleagues but also by the students in their host school. In most cases they were seen by their students as simply another teacher in the room and this was seen as an advantage:

> The master's student has the opportunity to get involved in the whole life of the school, to the point where students and staff thought that the student actually wasn't a student teacher. So, they can totally blend in, which must be absolutely positive. It must be a really good feeling to feel like you're actually part of the team, rather than an outsider coming in. (Teacher Mentor)

The extended nature of the practicum means student teachers were able to build rapport with their classes and feel safe to try new things as well as not be concerned if they made mistakes. This was particularly apparent in how student teachers worked through the process of addressing off-task behaviour:

> So they were firm, fair and consistent, and the Year 9 class tested them out quite severely. The class gave the student teacher a very good grounding in how naughty a Year 9 class might feel and they were really good at tapping that problem and not shying away from the hard core of things and then going on to develop successful working relationships with this class (Teacher Mentor)

5.4   Student Teachers

Student teachers mostly saw the extended induction into a community of practice as the most valuable part of the programme. The placements were characterised by seeing different methods of teaching being used, developing different strategies and practices and having the opportunity to learn through 'trial and error'. While all valued the university aspects of the course, it was the alignment with the extended practicum that they saw as especially worthwhile. This was especially the case where students were open to the opportunities offered in their schools:

> I made the most of my year: attended staff Professional Development, daily briefings, did duty, dealt with incidents, wrote reports, assigned grades, marked work, wrote relief, attended took parent-teacher interviews, went to staff/ department meetings; involved myself in sports teams. This was invaluable for seeing what the job of teachers is and made me feel prepared for my first-year teaching. (Student Teacher)

Building the personal and professional qualities to be resilient is one of the core dispositions of being a successful early career teacher; especially in regard to workload and managing behaviour. Student teachers thought one of the key benefits of the extended practicum was that it allowed them to develop the qualities of resilience and work through how vulnerable they felt in the early stages of the practicum. Several commented on how helpful it was to hear other teachers admit to also having difficult lessons:

> Hearing teachers vent a bit and then kind of move on, is actually quite affirming, because every time I had those feelings of just feeling like that was terrible, I was in my own classroom and I didn't know really. I mean, they were experienced and great teachers but they were having horrible lessons, too. I felt like, that is so helpful; actually, you can't take these things personally, but to not take it personally you have to have that attitude modelled to you. A lot of us (student teachers: author italics) blame ourselves and feel like we are a failure and we all have imposter syndrome (Student Teacher)

Several participants also talked about how the MTchLrn helped to start forming their identity as a teacher and a sense of agency and confidence in their practice (Biesta, & Tedder, 2007). For example, one of the aims of the programme is as beginning teachers their teaching practice should be inclusive and open to difference. Qualities that are essential in addressing the needs of diverse learners. In this sense the course was seen as shaping their wider beliefs about education, that for many participants, they did not have at the start of the programme. The role of the Teacher Mentor was crucial in this process and one noted that a 'The style, values and mannerisms of my Teacher Mentor shaped the way I teach, the way I plan and how I view the curriculum'.

> The MTchLn gave me the knowledge and skills to work and reflect as a teacher and this came from being exposed to teaching for a full year. During this time I began identifying areas within and outside my identity as a teacher. Due to the nature of the course/ practical side, this has only started solidifying this year ... I only discovered my 'niche' and the kind of teacher I wanted to be through seeing this in action and knowing the theory and research as to why it was effective. I feel secure in my reasons why being teacher is important to me (Student Teacher)

The majority of the students remained in contact with their Teacher Mentor and their colleagues in the MTchLrn programme. As well as being inducted into a learning community, the MTchLrn opened up opportunities to develop professional working relationships with their subject communities.

> We were essentially a member of staff for a whole year during the programme the transition to a professional community was easy. Having time in schools and with other teachers gave practice to working/ collaborating as teachers and understanding the types of things teachers may talk about (e.g. individual learner needs or NCEA marking standards etc.) ... I built very strong relationships with peers, Academic Mentors, Teacher Mentors, and even other staff at the host school (due to the length of time at the school). There were also good opportunities to meet other teachers and I was encouraged to attend subject associations and take up Professional Development opportunities (Teacher Mentor)

> I'll go first. Well, I suppose I tried to pull together the idea of a bit of, "How does metalogue work as a process?" So, I kind of saw myself at this end of the model being people gathering together, and I tried to make those people look all different. They could be all different walks of life, different kinds of people, but that then they actually have the opportunity to take this journey together. There will be gems along the way and the gems [pointing out the gold pieces] are actually in different locations. The gold represents knowledge or wisdom, but there are potentially different pathways that the group could take or that individuals might take along this journey of the metalogue, but that it all comes together at the end. So, some of these journeys are a bit more tenuous [pointing to the wire], and are a bit more problematic. Some of them are a challenge if you are a little bit claustrophobic [pointing to the tube]. Others of them are quite unstable but that everyone pulls together at the end and ends up in a location with a richer view, collecting the relevant gems along the way. You might not collect all of them, because no one might take that path, and that's actually okay. But that's the representation. The spinning wheel here is just that there are obstacles in the way that might impede your journey [Debbie spins the wheel and suddenly all the pieces collapse]. And these are all very tenuous. As you see, they fall apart at the blink of an eye!

6   Conclusion

The school-based, Masters-level, ITE programme combines the acquisition of the-
oretical knowledge with an extended year-long practicum. One of its core aims is
to induct beginning teachers into a community of practice and for them to draw
on theory to inform their pedagogical decision-making. In this the MTchLrn has
been largely successful and this is no small thing. The theory–practice dichotomy is
a challenging feature of teacher education (Korthagen, Kessels, Koster, Lagerwerf
& Wubbels, 2001; Loughran, 2006) as students can see theoretical knowledge as
overly complex and not of direct relevance to mastering the practical imperatives of
teaching.

The major challenge the programme faces is that its success largely depends on
the quality of the relationship between Teacher Mentors and the student teacher.
In the relatively rare occasions when the relationship has broken down, switching
placements (an option of last resort) is far from ideal given the considerable per-
sonal and professional advantages of an extended one-year placement. This is a key
challenge in the potential of expanding this programme. Especially as the number
of high calibre Teacher Mentors, who are in a position to play a mentoring role,
is limited. However, what was evident in this project is that the MTchLrn students
were not only inducted into a practitioner community (and were able to develop a
comprehensive grasp of teaching and learning over an extended period of time) but
they saw that effective practice needs to be embedded with theoretical ideas. This
may be a core reason why the MTchLrn has been strongly supported by schools
in Wellington, with more schools offering placements than can be accommodated
and a very high rate of employment for graduates from the programme. The key
reason given for the acceptability of this programme was the quality of the partner-
ship between the University and schools. Teacher Mentors were also positive about
contributing to the development of new teachers through a programme that has a
strongly practice-focused element and where they pay a major role in the educating
of student teachers. Underlying this rationale, maybe that these beginning teachers,
through being inducted into a community of practice have the confidence and dis-
positions to align theory with practice in their pedagogical decision-making, and it
is this, that ultimately makes the difference.

References

Alcorn, N. (2013). Teacher education policy in New Zealand since 1970. *Waikato Journal of Education, 18*(1), 37–48.

Alcorn, N. (2014). Teacher education in New Zealand. *Journal of Education for Teaching*, *40*(5), 447–460. (International research and pedagogy).

Biesta, G. J. J., & Tedder, M. (2007). Agency and learning in the lifecourse: Towards an ecological perspective. *Studies in the Education of Adults, 39,* 132–149.

Byrnes, G. (ed), (2013). *The New Oxford History of New Zealand*. Melbourne: OUP, 2009.

Education Review Office. (1999). *Pre-employment training for school teachers*. Wellington: ERO.

Ell, F. (2011). Teacher education in New Zealand. *Journal of Education for Teaching*, *37*(4), 433–440. (International research and pedagogy).

Fitchett, P. G., Heafner, T. L. (2018). Teacher quality or Quality teaching? Eighth grade social studies teachers' Professional characteristics and classroom instruction as predictors of U.S. history achievement. *Research in Middle level Education*, *41*(9), 1–17.

Grudnoff, L., Haigh, M., Hill, M., Cochran-Smith, M., Ell., F, & Ludlow, L. (2016). Rethinking initial teacher education: Preparing teachers for schools in low socio-economic communities in New Zealand. *Journal of Education for Teaching*, *42* (4), 451–467. (International research and pedagogy).

Haigh, M., & Ell, F. (2014). Consensus and dissensus in mentor teachers' judgments of readiness to teach. *Teaching and Teacher Education, 40,* 10–21.

Jesson, J. (2000). Caught in the contradictions: New Zealand teacher education. In A. Scott & J. Freeman-Moir (Eds.), *Tomorrow's teachers: International and critical perspectives on teacher education* (pp. 56–73). Christchurch: Canterbury University Press.

Kansanen, P. (2003). Teacher education in Finland: Current models and new developments. In M. Moon, L. Vlãsceanu, & C. Barrows (Eds.), *Institutional approaches to teacher education within higher education in Europe: Current models and new developments* (pp. 85–108). Bucharest: Unesco-Cepes.

Korthagen, F. A., Kessels, J., Koster, B., Lagerwerf, B., & Wubbels, T. (2001). *Linking practice and theory: The pedagogy of realistic teacher education*. Mahwah, NJ: Lawrence Erlbaum Associates.

Loughran, J. J. (2006). *Developing a pedagogy of teacher education*. New York: Routledge.

Meyer, J. H. F. & Land, R. (2003). Threshold concepts and troublesome knowledge 1–Linkages to ways of thinking and practising in improving student learning–Ten years on. In C. Rust (Ed.), *Improving student learning diversity and inclusivity*. Oxford: OCSLD.

O'Neill, J. (2012). Rationality and rationalisation in teacher education policy discourse in New Zealand. *Educational Research, 54*(2), 225–237.

OECD. (1983). *Reviews of national policies for education: New Zealand*. Paris: OECD.

Openshaw, R. (2009). *Reforming New Zealand secondary education. The picot report and the road to radical reform*. United Kingdom: Palgrave Macmillan.

Smith, P. M. (2016). *Concise history of New Zealand*. Melbourne: Cambridge University Press.

Vaughan, K., Bonne, L., & Eyre, J (2015), Knowing practice: Vocational thresholds. https://akoaotearoa.ac.nz/…/knowing-practice-vocational-thresholds-for-gps-carpenter. New Zealand Council for Educational Research: Wellington.

Whatman, J., & MacDonald, J. (2017). *High Quality Practice and the integration of theory and practice in initial teacher education*. Wellington: New Zealand Council for Educational Research.

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Chapter 15
Graduate Perspectives of Work Integrated Learning in Fully Online Initial Teacher Education: A Global Imperative

Rebecca Walker, Chad Morrison, Susan Beltman, and Valerie Morey

Abstract Higher education is increasingly responding to the need for flexible, accessible study options for diverse student cohorts. This includes offering courses available in fully online mode that incorporate work integrated learning (WIL) which contribute to preparing work-ready graduates. This chapter presents one university's approach to delivering fully online initial teacher education (ITE), its embedded WIL components and innovative approaches for support and supervision. Survey responses from 56 online ITE graduates showed that participants were predominantly mature-aged females transitioning from other careers and who juggled multiple responsibilities during the final WIL. Overall, graduates were satisfied with their WIL and intended to stay in teaching for their whole career. Most were employed as teachers, with approximately one-quarter employed at their final WIL placement school. Insights gained about this component of fully online ITE are of global significance given the sustained interest in the capacity and retention of teachers in Australia and across the world.

1 Introduction

Higher education is becoming increasingly responsive and connected to economic and societal needs (Tran, 2016). There is global interest in work-ready graduates capable of contributing to the teaching workforce and influencing student learning

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outcomes (Ingvarson & Rowley, 2017). These capabilities are associated with growing sustainable communities and thriving economies (Burgess, Cameron, Dhakal, & Brown, 2018). In conceptualising graduates' work-readiness, work integrated learning (WIL) is a key factor in preparing students to meet industry expectations and successfully transition into employment (Prikshat, Nankervis, Burgess, & Dhakal, 2018). The prominence and significance of WIL in initial teacher education (ITE) are well established and a core component of many programs (Le Cornu, 2015).

Globally and nationally, there has been a rapid rise in the uptake of online ITE (Australian Institute for Teaching and School Leadership (AITSL), 2018b). This form of delivery contributes significantly to digital equity and social justice through easing access to higher education for identified groups (Pelliccione, Morey, Walker, & Morrison, 2019; Stone, O'Shea, Delahunty, & Partington, 2016). Online ITE graduates have demonstrated successful academic and WIL outcomes regardless of their socio-economic status (SES) and residing locations (Pelliccione et al., 2019). However, structural barriers remain for some groups (Moran, 2008). Within Australia, this includes Indigenous students and those from rural and remote locations (Productivity Commission, 2019). Exploration into WIL is crucial given it is a core element of ITE and considering the impacts it can have on graduate career readiness (Smith, Ferns, & Russell, 2014). Developing innovative approaches to WIL within ITE generally remains a priority, given the enduring challenges of this component of teacher preparation (Southgate, Reynolds & Howley, 2013). There is particularly limited understanding of the key components of WIL within the online delivery mode.

2 Background

2.1 Online ITE

Although online ITE programs have increased rapidly over the past ten years, this has not been without scepticism and in some cases, overt criticism (Downing & Dyment, 2013; Pelliccione et al., 2019). These concerns lie within a generally heightened focus on the quality of teacher preparation in Australia (Teacher Education Ministerial Advisory Group, 2014; see Stokes, 2018). There is also a global focus on ensuring that graduate teachers have the necessary skills, knowledge and capabilities needed to be effective in the classroom (Ingvarson & Rowley, 2017). Pelliccione et al. (2019) provide some response to criticisms with data demonstrating academic performance and work-readiness of graduates from online ITE programs as equivalent to that of other cohorts. Analysis of the components, structure and management of online programs, as well as students' experience of them, will be key to identifying critical student and program success factors. A significant part of this analysis must be the WIL component.

2.2   WIL

WIL is an umbrella term describing the myriad of ways higher education students engage with their chosen fields (Oliver, 2015) and is described as integral to the preparation of teachers and other professionals (Jackson, 2018). Within ITE, WIL takes the form of professional experience placements, traditionally referred to as the practicum. WIL provides important learning experiences for ITE students (Zeichner, 2010) as they promote active participation in the professional learning communities of teaching (Le Cornu, 2016). These opportunities develop insights about teaching and expose the realities that are fundamental to grasp during the process of learning to teach. They provide essential opportunities for ITE students to work in authentic ways with and through more experienced others to create new perspectives (Le Cornu & Ewing, 2008). Importantly, WIL also integrates the essential components of learning to teach in coherent ways (Darling-Hammond, 2006).

Globally, there is broad support for the contributions that place-based, authentic WIL opportunities make to student learning, particularly when these components align with course curriculum (Smith & Worsfold, 2014). Place-based WIL allows students to immerse themselves in the context and culture of their placement schools. The pedagogy of situated (place-based) education, or PBE, is explained by McInerney, Smyth and Down (2011), who critically examined programs for Australian secondary school students. The pedagogy of PBE is applicable to ITE students' professional experience, where learning is differentiated through immersion in individual, diverse schools. PBE pedagogy holds that this is conducive to learners being more invested, engaged and active co-constructors of their learning. Pedagogical robustness and overall assessment consistency, recognised by McInerney et al. (2011) as necessary to PBE, are achieved through three key elements: the explicit links in ITE students' placements to their theoretical course learning, the requirement for ITE students to critically reflect on their experiences and the common assessment framework of the Australian Professional Standards for Teachers (APST) (AITSL, 2011). Benefits found include the capacity to prepare graduates more adequately for their chosen field, with a depth of knowledge and acquired soft skills or generic attributes that have been enhanced through real-life participation, application and integration (Smith, 2012). As a result, WIL is described as integral to the preparation of teachers and other professionals (Jackson, 2018).

Program accreditation standards (AITSL, 2018a) articulate the expectations held of Australian ITE providers in relation to program design, development and delivery. Significant attention is paid to WIL within these standards, reflecting the broad value placed on this component. Despite this, ITE providers face considerable challenges when delivering WIL. The associated challenges can be substantial and come with several areas of risk for universities (Cameron, Freudenberg, Giddings & Klopper, 2018), particularly in relation to support for their implementation (Jackson, Rowbottom, Ferns, & Mclaren, 2016). Consequently, with the expansion of new modes of delivering ITE (AITSL, 2018b) WIL will continue to require significant resourcing, management, evaluation and broad support (Kertesz & Downing, 2016).

2.2.1 Supporting and Assessing WIL

The global expansion of online learning has compounded the need for innovative approaches to ITE and WIL. Innovations have often reflected technological advances (Dann & Allen, 2013) that facilitate new ways of collaborating across time and distance, which are influential factors associated with WIL (Cooper, Ortlipp, Ryan, Walker-Gibbs, & White, 2011). Successful innovations need to be evidence-based and developed strategically to capitalise on the opportunities afforded by this critical component (Southgate et al., 2013). WIL partnerships emphasise the need for strategic interaction and alignment between university-based teacher educators and their school-based colleagues (Martin, Rees, Fleming, Zegwaard, & Vaughan, 2019). Close connections between stakeholders are therefore fundamental to managing the complexities associated with WIL (Spooner-Lane, Tangen, & Campbell, 2011) and to innovating new approaches. Limited literature exists about different approaches to supervision and their impacts on online ITE students; however, there are some known opportunities and barriers associated with supervising and assessing WIL.

The quality of supervision of WIL has been associated with the overall quality of ITE programs and the strategic integration of theory and practice (Le Cornu, 2015). Supervising WIL is considered highly complex work and yet there are persistent challenges in securing high calibre teachers to undertake it (Hamel & Jaasko-Fisher, 2011). WIL can be a challenging and stressful time for ITE students as they encounter the realities of teaching (Caires, Almeida, & Martins, 2009; Gardner, 2011). ITE students view WIL components as some of the most valuable experiences of their program (Crosswell & Beutel, 2013). At the same time, they also report supervision of WIL as highly variable and sometimes fail to receive adequate guidance (Freestone, Williams, Thompson & Trembath, 2007). A comprehensive understanding of the complex work that WIL supervisors perform is required (Hamel & Jaasko-Fisher, 2011; Sim, 2011), along with a strategic focus on how ITE students are assessed through WIL (Oliver, 2015), particularly within place-based settings (Le Cornu, 2015; Darling-Hammond, 2006).

While previous research has examined effective features of WIL, limited literature exists in relation to fully online ITE programs. An analysis of these programs' key components and innovative approaches to WIL is necessary to understand how they can be constructed and delivered effectively. The study described in this chapter is part of a larger body of research (see Pelliccione et al., 2019) and explores the perceptions of graduates from fully online undergraduate ITE programs regarding their final professional experience (WIL) placement and situation following graduation. The research questions addressed were

- What are the perceptions of WIL for fully online ITE graduates?
- What are the perceptions of WIL supervision and placement initiatives for fully online ITE graduates?
- What are the career intentions of fully online ITE graduates?

3   Methodology

3.1   Research Design, Setting and Participants

Online ITE graduates' experiences in the final WIL placement were explored using a single-case study design. A descriptive case study approach (Merriam, 1998) enabled the real-life study of this phenomenon (Grauer, 2012) and accommodated the collection of multiple forms of data (Yin, 2018). Quantitative and qualitative data were gathered to support the investigation of graduates' perceptions of WIL and career intentions (Leech & Onwuegbuzie, 2008).

The research setting is an Australian university that is one of the largest providers of online ITE in the country (AITSL, 2018b). Ethics and approvals to conduct the research were gained from the university. Graduates who studied the Bachelor of Education, Early Childhood and Primary programs fully online and graduated in 2017 and 2018 were invited to participate. This included graduates who had been enrolled directly with the participating university and those who enrolled through its external partner. In both cases, the university manages and delivers all aspects of the learning programs, and it is important to note that the fully online programs' assessment and content are the same as the on campus and blended delivery modes. The WIL examined in the study related to the final unit in the ITE program, which is a ten-week full-time professional experience placement in a school setting.

Of the 353 fully online graduates contacted, 56 completed the survey, with 32% (n = 18) from the four year Bachelor of Education Early Childhood program and 68% (n = 38) from the Primary program. All participants graduated in 2018. This equates to a completion rate of 16%, which is disappointingly in line with recent accounts of survey fatigue, although not necessarily indicative of response bias (Fosnacht, Sarraf, Howe, & Peck, 2017).

3.2   WIL Supervision and Placement Model

The Bachelor of Education Early Childhood and Primary programs all include four professional experience units spread across the degree. The first three units involve a study of theory and a professional experience placement. The fourth professional experience unit was solely WIL and referred to as the Internship. It comprised a ten-week full-time placement in a school setting and was the final unit in the course. The WIL is assessed against the APST at the graduate career stage (AITSL, 2011), with mentor teachers and supervisors completing template assessment forms for each ITE student electronically through the SONIA student placement management system. To complement support from the university, the mentor teacher and supervisor support and guide the ITE student. The final unit percentage result awarded was derived by averaging the mentor teacher percentage mark and the supervisor percentage mark.

The WIL must be passed in order to pass the unit, and graduation cannot occur until this unit is passed.

The requirements for on campus and fully online ITE WIL are identical in terms of school and mentor teacher roles and requirements, student teaching requirements and assessment processes. However, they differ in terms of placement processes and supervisory procedures. These innovative processes were designed so that students in the fully online course could undertake the WIL placement and be assessed in any approved location. There are three distinct differences between the on campus and fully online WIL placement and supervision process. First, the fully online ITE students are responsible for sourcing their WIL placement. They are supported by the university's dedicated online professional experience team and unit coordinator, and scaffolded with documentation of processes, virtual interactive workshops, online discussion boards, and form and letter templates. The ITE student negotiates with the school as to the mentor teacher and supervisor, whereas in the on campus WIL placement process, a professional experience team member places students in a school and allocates mentor teachers and supervisors. There are circumstances where the university will place a fully ITE online student on WIL, such as to meet the state education department's requirements. The second difference between on campus and online processes is that the supervisor is a school-based person rather than a university-appointed staff member. The school-based supervisor must be an experienced teacher or administrator working in the school and is generally the school principal, deputy principal or school WIL coordinator. The ITE student provides the school, mentor and supervisor details to the university online professional experience team who verifies and confirms these details. The third difference between on campus and online processes is that the online WIL concludes with an exit interview. The structured exit interview is conducted virtually by the coordinator of the WIL unit. It involves the ITE student, mentor teacher and school-based supervisor who discuss the performance of the student during the WIL, the assessment of the WIL and recommendations for future professional development. The exit interview is not assessed but must be undertaken to pass the unit.

3.3   Data Collection

ITE graduates were invited to complete an anonymous online survey regarding their views and experiences of their final professional experience placement, including the innovative approaches to supporting and supervising WIL, and their teaching career intentions. The survey included demographics and questions relating to preparation prior to and experiences during the WIL and short- and longer-term outcomes as well as challenges faced and resources accessed. The survey consisted of Likert-style and open-ended items to maximise the collection of rich data.

The sections and items in the Preparing our Teachers survey were informed by a literature review about quality WIL, WIL expert experiences from the participating university and the research aims. The survey contained five parts—Part One: Demographics; Part Two: Study and Professional Experience Placement (WIL) Details; Part Three: Perceptions of the Professional Experience Placement (WIL); Part Four: Current Situation; and Part Five: Final Comments. Part Three included 5-point Likert-style items with statements relating to students' WIL perceptions and experiences of

- themselves as a student (10 items), e.g. *I felt prepared for my internship*;
- their mentor teacher (8 items), e.g. *My mentor teacher provided regular, helpful feedback*;
- their supervisor (4 items), e.g. *My supervisor provided regular, helpful feedback*;
- the school (13 items), e.g. *I was inducted into the school before my internship*; and
- the university (10 items), e.g. I *accessed University online support*.

Participants rated the extent to which statements were true for them (1 = no extent; 2 = little extent, 3 = some extent, 4 = reasonable extent; 5 = great extent). All items were framed positively. Each section included one item relating to perceived satisfaction within that aspect of WIL.

3.4   Data Analysis

The survey data were entered into an excel spreadsheet. Missing data were identified and where the majority of data were missing, the participant information and limited responses were removed from analysis. Within the included responses, there was missing data from differing items. In this case, the results reported the number of participants completing the corresponding item or survey section. The quantitative data were then exported into SPSS. The reliability of the survey sections relating to students' WIL perceptions and experiences were examined for internal consistency using Cronbach's alpha. Demographic and item means and standard deviations were calculated. Pearson's correlation coefficient was calculated to examine the relationships between Likert-style items within each grouping of the students' WIL perceptions and experiences, and between the items relating to overall satisfaction in each of these groups (survey part three). Several qualitative items were also included in the survey to provide opportunities for participants to elaborate on their experiences and responses. Qualitative items prompted participants to elaborate on their preceding responses to quantitative items and enabled the researchers to better interpret these findings.

4   Results

4.1   *Demographic and WIL Placement*

Of the 56 participants, 51 were female (91%) and 4 male (7%) with one participant not responding. All were residing in Australia, with 98% having English as their first language. Participants' ages ranged from 22 to 56 years (mean = 38). The majority of participants had another career prior to commencing the course (89%) and of those 38% were in an education-related career. Table 1 details the additional responsibilities participants undertook whilst studying.

The other responsibilities included being a single parent, running a farm and being a parent in a mining family. One participant explained her thoughts on online ITE:

> I could not have completed this uni degree if I had to attend university. I have 3 children and I work 4 days per week (out of necessity). I study mostly late at night. This degree has enabled me to start a career I adore and am passionate about, whilst also largely increasing my earning capacity. The online components were able to support me during my practical placements - but it takes a certain type of person to be successful in online studies and be able to transfer their learning to real world applications.

Most participants resided in the Australian states of New South Wales, Western Australia and Queensland during their WIL (3 did not respond; see Table 2).

Table 1 Participant's additional responsibilities whilst studying

Additional responsibilities	*n*
Caring for dependants	23
Caring for dependants; other	7
Caring for dependants; full-time work	2
Caring for dependants; part-time work	2
Caring for dependants; casual work	5
Caring for dependants; casual work; other	3
Caring for extended family	3
Caring for extended family; part-time work	1
Caring for extended family; casual work	1
Caring for dependants and extended family	2
Caring for dependants and extended family; other	1
Caring for dependants and extended family; part-time work	1
Full-time work	1
Part-time work	1
Part-time work; other	1
Other	1
Study only	1

N = 56

Table 2 Participant residing in Australian state locations during WIL

State	n
New South Wales	18
Western Australia	13
Queensland	10
Victoria	6
South Australia	5
Northern Territory	1

N = 53

The majority of the participants (69%) sourced their own WIL placement school without any additional support from the university, 5% sourced the placement following a recommendation and 5% sourced the placement at a school that requested them following their volunteer work there. Others reported being placed by the university (16%) and one needing support from the university in finding the placement. During the WIL, one participant reported being placed at risk of failure by their mentor teacher and supervisor. All participants reported passing the WIL by both mentor teacher and supervisor.

4.2   Overall Satisfaction with WIL

The items relating to satisfaction within each of the survey sections are reported in Table 3. These results reveal that graduates had relatively high levels of satisfaction in terms of the WIL and their mentor teacher, as well as the innovative approaches of a school-based supervisor, placement school and the exit interview.

Pearson's correlation coefficient was calculated to examine the relationship between each of the satisfaction items reported in Table 3. Satisfaction with the

Table 3 Participant's perceptions of the satisfaction items in each survey section

Section	Survey item	Mean	Standard deviation
Student self-perceptions	I was satisfied with my internship	4.23	0.91
Mentor teacher	I was satisfied with my mentor teacher	4.14	1.18
Supervisor	I was satisfied with my supervisor	4.34	0.92
School	I was satisfied with my internship school	4.27	0.98
University	I was satisfied with the exit interview	3.98	1.45

N = 56

Table 4 Reliability of survey sections

Section	Reliability
Student self-perceptions	0.80
Mentor teacher	0.94
Supervisor	0.81
School	0.92
University	0.86

N = 56

internship was strongly positively correlated with satisfaction with the mentor teacher, $r = 0.743$, $p \leq 0.01$, N = 56. A strong positive correlation was also found between satisfaction with the mentor teacher and the school, $r = 0.724$, $p \leq 0.01$, N = 56. Interestingly whilst positive correlations were observed between the satisfaction with the mentor teacher and the supervisor ($r = 0.368$, $p \leq 0.01$, N = 56), and the satisfaction with the internship and the supervisor ($r = 0.336$, $p \leq 0.005$, N = 56), these were only moderate.

4.3 Perceptions of WIL Components

The reliability, using Cronbach's alpha, of each section of this third part of the survey is reported in Table 4. As the reliability was not increased by the removal of any items within this part of the survey, all items were retained.

4.4 Student Self-perceptions

In the first survey section exploring graduates' perceptions of themselves during the WIL, the item that reported the highest mean was *I felt motivated to do my best* (M = 4.86, SD = 0.35). The item with the lowest mean was *I accessed peer support during my internship* (M = 2.98, SD = 1.40). Generally, graduates reported that they perceived themselves to respond professionally to feedback (M = 4.82, SD = 0.39), implemented coping strategies during the WIL (M = 3.96, SD = 0.93), enjoyed the WIL (M = 4.18, SD = 1.05) and felt the WIL prepared them for their first year of teaching (M = 3.93, SD = 0.99). The item with the strongest positive correlations was between *I was satisfied with my internship* and the item: *I enjoyed my internship* ($r = 0.868$, $p \leq 0.01$, N = 56) and also with the item: *The internship met my expectations* ($r = 0.835$, $p \leq 0.01$, N = 56). A relatively strong positive relationship was identified between the graduates' satisfaction with the WIL and how prepared they felt for their first year of teaching ($r = 0.602$, $p \leq 0.01$, N =

56). A participant commented: *Overall, I had an excellent final placement, in a school that was challenging, yet extremely rewarding. I feel this experience left me quite prepared to teach in my first year*. Another strong positive correlation was between the items: *I was motivated to do my best* and *I responded professionally to the feedback I received* ($r = 0.476$, $p \leq 0.01$, N = 56).

4.4.1   Perceptions of the Mentor Teacher

In general, graduates reported that their mentor teacher treated them as a colleague (M = 4.30, SD = 1.17) and that they discussed different learning and teaching approaches with them (M = 4.29, SD = 0.91). To a reasonable extent, graduates revealed that their mentor teacher provided regular, helpful feedback (M = 4.14, SD = 1.17), quality support (M = 4.09, SD = 1.15) and that they implemented a range of teaching strategies beyond their mentor teacher's whilst of WIL (M = 4.02, SD = 1.02). The mean for the item: *My mentor teacher modelled critical reflection of their teaching* was 3.77 (SD = 1.28). This item was strongly positively correlated with the item relating to the mentor teacher providing regular, helpful feedback ($r = 0.839$, $p \leq 0.01$, N = 56). Interestingly, the majority of correlations between items in this section were strong and positive. The lowest correlation occurred between the items relating to the mentor teacher treating them as a colleague and their implementation of a range of teaching strategies beyond their mentor teacher's ($r = 0.345$, $p \leq 0.01$, N = 56).

4.4.2   Perception of the School-Based Supervisor

The third section of the Preparing our Teachers survey elicited graduates' perceptions of their school-based supervisor. Table 5 details the items and their mean and standard deviations.

Overall, graduates reported favourable perceptions of their WIL supervisor. Notably, some have maintained a professional relationship with their supervisor following the WIL. In some cases, this has occurred because the graduate is now

Table 5 Participant's perceptions of the supervisor

Survey item	Mean	Standard deviation
I was satisfied with my supervisor	4.34	0.92
My supervisor provided regular, helpful feedback	4.21	1.00
My supervisor provided quality support	4.05	1.20
I have maintained a professional relationship with my supervisor since my internship	3.04	1.78

N = 56

employed at the school in which the internship was completed. One graduate illustrated this point through their provided comment:

> My supervisor was brilliant. She checked in with me throughout my placement, and was aware of my struggles and provided coping strategies for me to use. I am still in contact with her in a professional basis, undertaking research in conjunction with [name] University at my place of employment.

However, participants did experience challenges with the supervisory arrangements. One graduate stated: *My supervisor changed during the course of my Internship which made it difficult*. Strong, positive Pearson's correlation coefficient results occurred between graduates' satisfaction with their supervisor and the provision of quality support ($r = 0.875$, $p \leq 0.01$, N = 56), and between the provision of quality support and regular, helpful feedback ($r = 0.868$, $p \leq 0.01$, N = 56).

4.4.3 Perceptions of WIL School

The next section of the survey examined items relating to the school where graduates conducted the WIL. Generally, graduates rated most items as being true to a reasonable extent. Notably, the highest mean items were *I developed positive relationships with students* (M = 4.87, SD = 0.33), *I was accepted by other teachers on staff* (M = 4.36, SD = 0.90), *I was satisfied with my internship school* (M = 4.27, SD = 0.98) and *I contributed to the school community* (M = 4.25, SD = 0.98). The lowest mean items were *I was inducted into the school before my internship* (M = 3.48, SD = 1.55) and *My internship school had a positive view of online students* (M = 3.91, SD = 1.08). In terms of the schools' view of online students, a participant provided the comment:

> My school views online teachers favourably and are open for different types of students. I think due to my age and life experience as well as being able to manage my family commitments and online study, I have better resilience and aptitude.

This perception was not shared by all graduates, with one stating

> The external perception of online students is quite negative. Online students are initially perceived to be not as competent as on-campus students and this presented a barrier to placements and job opportunities.

The item: *I contributed to the school community* strongly and moderately positively correlated with all other 13 items, as did *I was accepted by the other teachers on staff,* with the exception of the item: *I interacted with parent(s)/carer(s)*. A strong positive correlation was noted between the graduates' satisfaction of the school and the item: *Staff at the school supported me during my internship* ($r = 0.734$, $p \leq 0.01$, N = 56).

Table 6 Participant's perceptions of the university

Survey item	Mean	Standard deviation
I sourced necessary information about the internship online	4.05	0.90
I understood how I was going to be assessed	4.30	0.89
I knew who to contact if I had an issue	4.39	0.76
The unit coordinator supported me during my internship	4.27	0.90
The professional experience staff supported me during my internship	3.87	1.27
The expectations outlined for the internship aligned with those of my mentor teacher and supervisors	4.21	0.89
The reality of the classroom aligns with university teaching	3.37	1.09
I accessed university online support	2.62	1.38
I understood how to access my internship reports	4.21	0.78
I was satisfied with the exit interview	3.98	1.45

N = 56

4.4.4   Perceptions of the University

The final section of the survey explored participants' perceptions of the university. Table 6 details the items, means and standard deviations.

The highest means related to items about knowing who to contact if there was an issue, understanding how they were going to be assessed and gaining support from the unit coordinator. The lowest mean related to accessing online university support during the WIL. A participant made the comment in terms of studying online and accessing support: *Feel a lot more isolated, you use school resources and people for support and help as opposed to university*. Illustrating the differences in viewpoints, another student noted: *I loved the online component and it was easy to source my professional experiences. Loads of online support*. Of interest is the item: *The reality of the classroom aligns with university teaching*, which had a minimum score of 1 and maximum of 5 and the mean in Table 5 indicates that there were graduates who perceived this to a reasonable extent. Interestingly this item was relatively strongly correlated with the item relating to the professional staff supporting the graduate during the WIL ($r = 0.602$, $p \leq 0.01$, N = 56). All items in this section of the survey correlated positively. The strongest positive correlation was between the items relating to the unit coordinator support and the professional experience staff support ($r = 0.776$, $p \leq 0.01$, N = 56).

4.5   Current Career Situation

52 of the 56 participants responded to items in this section. For the year following graduation, 48% reported they were employed as a full-time teacher, 18% as a part-time teacher, 27% as a casual relief teacher and 7% as other (e.g. education officer). Of the 52 respondents, 27% were employed at the school where they undertook their WIL.

The career intentions were for 84% to remain in teaching for their whole career, 14% for the short-term and 2% did not want a teaching career. Of those in the short-term group, it did not necessarily mean a move away from education, as one graduate noted:

> I want to expand my horizons and continue my own education journey. I am interested in developing innovative systems and tools for teachers rather than remain in a classroom forever.

One of the majority of graduates who intends to remain in teaching for their whole career explained:

> I enjoy being a part of children's education and I know I can motivate and inspire students to learn by supporting them emotionally and socially so they can achieve their best academically. I enjoy watching their growth; it is very rewarding.

5   Discussion

Contemporary issues confronting and reforming Australian ITE (see Fitzgerald & Knipe, 2016) also influence ITE policy and practice on a global scale. Reform and challenge are not new to ITE (Darling-Hammond, 2010); however, the past decade has seen an intensification and pace of reform across many contexts (Cochran-Smith, Stringer Keefe & Carney, 2018). Increased monitoring, evaluation and accountability of teaching and ITE (Ingvarson & Rowley, 2017) together with sustained critique of graduate teacher capacity, adequate recruitment, and retention of quality staff are all driving reform (Zeichner, Payne & Brayko, 2015). Equally, simplistic perspectives about disconnections between university-based and school-based teacher education inform discourse about ITE generally and the outcomes associated with it (British Educational Research Association, 2014). These complexities are reflected in the changing nature of teacher educators' work and their perceptions of it, particularly in relation to WIL (Curtis, Martin & Broadley, 2019). ITE students' active participation in perspectives about and influence over WIL (Thomson et al., 2017) is also part of the intricate weave of factors re-shaping ITE across global contexts.

One outcome of these rapid reforms has been the innovation and expansion of WIL components (Lawson et al., 2015). The online ITE programs reported here represent an innovative approach to WIL that sought to respond to the abovementioned global challenges by creating innovative spaces for ITE. This has resulted in

a shared responsibility for transforming practice and providing equitable access for students across diverse contexts (Cochran-Smith et al., 2018; Zeichner et al., 2015). Online ITE afforded many of the participants access to ITE who would otherwise be unable to access it (Pelliccione et al., 2019). The participating graduates in this study were predominantly female, mature-aged, have had previous careers and juggled child-rearing, family responsibilities and paid work in their local communities while undertaking their ITE, thus bringing a wealth of unique and valuable perspectives, knowledge and skills to their study (Beutel & Crosswell, 2013). These online ITE students reported being highly motivated to do their best in the WIL as they have much invested in their successful outcomes. Participants reported high overall satisfaction with WIL. They also valued the innovative approach taken by their university to engage school-based supervisors in the process. Providing the opportunities for ITE students to source a WIL placement school within their own local communities and to engage local supervising and mentoring teachers in an exit interview meant that responsibilities for the priorities and perspectives for the WIL could be shared between university-based and school-based teacher educators.

Teacher attrition is considered a wicked problem in many parts of the world (Kelchtermans, 2017), and is increasingly viewed as an economic cost and workforce planning issue, along with concerns about loss of expertise (Learning Policy Institute, 2017). There is some expectation that universities will contribute to reducing attrition through their preparation of teachers. Similarly, WIL within ITE has been described as persistently problematic (Southgate et al., 2013). Teachers' social and relational needs influence their preparation throughout these key times of development (Kelchtermans, 2017). This reflects other research that emphasises the interconnected components of the teaching career ecosystem that are critical to overall outcomes (Ingvarson & Rowley, 2017). The innovative approach to WIL within online ITE emphasises the essential links forged between ITE students and their local professional communities. This approach prioritises WIL placements within local contexts situated at great distances from the ITE provider. It also prioritises supervision arrangements that share responsibility authentically and meaningfully. This shared responsibility for WIL within fully online ITE resulted in just over a quarter of the participants of this study being employed at the school where they conducted their final WIL placement. This employment pathway reveals the capacity of the graduate teachers to navigate their fully online ITE and perform within the WIL placement to a standard sufficient to secure employment. Moreover, this success reveals that high-quality online ITE WIL is informed by evidence-based practice, effective digital tools and resources and draws on social learning theories in exceptional ways (Howell, Ferraccio Kaminski, Gazioglu & Oti-Aina, 2020). These features promote interaction, collaboration and shared responsibility for WIL while also emphasising the relational nature of ITE that is afforded through the fully online mode of delivery. In no small part, these facets contribute to most participating graduate teachers stating that they want to remain in teaching for their whole career.

6   Implications for Policy, Research and Practice

Globally, research into this approach to WIL is largely absent from the literature; therefore, it is recommended that this research focus be pursued and expanded, given the demographic diversity of ITE students, the geographic spread of this cohort and the growth of online ITE that supports their engagement and success. Insights gained about this component of fully online ITE are of global significance for ITE. As noted in this chapter, there is a sustained interest in the capacity of teachers and graduates in Australia and across the world (Bahr & Mellor, 2016; Teacher Education Ministerial Advisory Group, 2014). There is also a need to record and make public shared experiences of early career teacher attrition (Kelchtermans, 2017; Long et al., 2012) to contribute to retaining quality teachers in the profession. With the diversification of student cohorts and an ever-fluid multicultural population, there is also a need to attract, prepare and retain graduates from a broad range of communities.

It has been recognised that WIL in ITE will endure and evolve over time (Southgate et al., 2013). A number of lines of inquiry should provide valuable contributions to an understanding of the most salient factors that support success. One such inquiry could explore the ways in which students' own agency supports their success. Students in the online programs discussed in this project are scaffolded and supported to secure their own WIL placements, within a framework of agreements established between schools and the university. Indications are that this agency helps to enable success, but it is not well understood whether this is because the students seek placements in contexts in which they feel comfortable, whether the agency they feel or the skills they need to interact with the school or centre give them more confidence as they begin their placements, or perhaps that the school staffs themselves are more positively receptive to students who are acting with agency and establishing relationships directly with them prior to the commencement of their placements. Another fruitful area for research could be to examine the impact of students being able to manage their placements so as not to disrupt their family life; particularly for those students residing in regional and remote locations.

The research findings contribute to a deeper understanding of the impact of fully online ITE programs; they provide evidence-based understandings of the outcomes associated with innovative practices in this space. As the need for greater access to and flexible engagement with ITE expands, these insights and understandings will signal new starting points for others to innovate further. As a result, the understandings gained here may be influential within other global contexts. These insights may be significant where online delivery supports broad and equitable access to high-quality ITE. The benefits are likely to be considerable for diverse learners who may be unable to access these opportunities through other modes (Pelliccione et al., 2019). The findings also have relevance in relation to career outcomes and experiences of fully online graduates in other contexts and disciplines. The findings from this study will therefore assist in continuing to develop professional learning programs that are responsive to the evolving needs of online students globally.

References

Australian Institute for Teaching and School Leadership. (AITSL). (2018a). Accreditation of initial teacher education programs in Australia: Standards and procedures. Melbourne, VIC: AITSL. Retrieved from https://www.aitsl.edu.au/tools-resources/resource/accreditation-of-initial-teacher-education-programs-in-australia-standards-and-procedures.

Australian Institute for Teaching and School Leadership (AITSL). (2018b). Spotlight: The rise of online initial teacher education: what do we know? Melbourne, VIC: AITSL. Retrieved from https://www.aitsl.edu.au/docs/default-source/research-evidence/spotlight/spotlight_ite_online__.pdf?sfvrsn=22a8f73c_6.

Australian Institute for Teaching and School Leadership. (AITSL) (2011). Australian professional standards for teachers. Carlton South, Victoria: Education Services Australia. Retrieved from https://www.aitsl.edu.au/docs/default-source/national-policy-framework/australian-professional-standards-for-teachers.pdf?sfvrsn=5800f33c_64.

Bahr, N., & Mellor, S. (2016). *Building quality in teaching and teacher education*. Camberwell, Victoria: Australian Council for Educational Research.

Beutel, D., & Crosswell, L. (2013). *The long way round: Graduate entry preservice teachers' pathways into teaching*. Paper presented at the TARC International Conference on Learning and Teaching. Kuala Lumpur, Malaysia.

British Educational Research Association. (2014). Research and the teaching profession: Building the capacity for a self-improving education system. Final report of the BERA-RSA inquiry into the role of research in teacher education. London: BERA.

Burgess, J., Cameron, R., Dhakal, S., & Brown, K. (2018). Introduction: Applicant work-readiness and graduate employability challenges in Asia-Pacific. In R. Cameron, S. Dhakal, & J. Burgess (Eds.), *Transitions from education to work: Work-ready challenges in the Asia-Pacific* (pp. 3–15). Abingdon, Oxon: Routledge.

Caires, S., Almeida, L. S., & Martins, C. (2009). The socioemotional experiences of student teachers during practicum: A case of reality shock? *The Journal of Educational Research, 103*(1), 17–27. https://doi.org/10.1080/00220670903228611.

Cameron, C., Freudenberg, B., Giddings, J., & Klopper, C. (2018). The program risks of work-integrated learning: A study of Australian university lawyers. *Journal of Higher Education Policy and Management, 40*(1), 67–80. https://doi.org/10.1080/1360080X.2017.1377969.

Cochran-Smith, M., Stringer Keefe, E., & Carney, M. C. (2018). Teacher educators as reformers: Competing agendas. *European Journal of Teacher Education, 41*(5), 572–590. https://doi.org/10.1080/02619768.2018.1523391.

Cooper, M., Ortlipp, M., Ryan, J., Walker-Gibbs, B., & White, S. (2011). Strengthening work integrated learning (WIL) experiences for rural education students: Exploring community based partnerships. In *Researching across boundaries: Proceedings of the Australian Association for Research in Education 2011 Annual Conference*, Australian Association for Research in Education, Hobart, TAS.

Crosswell, L., & Beutel, D. (2013). A bridge over troubling waters: A snapshot of teacher graduates' perceptions of their ongoing professional learning needs. *Asia-Pacific Journal of Teacher Education, 41*(2), 144–158. https://doi.org/10.1080/1359866X.2013.777022.

Curtis, E., Martin, R., & Broadley, T. (2019). Reviewing the purpose of professional experience: A case study in initial teacher education reform. *Teaching and Teacher Education, 83,* 77–86. https://doi.org/10.1016/j.tate.2019.03.017.

Dann, C. & Allen, B. (2013). Using mobile video technologies to enhance the assessment and learning of pre-service teachers in Work Integrated Learning (WIL). In R. McBride & M. Searson (Eds.), *Proceedings of SITE 2013-Society for Information Technology & Teacher Education International Conference* (4231–4238). New Orleans, LA: Association for the Advancement of Computing in Education (AACE). Retrieved from https://www.learntechlib.org/primary/p/48790/.

Darling-Hammond, L. (2006). Constructing 21st-Century teacher education. *Journal of Teacher Education, 57*(3), 300–314. https://doi.org/10.1177/0022487105285962.

Darling-Hammond, L. (2010). Teacher education and the American future. *Journal of Teacher Education, 61*(1–2), 35–47. https://doi.org/10.1177/0022487109348024.

Downing, J. J., & Dyment, J. E. (2013). Teacher educators' readiness, preparation and perceptions of preparing preservice teachers in a fully online environment: An exploratory study. *The Teacher Educator, 48*(2), 96–109. https://doi.org/10.1080/08878730.2012.760023.

Fitzgerald, T., & Knipe, S. (2016). Policy reform: Testing times for teacher education in Australia. *Journal of Educational Administration and History, 48*(4), 358–369. https://doi.org/10.1080/00220620.2016.1210588.

Fosnacht, K., Sarraf, S., Howe, E., & Peck, L. (2017). How important are high response rates for college surveys? *Review of Higher Education, 40*(2), 245–265. https://doi.org/10.1353/rhe.2017.0003.

Freestone, R., Williams, P., Thompson, S., & Trembath, K. (2007). A quantitative approach to assessment of work-based learning outcomes: An urban planning application. *Higher Education Research and Development, 26*(4), 347–361.

Gardner, S. (2011). Stress among prospective teachers: A review of the literature. *Australian Journal of Teacher Education, 36*(1), 18–28.

Grauer, K. (2012). A case for case study research in education. In S. R. Klein (Ed.), *Action research methods: Plain and simple* (pp. 69–79). New York, NY: Palgrave Macmillan.

Hamel, F. L., & Jaasko-Fisher, H. A. (2011). Hidden labor in the mentoring of pre-service teachers: Notes from a mentor teacher advisory council. *Teaching and Teacher Education, 27*(2), 434–442. https://doi.org/10.1016/j.tate.2010.09.013.

Howell, E. S., Ferraccio Kaminski, R., Gazioglu, M., & Oti-Aina, O. (2020). Bolstering reflective practice through digital tools in an online practicum. In R. Karchmer-Klein, & K. Pytash (Eds.), *Effective practices in online teacher preparation for literacy educators* (pp. 1–23). Hershey, PA: IGI Global. https://doi.org/10.4018/978-1-7998-0206-8.ch012.

Ingvarson, L., & Rowley, G. (2017). Quality assurance in teacher education and outcomes: A study of 17 countries. *Educational Researcher, 46*(4), 177–193. https://doi.org/10.3102/0013189X17711900.

Jackson, D. (2018). Challenges and strategies for assessing student workplace performance during work-integrated learning. *Assessment & Evaluation in Higher Education, 43*(4), 555–557. https://doi.org/10.1080/02602938.2017.1378618.

Jackson, D., Rowbottom, D., Ferns, S., & Mclaren, D. (2016). Employer understanding of work-integrated learning and the challenges of engaging in WIL opportunities. *Studies in Continuing Education, 39*(1), 35–51. https://doi.org/10.1080/0158037X.2016.1228624.

Kelchtermans, G. (2017). 'Should I stay or should I go?': Unpacking teacher attrition/retention as an educational issue. *Teachers and Teaching, 23*(8), 961–977. https://doi.org/10.1080/13540602.2017.1379793.

Kertesz, J. L., & Downing, J. (2016). Piloting teacher education practicum partnerships: Teaching Alliances for Professional Practice (TAPP). *Australian Journal of Teacher Education, 41*(12), 13–24. http://dx.doi.org/10.14221/ajte.2016v41n12.2.

Lawson, T., Çakmak, M., Gündüz, M., & Busher, H. (2015). Research on teaching practicum-a systematic review. *European Journal of Teacher Education, 38*(3), 392–407. https://doi.org/10.1080/02619768.2014.994060.

Learning Policy Institute (2017). What's the cost of teacher turnover? Retrieved from https://learningpolicyinstitute.org/product/the-cost-of-teacher-turnover.

Le Cornu, R. (2016). Professional experience: Learning from the past to build the future. *Asia-Pacific Journal of Teacher Education, 44*(1), 80–101. https://doi.org/10.1080/1359866X.2015.1102200.

Le Cornu, R. (2015). *Key components of effective professional experience in initial teacher education in Australia*. Melbourne, VIC: Australian Institute for Teaching and School Leadership.

Le Cornu, R., & Ewing, R. (2008). Reconceptualising professional experiences in pre-service teacher education: Reconstructing the past to embrace the future. *Teaching and Teacher Education, 24*(7), 1799–1812. https://doi.org/10.1016/j.tate.2008.02.008.

Leech, N., & Onwuegbuzie, A. (2008). A typology of mixed methods research designs. *Quality & Quantity, 43*(2), 265–275. https://doi.org/10.1007/s11135-007-9105-3.

Long, J. S., McKenzie-Robblee, S., Schaefer, L., Steeves, P., Wnuk, S., Pinnegar, E., et al. (2012). Literature review on induction and mentoring related to early career teacher attrition and retention. *Mentoring & Tutoring: Partnership in Learning, 20*(1), 7–26. https://doi.org/10.1080/13611267.2012.645598.

Martin, A. J., Rees, M., Fleming, J., Zegwaard, K. E. & Vaughan, K. (2019). Better WIL supervisors, better WIL students. In K. E. Zegwaard & K. Hoskyn (Eds.) *New Zealand Association for Cooperative Education 2019 Refereed Conference Proceedings*. Retrieved from https://www.researchgate.net/profile/Karsten_Zegwaard/publication/335590220_New_Zealand_Association_for_Cooperative_Education_2019_Refereed_Conference_Proceedings/links/5d6ede3a92851c1b3b278733/New-Zealand-Association-for-Cooperative-Education-2019-Refereed-Conference-Proceedings.pdf#page = 35.

McInerney, P., Smyth, J., & Down, B. (2011). 'Coming to a place near you?' The politics and possibilities of a critical pedagogy of place-based education. *Asia-Pacific Journal of Teacher Education, 39*(1), 3–16. https://doi.org/10.1080/1359866X.2010.540894.

Merriam, S. B. (Ed.). (1998). *Qualitative research and case study applications in education: Revised and expanded from case study research in education* (2nd ed.). San Francisco, CA: Jossey-Bass Publishers.

Moran, A. (2008). Challenges surrounding widening participation and fair access to initial teacher education: Can it be achieved? *Journal of Education for Teaching, 34*(1), 63–77. https://doi.org/10.1080/02607470701773481.

Oliver, B. (2015). Redefining graduate employability and work-integrated learning: Proposals for effective higher education in disrupted economies. *Journal of Teaching and Learning for Graduate Employability*, *6*(1), 56–65. http://dx.doi.org/10.21153/jtlge2015vol6no1art573.

Pelliccione, L., Morey, V., Walker, R., & Morrison, C. (2019). An evidence-based case for quality online initial teacher education. *Australasian Journal of Educational Technology, 35*(6), 64–79. https://doi.org/10.14742/ajet.5513.

Prikshat, V., Nankervis, A., Burgess, J., & Dhakal, S. (2018). Conceptualising graduate work-readiness: Theories, concepts and implications for practice and research. In S. Dhakal, V. Prikshat, A. Nankervis, & J. Burgess (Eds.), *The transition from graduation to work: Work, organisation, and employment* (pp. 15–29). Singapore: Springer.

Productivity Commission (2019). The demand driven university system: A mixed report card. Canberra, ACT: Commission Research Paper. Retrieved from https://www.pc.gov.au/research/completed/university-report-card.

Sim, C. (2011). 'You've either got [it] or you haven't'-conflicted supervision of preservice teachers. *Asia-Pacific Journal of Teacher Education, 39*(2), 139–149. https://doi.org/10.1080/1359866X.2011.560653.

Smith, C. (2012). Evaluating the quality of work-integrated learning curricula: A comprehensive framework. *Higher Education Research & Development, 31*(2), 247–262. https://doi.org/10.1080/07294360.2011.558072.

Smith, C., Ferns, S., & Russell, L. (2014). *The impact of work-integrated learning on student employment readiness*. Sydney, NSW: Office for Learning and Teaching. Retrieved from http://www.olt.gov.au/system/files/resources/SI11_2139_Smith_Report_2014.pdf.

Smith, C., & Worsfold, K. (2014). WIL curriculum design and student learning: A structural model of their effects on student satisfaction. *Studies in Higher Education, 39*(6), 1070–1084. https://doi.org/10.1080/03075079.2013.777407.

Southgate, E., Reynolds, R., & Howley, P. (2013). Professional experience as a wicked problem in initial teacher education. *Teaching and Teacher Education, 31*(1), 13–22. https://doi.org/10.1016/j.tate.2012.11.005.

Spooner-Lane, R., Tangen, D., & Campbell, M. A. (2011). The complexities of supporting Asian international pre-service teachers as they undertake practicum. *Asia–Pacific Journal of Teacher Education, 37*(1), 79–94. https://doi.org/10.1080/13598660802530776.

Stokes, R. (2018). How universities lower teacher standards by focusing on profit. *The Sydney Morning Herald*. Sydney, NSW: Fairfax Media.

Stone, C., O'Shea, S., May, J., Delahunty, J., & Partington, Z. (2016). Opportunity through online learning: Experiences of first-in-family students in online open-entry higher education. *Australian Journal of Adult Learning, 56*(2), 146–169.

Teacher Education Ministerial Advisory Group. (2014). Action now: Classroom ready teachers. Canberra, ACT: Department of Education and Training. Retrieved from http://www.studentsfirst.gov.au/teacher-educationministerial-advisory-group.

Thomson, K., da Silva, R., Draper, P., Gilmore, A., Majury, N., O'Connor, K., et al. (2017). Student voice in work integrated learning scholarship: A review of teacher education and geographical sciences. *Teaching & Learning Inquiry, 5*(1), 1–13. http://dx.doi.org/10.20343/teachlearninqu.5.1.4.

Tran, T. T. (2016). Enhancing graduate employability and the need for university-enterprise collaboration. *Journal of Teaching and Learning for Graduate Employability, 7*(1), 58–71. https://doi.org/10.21153/jtlge2016vol7no1art598.

Yin, R. (2018). *Case study research and applications: Design and methods*. Thousand Oaks, CA: SAGE publishing.

Zeichner, K., Payne, K., & Brayko, K. (2015). Democratizing teacher education. *Journal of Teacher Education, 66*(2), 122–135. https://doi.org/10.1177/0022487114560908.

Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education, 61*(1–2), 89–99. https://doi.org/10.1177/0022487109347671.

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Chapter 16
'Birds of a Feather Flock Together!': Rural Teacher Recruitment Policy and Retention in and for Hard-to-Staff Ugandan Schools

Gilbert Arinaitwe, John Williamson, and Sue Kilpatrick

Abstract This chapter reports on findings from a qualitative case study conducted in four rural Ugandan public secondary schools in two districts from March to October 2018. The study explored why some teachers stay while others leave rural teaching positions. Data collection methods included interviews, policy document analysis and researcher's journal reflections. Interview data were collected from 20 teachers, 4 head teachers, 3 Parents & Teachers Association chairpersons, 2 Board of Governors chairpersons and 2 community leaders. A thematic analysis of data was pursued using an iterative process. The central findings reported in this chapter include the dynamic interaction between the Ministry of Education (MoE) policy, the government officials, schoolboards, head teachers and parents; the inherent trade-offs, massaged tensions and changing dynamics that have major impact on teacher retention, teacher quality and student outcomes; and the role of history of religion and culture in influencing the staffing of schools.

1 Introduction and Aims

Staffing rural schools with well qualified teachers is an international issue, including in Australia (Aspland, 2006; Reid et al., 2011; Rice, Richardson, & Watt, 2017); Canada (Fantilli & McDougall, 2009); the US (Ingersoll, 2004); Ireland (O'sullivan, 2006); Sweden (Lindqvist, Nordänger, & Carlsson, 2014); Finland (Heikkinen, Jokinen, & Tynjälä, 2012); China (Liu & Onwuegbuzie, 2012) and Africa (Mulkeen, Chapman, DeJaeghere, & Leu, 2007).

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Globally, high teacher mobility and attrition rates are reported among schools in rural locations which are often classified 'hard-to-staff' schools (Opfer, 2011). In most urbanised countries, these rural schools serve minority and Indigenous populations such as in Australia and New Zealand (Bradley, Draca, Green, & Leeves, 2007), US (Ingersoll, 2004) and Canada (Cherubini, 2008). In Asia and Africa, these rural schools serve children from families with incomes that are generally much less than those in urban areas (Mulkeen & Crowe, 2010). In Uganda, these 'hard-to-staff' schools additionally have been labelled 'hard to reach' by the Ministry of Education (MoE) due to their remoteness and isolation. In addition to teacher turnover, the demand for teachers has increased in the past two decades due to the introduction of universal education at primary (in 1997), lower secondary (2007) and upper secondary (2012) levels. The increased student numbers has resulted in teacher shortages (Asankha & Takashi, 2011). Furthermore, a shortage of science and mathematics specialist teachers is evident in rural schools (Urwick & Kisa, 2014) as in many other countries, including Australia (Weldon, 2015).

This chapter presents data from Uganda on the interplay between the implementation of MoE policies and rural staffing decisions. The findings are positioned in the international context because of Uganda's common history with many other British Commonwealth countries whose education system was modelled on the English system (Aspland, 2006).

2 Country Context

As in many other British Commonwealth countries, school education in Uganda was initially established by religious bodies and private individuals. These schools later started receiving government funding for staffing and resourcing public education (Ssekamwa, 1997). The government established its own schools to provide access to education for those who did not get places within religious and privately founded schools (Ssekamwa, 1997). Within this framework, the original foundation bodies for schools retained an influence in teacher recruitment and retention (Ssekamwa, 1997). Therefore, the public school system is comprised of government established and government-aided schools which altogether make 34% of secondary schools in Uganda. This has been legislated by the Education Act (2008) that requires Foundation Bodies to (a) have representatives including the chairperson on the Board of Governors (b) ensure proper management and promotion of the selected values and attitudes and (c) be consulted by MoE in deployment of head teachers in schools of their foundation.

The secondary education public school system includes 916 non-tuition fee paying schools, also called Universal Secondary Education (USE) schools and 103 tuition fee paying schools (non-USE) (Ministry of Education, 2017). USE is implemented in prescribed schools (one school in each administrative unit called 'sub-county') and parents still provide 'contributions' towards payment of teachers, and therefore secondary education is neither universal nor free (Chapman, Burton, & Werner, 2010);

it provides a lower cost education in comparison to the non-USE school system. This chapter presents data from rural public USE schools specifically focusing on the alignment between government policy and school-based staffing decisions.

The majority of USE schools are in rural areas and Uganda's population is predominantly rural with an average growth rate of 2.7% for the period between 2008 and 2018, although the proportion of rural population has decreased from 81% to 76% over this period. The rural people identify with the first language or mother tongue for their tribe but also are expected to learn English, the official language and medium of instruction, which was retained after the colonial era in the quest for a common language. Consequently, most rural areas are predominantly monolingual and typically English literacy levels are low. In this context, proficiency in local languages in rural areas influence teacher integration into the wider community. Nonetheless, all schools that receive government financial support are expected to employ teachers on conditions that meet the Employment Act 2006 and Education Act (2008), which specify that employment decisions should be based on merit irrespective of the applicant's religion, tribe or culture. The legislation is designed to attract quality teachers who can provide quality education.

3 Research Approach

This chapter reports findings from a qualitative multi-case study (Yin, 2017) that explored the lived experiences of teachers and rural schoolboards in teacher recruitment and retention in rural public secondary schools in Uganda. Data were gathered through document analysis and semi-structured interviews (Creswell & Poth, 2017). Ethics approval was obtained from the Tasmania Social Sciences Human Research Ethics Committee. The data were obtained from two districts (Kanungu and Kisoro) selected from 24 districts that the MoE described as both hard to reach and hard to staff. The two selected districts had 22 rural public secondary schools, 15 of these were founded by various religious bodies, 5 by community and 2 by government. The school records obtained from both districts at the onset of this study indicated schools had independently recruited about a third of the teachers as shown in Fig. 1.

Figure 1 shows that the government does not provide sufficient teachers. In the context of regular understaffing due to shortfalls in government revenue (Kuteesa, Magona, Wanyera, & Wokadala, 2007), the schools recruit teachers to ensure there is a trained teacher in front of each class.

Furthermore, the performance of students attending school in rural areas has persistently been lower than their urban counterparts. A snapshot of Uganda Certificate Examinations (UCE) records, i.e. national examinations undertaken at the end of lower secondary, (Figs. 2 and 3) illustrates this outcome in the two case study districts.

As seen from Fig. 2, for the period 2011–2017 urban schools had a higher percentage of students in Division 1 (the top brand of student performance) than did rural schools. On the other hand, Fig. 2 shows that rural USE public schools had a higher
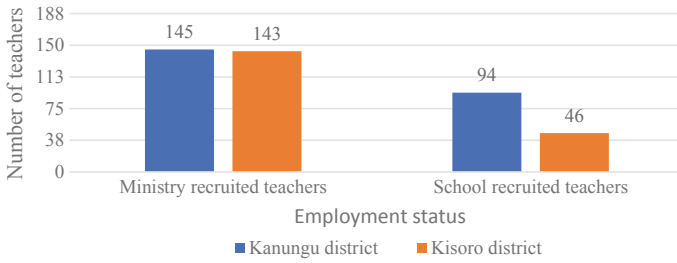
Fig. 1 Teachers' employment status in rural public secondary schools in Kanungu and Kisoro districts in 2018
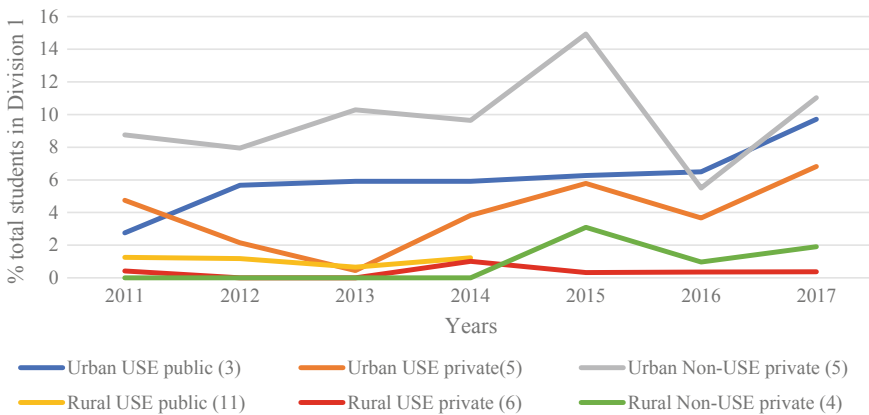
Fig. 2 UCE performance of Kanungu secondary education systems *Footnote* The figures in brackets denote the number of schools per school system. *Source* (African Centre for Media Excellence, 2017; The Observer, 2018, February 19)

percentage of total students in Division 1 than other rural schools (Rural USE private and Rural Non-USE private) but have not had any students who obtained Division 1 since 2014. This shows a decline in rural USE school performance in Kanungu district.

In addition, rural public schools in Kisoro district (Fig. 3) had a higher percentage of students in Division 1 than rural private school systems, a pattern that contrasted with Kanungu district. However, Figs. 2 and 3 reveal a lack of choice of school systems in certain districts. For example, the Urban Non-USE public school system was not present in Kanungu district whereas Urban USE private and Urban Non-USE public were not present in Kisoro district. Therefore, to facilitate a reasonable comparison, this study focused on rural USE public school systems in the two districts, which showed low student performance.

The sample included 2 religious founded schools and 2 government founded schools, one of each school type selected from 2 districts. The schools were selected because they had relatively high teacher retention for their district. Because the
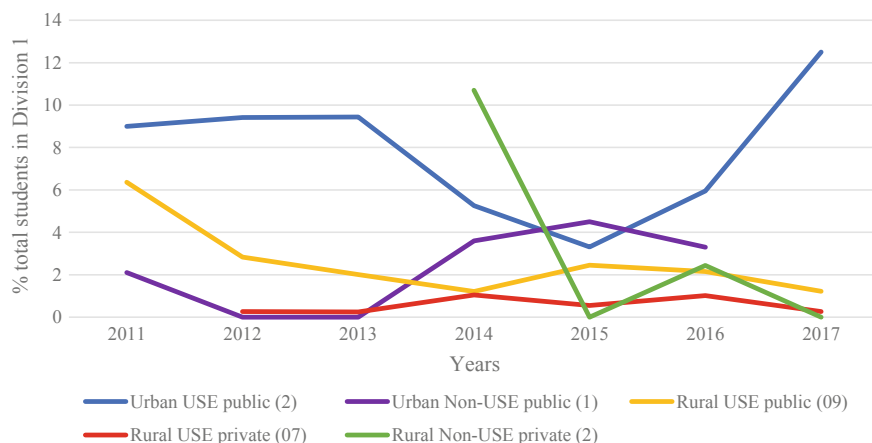
Fig. 3 UCE performance of Kisoro education systems *Footnote* The figures in brackets denote number of schools per school system. *Source* (African Centre for Media Excellence, 2017; The Observer, 2018, February 19)

focus of this study was to obtain information-rich cases about hard-to-staff positions in hard-to-staff schools, a total of 31 participants including 4 head teachers, 3 Parents & Teachers Association (PTA) chairpersons, 2 Board of Governors (BOG) chairpersons, 2 community leaders and 20 teachers from the hard-to002Dstaff subjects of English, Science and Mathematics were selected using a combination of opportunistic and purposeful sampling techniques (Ritchie, Lewis, & Elam, 2003; Robinson, 2014). These techniques allowed for on-the-spot sampling decisions that emerged during fieldwork (Suri, 2011). Verbatim transcription and member checking (Birt, Scott, Cavers, Campbell, & Walter, 2016) was conducted with all participants. They all confirmed the records and did not add new information. Data were analysed deductively and inductively adapting the thematic analysis steps of Braun and Clarke (2006). NVivo, nodes and themes were developed from the transcribed data. Using an iterative process (Bazeley, 2013), themes were re-identified and a process of theorising the findings was initiated. To protect participants' confidentiality, participant quotes are presented using pseudonym names.

4   Findings

This section first presents findings related to recruitment policy implementation practice and then presents three overlapping themes, namely, social connections, shared cultural and religious values and low-quality staff, portraying biographies of recruited teachers who were perceived to stay longer in Ugandan rural schools.

4.1 Recruitment Policy Subversion

All participants reported that the staffing requests regularly submitted to MoE were not met, as shown in Fig. 1. As a coping strategy, Boards of Governors authorised head teachers to 'temporarily' employ more teachers to supplement those appointed by government while waiting for government to fill the staffing positions. In moving to address their school's needs, head teachers have not complied with the MoE policies regarding merit recruitment; they have acted autonomously to fill staffing gaps left by the Ministry. Typically, the rural schools followed a 'referral procedure', that is, someone of 'good standing' in the community or current teachers would nominate a possible candidate to the head teacher.

The teachers employed in this manner were not given the same conditions and salary as the Government appointed teachers. These teachers accepted poorer conditions as they waited for better-paid government positions. Some head teachers reported that the teachers recruited by the school were not issued contracts, not paid during school holidays, had no statutory deductions (e.g. superannuation and tax) and no leave benefits. This common theme is illustrated by Elijah's statement:

> We recruit them on temporary terms. We simply keep them here hoping government will recruit them. They stay because they have no alternative. If they had, they would go away. We know we pay them little. But again, we aren't against them. We don't pay salary to them. We call it transport refund. We don't give them appointment letters. It is unfair, but we can't help it. (Elijah, head teacher school D)

Elijah's report starkly demonstrated how local school authorities ignored Ugandan employment laws to cope with their school's understaffing. Moreover, the data also showed that when MoE positions became available, the head teachers felt obligated to strongly support those teachers they had employed rather than consider merit-based appointments from outside. Nonetheless, the Ministry advertised externally for these positions and conducted the selection process as required by policy. This selection process was 'worked around' by local school headteachers recommending teachers—presently on their staff—to be confirmed into service by the Ministry. In addition, most head teachers controlled Ministry-based teachers' transfers by first providing a release letter from the current head teacher and a cover letter from the head teacher of the preferred school for the Ministry to effect the transfer.

4.2 Connections Developed During School and ITE Education

This research found that most teachers at a rural school were born in the same workplace district, had attended secondary education and conducted initial teacher education (ITE) practicum in schools nearby to ITE providers. This early exposure to the school and community enabled former students to connect with school authorities and were perceived to be a better fit for the school. For instance, Elvis reported:

> I am an OB (old boy) of the school which gives me the attachment. Having excelled in those subjects very well, which even I teach now, (my former) teachers welcomed me. I think that is why later the head teacher recommended me and I passed the interview by Ministry (for government job). (Elvis, teacher School B)

Rather than his ITE course grades, Elvis reported that it was his school-based academic performance that helped him secure the job, first recruited by the school and later securing a government job with recommendation of the school head teacher. Elvis reported that he was a good role model as a student and so his teachers knew he could continue his respectful behaviour. Similar experience was shared by James:

> This is my school right away from primary to secondary. And when I was here, I was well behaved, and I studied on (a school) bursary. I also did my school practicum in this school. So, when I came in this school, it is as if I was coming home. (James, teacher School B)

These former students identified with the school. The school authorities sought out former students because of the behaviour that compliments the school ethos. The implication was that rural school students who performed less than urban students in national examinations (as shown in Figs. 2 and 3) and went on to train as teachers tended to return to their home communities as teachers and hence, it can be argued, further weakened the quality of rural education.

The data suggests that most teachers in these rural schools were teaching where they had completed their initial teacher education (ITE) practicum. The experience provided opportunity to connect for future employment in the same school. The respondents reported that factors such as limited financial resources meant that school practicum placement needed to be close to their home or relatives. In addition, the location of the ITE provider enhanced the staffing opportunities of schools within their region. This need to be close to the ITE provider and affordable accommodation was generally combined with initial employment. For example:

> I completed my diploma at Kabale National Teachers College in 1999. I came to this school for school practicum and thereafter, I continued teaching. I found it easy to come to this school because it was near my parents' home. (Raymond, teacher School D)

Kabale National Teachers College was the nearest regional college for all schools sampled. As reported by Raymond, the location of ITE and school practicum placement were mediated by another factor, namely, the preference to teach near home. In addition, location of nearby ITE providers further attracted teachers from distant districts to nearby schools such as the case of Gideon:

> I studied from Kabale National Teachers College. Although my home area is a bit far in Parisa district, Eastern Uganda, when I was studying in Kabale I made friends. After our studies, they are the ones who linked me up. They told me of an opportunity here… I had to come and apply. I was given a job. (Gideon, teacher School D)

Gideon's comment highlights that the social networks developed during ITE course enabled him to secure a job in a school near the ITE institution as a result of the 'referral' recruitment system. The outcome of local schoolboards recruiting without broad advertisement of vacant posts by using this 'referral method' was twofold: (i)

schools typically were able to attract and retain mostly low-quality teachers and (ii) schools employed applicants that resulted in the formation of an homogenous staff that shared the ethnic/cultural and religious identities of the local community. This is described in the next section.

4.3   Homogeneous Staff

A major outcome of the referral method identified by this research was the emergence of homogenous staffs, as schools prioritised the employed of staff who shared ethnic and religious values rather than those demonstrating academic excellence.

4.3.1   Shared Ethnicity and Culture

Both schools and teachers worked around the Ministry's teacher recruitment and transfer policy to secure (a) teachers who preferred the school near their home and (b) teachers who preferred schools in areas with similar sociocultural profile to their home. As reported by Albert:

> At first, we had this problem of teacher turnover. Some teachers could come and after two years you hear they have been transferred. Most of the teachers who could run away were teachers who are from out of … (this)… district. These people … would be posted (here), after accessing the payroll, you hear that they are going away, opting for a transfer. We opted for teachers who come from around here… (Albert, head teacher School B)

Albert's report was common in identifying how recent graduates accepted rural deployment to access a government job and then used this as a stepping stone to transfer to preferred urban locations after completing the compulsory years. To obtain teachers who would commit to stay longer, Albert reported that school authorities employed teachers seen as 'homegrown'. The homegrown teachers were described as teachers that shared ethnic and cultural identity and first language with the rural community. For instance, Deborah said 'I did not feel any reason to transfer and leave knowing there is no other teacher of English able to handle the students. These are my people! Why should I leave them stagnant and I go to teach others?' (Deborah, teacher school A). Similarly, Brian, also a homegrown teacher, said:

> We are teaching our own people. We are nurturing our own people. They need to benefit from us, the commoners [sic] of the area. So sometimes, I feel comfortable to work in an area where I am born rather than taking my knowledge somewhere else. (Brian, teacher School A)

Both Deborah and Brian, along with other interviewees, indicated that the shared ethnic identity with rural communities influenced their decision to stay.

In addition to the important instructional teaching activities many of the homegrown teachers reported they perceived themselves as role models to students and also played a major role in linking rural parents and school authorities. For example, Kevin said

> We are like ambassadors of this rural area. We hear people say that 'if our students are being taught by this very person, then they are in safe hands'. Because, if I can tell you, those people from where I come from, most of them trust me with their children and sometimes you find them asking me how their children are performing. And probably if the children have other bad behaviours, then I am a point of reference. And even the children behave well at school and at home because they know I can tell their parents and school administration. (Kevin, teacher school C)

Kevin reported the role played by homegrown teachers in monitoring students' behaviour both in and outside school. In the context of high student dropout rates in rural communities, this research found that homegrown teachers provided more support for rural students to stay in school. Kevin also reported the bridging role that homegrown teachers play between the school authorities and parents. This was important because rural parents and students were reported to have low English proficiency, the official language for all Ministry and school communications to parents and the mandated medium of instruction in schools. Consequently, the parents trusted homegrown teachers to interpret or translate communications. Students also expected teachers to be bilingual in instruction. The respondents indicated that schools coped with the language policy tension by recruiting teachers familiar with the first language of the rural community.

The issue of proficiency in local language was also reported by Gideon, a newcomer teacher.

> Going to the community, I always went with teachers in the evening hours. Because I never knew the language very well, I would communicate with teachers but for now I know their local language. If I go, I can communicate very well with any person in the community. Being a Bantu, and the Bakiga are also Bantu, it was not difficult for me to understand the language. Within like two months, I had known most of the things. (Gideon, teacher school D)

As indicated by Gideon and other participants, homegrown teachers served as boundary crossers (Kilpatrick, Cheers, Gilles, & Taylor, 2009) to induct newcomer teachers into the wider local community. In addition, this research found newcomer teachers were attracted and stayed longer in rural communities because of the similarity of the cultural environment to the communities in which they grew up. In the case study schools, almost all newcomer teachers were from either adjacent districts or shared Bantu ethnic identity with the rural communities and students. For example, a newcomer teacher from an adjacent district said, 'Compared to the place I was born, life …. (here)… is relatively the same because language is the same, food is the same, people socialise the same way, so life is the same' (Norman, teacher school C). Both Norman and Gideon indicated that knowledge of local language enabled them to fit into the community.

4.3.2 Religious Values and School Ethos

The Education Act (2008) requires MoE to 'consult' with the Foundation Bodies of government-aided public schools on the appointment of head teachers for their schools. Consequently, head teachers were endorsed by the school's Foundation

Body. In addition, Foundation Bodies were responsible for the promotion of values within schools of their foundation. As a result, through the head teacher, Foundation Bodies appointed teachers who reflect or embrace their values. An example was provided by Stanley:

> This is a Church founded school and so, as a Church, we have a big interest in the school and the school must make sure that students get education [sic]. So, we look at different parameters. Is this person promoting most of the values of the foundation body? Are these values being instilled within the students? And to me if somebody is delivering, he can stay in the school as long as he wants. (Stanley, Board of Governors Chairperson, school B)

Stanley reported 'different parameters' for recruitment and retention of teachers that the Foundation Body considered. The data strongly indicated that, on one hand, the MoE focused on a teacher's knowledge and skills while the Foundation Body focused on the teacher's values to be role models in instilling a particular values education. Consequently, teachers sought positions in schools founded by their religious affiliation or schools with which they shared an ethos. For example, Daniel reported:

> Because of my status as a priest, the bishop loved that I came to this school to chaplain it and then work as a teacher (of English). So that one consolidated my capacity to and my chance to come to this school. (Daniel, teacher school B)

Daniel reported that the Foundation Body influenced his recruitment and retention in the school as both a school chaplain and a teacher of English. In this case, the MoE recruitment process was worked around to secure an appointment for a teacher who matched values rather than competences in knowledge and skills. In addition, the findings also indicate that teachers with different religious affiliations who adapted to values of the school were also retained.

4.3.3   Low-Quality Staff

Another major outcome of this referral method was attraction and retention of low-quality staff. The guidelines from MoE required teachers with a minimum qualification of a Diploma in Education to teach lower secondary (S1–S4) and teachers with a minimum qualification of a Bachelor of Education degree to teach upper secondary (S5–S6). Participants reported that due to understaffing, some teachers were deployed to teach subjects they were not trained to teach, and others taught at a level they were not qualified to teach. As Richmond said, 'At times we employ some people who are not competent and for that matter it affects the performance of our students'. (Richmond, PTA Chair school D). In addition, there was concern about the competence of those with the required qualifications. Stanley stated:

> The competences of teachers are a big challenge. Not all can teach the upper section of lower secondary and others may lack competences to handle upper secondary level. Because what happens is 'star', that is, very good teachers with high competences tend to remain in urban areas. Then those who lack certain competences go to rural areas. If you are in high demand, you go to urban. If you are not in high demand, you go to or remain in rural. (Stanley, BOG Chair school B)

Stanley highlighted that rural schools were often staffed by low-quality teachers who were not able to improve student performances and that competent teachers in a high demand subject areas tended to be appointed to an urban school. He also noted that through a process of informal sifting, teachers with little or no curriculum expertise and weaker teaching competences were then employed in a rural school. This, in turn, weakened and limited the options available for the rural students to effectively learn and this cycle helps to explain the poor results shown in Figs. 2 and 3.

As a coping strategy, local school authorities sought to supplement their existing less qualified or out-of-subject teachers with more competent teachers from urban schools on a part-time basis. This has resulted in a 'game of buying talent' which ignored the guidelines from the Ministry of Education that discouraged full-time teachers from multiple jobholding.

5 Discussion

One key finding in this chapter is the subversion or 'working around' of the MoE employment policies by rural school authorities to obtain teachers, who would be employed by the school and whom they perceived would be able to fit in the rural community and stay longer. Consistent with Oliver (1991), this research found schools used strategic tactics to adapt MoE policy enactments. Policy subversion (MacBeath, 2008) was evident when head teachers controlled school-based teacher recruitment of extra teachers and later recommended these locally recruited teachers to the Ministry for government appointment. Hence head teachers influenced the outcomes of the merit recruitment procedure. This chapter has described the major role played by head teachers in the teacher recruitment process. While the MoE recruitment policy required head teachers to submit a list of staffing needs, in practice, they simply recommended candidates to fill the positions which the MoE officials consequently approved.

The head teachers controlled the staffing decisions and were proactive in appointing teachers who were more closely aligned with the school values and ethos. In all cases, the head teachers co-opted schoolboards and parents to approve their staffing decisions. In this role, head teachers acted as 'gatekeepers' (Corra & Willer, 2002) for these schoolboards. The findings are consistent with Muwagga, Genza, and Ssemulya (2013) who argued that head teachers were entrusted to promote the values of the Foundation Body. Consequently, priority for selecting teachers for recruitment and retention was placed on *values fit* rather than broader academic content and *teaching competences fit* (Gudmundsdottir, 1990).

The pattern of referral recruitment that prioritised values fit rather than broader academic content and teaching competences fit results in a lower quality rural teacher workforce. This pattern has implications for rural education and student performance in standardised national examinations as shown in Figs. 2 and 3.

This chapter has described how teachers were attracted and retained in schools near ITE institutions. This pattern of initial appointment of ITE graduates to close-by schools has also been reported in Australia (Mayer et al., 2017). Boylan and McSwan (1998) argued that teachers who taught in rural locations during practicum, attended pre-service teacher education from institutions located in rural areas or had taught in other rural schools stay longer. This early exposure (Trinidad et al., 2011; White & Kline, 2012) and particular experiences in pre-service teacher education (Kline, White, & Lock, 2013; Masinire, 2015; Reid et al., 2012) familiarise teachers to the demands and attractions within rural areas and this early exposure contributed to teacher retention. In addition, this chapter reported how a pattern developed of teachers with shared ethnicity and culture securing employment in a rural school (Gersten, Keating, Yovanoff, & Harniss, 2001; Olivarez & Arnold, 2006).

This research demonstrates that rural school authorities preferred teachers proficient in the local mother tongue or first language to accommodate the needs of both parents and students. This was a coping strategy but did not address the tension between English, the official language and medium of instruction with *Runyakitara* language (Bernsten, 1998), the mother tongue or first language for rural communities in this study. The schoolboards ignored MoE policy re English-language proficiency and were proactive in appointing teachers who spoke the mother tongue or first language predominantly spoken in rural community (Early & Norton, 2014; Tembe & Norton, 2008).

This chapter reported that parents and community leaders preferred homegrown teachers for employment in public schools in their area. Consistent with prior research in the US (Boyd, Lankford, Loeb, & Wyckoff, 2005; Burton & Johnson, 2010; Irizarry & Raible, 2011; Reininger, 2012) teachers preferred to teach close to where they grew up and in areas with similar characteristics to their hometown. In Australia, Mayer et al. (2017) found a pattern where teachers 'taught in schools in areas where they lived prior to entering the university program … (or schools located) in areas with similar socioeconomic profile as that in which they lived prior to their teacher preparation'(p. 107). Kilpatrick and Abbott-Chapman (2002) assert that young people prefer to find jobs near to home due to family and school/community social capital. Hardré (2009) argued that 'more home-grown teachers fit with their own similar rural cultures, know how to survive and are familiar with the place' (p. 4).

This research has established the reasons why Ugandan rural school authorities prefer homegrown teachers. These reasons include: the teachers were role models for students to enhance student retention, i.e. rural students were motivated to stay in school by teachers they were familiar with as neighbours or kinship members in the community; the homegrown teachers served as a link between the parents and the school, and acted as 'boundary crossers' (Kilpatrick et al., 2009) for newcomer teachers to integrate in community.

The attraction and preference of homegrown teachers resulted in a pattern of homogeneous rural school staffs. It is likely that a pattern is emerging of an education system that separates communities along ethnic and religious situations in addition to rural/urban lines. A 'community fit' that attracts teachers to where they have religious, ethnic or place connections appears to be a consequence of the MoE policy

rural school-action disconnect. This community fit preference as argued by Engel and Cannata (2015) has potential to reinforce and exacerbate inequalities across schools and districts. It is likely that the poorer student results in Figs. 2 and 3 are a consequence of this practice. The findings reported here indicate the inherent trade-offs, tensions and changing dynamics that have major impacts on teacher retention, teacher quality and student outcomes in Uganda.

The policy and practice picture presented in the chapter has illustrated a complex ethnic, social, cultural and financial factor mix that has resulted in a series of actions by rural schools intended to provide the best learning opportunities for their students and community that they can. Paradoxically, the data suggest the interaction of policy and rural school actions is lessening learning opportunities and outcomes for students. In this situation the MoE appears unwilling or unable to provide enough teachers to schools as it simultaneously responds to global calls for free universal education.

To address these issues there must be changes to policy and policy implementation. The MoE should provide sufficient staffing to schools to ensure both rural and urban students receive the quality, free universal education they are entitled to under the Government's policies. The MoE should work in partnership with school Foundation Bodies in recruitment, employment conditions and ongoing professional development of teachers so that a sufficient number of teachers meet the standards required to teach senior levels. These actions may not be easy to develop and implement, however, the emergent data on rural school student learning performance show that change is essential.

This chapter has illustrated the challenges faced by many countries in Africa and elsewhere as they strive to implement free universal education, regarded as the global norm, in the context of limited government resources and powerful local ethnic, social and cultural norms.

References

African Centre for Media Excellence. (2017). UCE results by school 2011-2016. Retrieved November 20, 2019, from http://catalog.data.ug/dataset/uce-school-results-2011-2016.

Asankha, P., & Takashi, Y. (2011). Impacts of universal secondary education policy on secondary school enrolments in Uganda. *Journal of Accounting, 1*(1), 16–30.

Aspland, T. (2006). Changing patterns of teacher education in Australia. *Education Research and Perspectives, 33*(2), 140–163.

Bazeley, P. (2013). *Qualitative data analysis: Practical strategies.* London, UK: Sage.

Bernsten, J. (1998). Runyakitara: Uganda's 'new' language. *Journal of Multilingual and Multicultural Development, 19*(2), 93–107. https://doi.org/10.1080/01434639808666345.

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: a tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802–1811. https://doi.org/10.1177/1049732316654870.

Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005). The draw of home: How teachers' preferences for proximity disadvantage urban schools. *Journal of Policy Analysis and Management, 24*(1), 113–132. https://doi.org/10.1002/pam.20072.

Boylan, C., & McSwan, D. (1998). Long-staying rural teachers: Who are they? *Australian Journal of Education, 42*(1), 49–65. https://doi.org/10.1177/000494419804200104.

Bradley, S., Draca, M., Green, C., & Leeves, G. (2007). The magnitude of educational disadvantage of indigenous minority groups in Australia. *Journal of Population Economics, 20*(3), 547–569. https://doi.org/10.1007/s00148-006-0076-9.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa.

Burton, M., & Johnson, A. S. (2010). "Where else would we teach?": Portraits of two teachers in the rural south. *Journal of Teacher Education, 61*(4), 376–386. https://doi.org/10.1177/0022487110372362.

Chapman, D. W., Burton, L., & Werner, J. (2010). Universal secondary education in Uganda: The head teachers' dilemma. *International Journal of Educational Development, 30*(1), 77–82. https://doi.org/10.1016/j.ijedudev.2009.08.002.

Cherubini, L. (2008). New aboriginal teachers' experiences: An undiscovered landscape. *Canadian Journal of Native Education, 31*(2), 34–50.

Corra, M., & Willer, D. (2002). The gatekeeper. *Sociological Theory, 20*(2), 180–207.

Creswell, J. W., & Poth, C. N. (2017). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). London, UK: Sage.

Early, M., & Norton, B. (2014). Revisiting English as medium of instruction in rural African classrooms. *Journal of Multilingual and Multicultural Development, 35*(7), 674–691. https://doi.org/10.1080/01434632.2014.908890.

Education Act. (2008). The education (Pre-Primary, Primary and Post-Primary) Act, 2008. Entebbe: Government of Uganda Retrieved from http://www.unesco.org/education/edurights/media/docs/5d1b721a509097c2833561341ead3d788906cf4a.pdf.

Engel, M., & Cannata, M. (2015). Localism and teacher labor markets: How geography and decision making may contribute to inequality. *Peabody Journal of Education, 90*(1), 84–92. https://doi.org/10.1080/0161956X.2015.988533.

Fantilli, R. D., & McDougall, D. E. (2009). A study of novice teachers: Challenges and supports in the first years. *Teaching and Teacher Education, 25*(6), 814–825. https://doi.org/10.1016/j.tate.2009.02.021.

Gersten, R., Keating, T., Yovanoff, P., & Harniss, M. K. (2001). Working in special education: Factors that enhance special educators' intent to stay. *Exceptional Children, 67*(4), 549–567. https://doi.org/10.1177/001440290106700408.

Gudmundsdottir, S. (1990). Values in pedagogical content knowledge. *Journal of Teacher Education, 41*(3), 44–52. https://doi.org/10.1177/002248719004100306.

Hardré, P. L. (2009). *Nurturing the rural teacher experience: Lessons from the United States.* Paper presented at the International Symposium for Innovation in Rural Education University of New England, Australia.

Heikkinen, H. L., Jokinen, H., & Tynjälä, P. (2012). Teacher education and development as lifelong and lifewide learning. In *Peer-group mentoring for teacher development* (pp. 19–46). Routledge.

Ingersoll, R. M. (2004). Why do high-poverty schools have difficulty staffing their classrooms with qualified teachers?. Retrieved from https://repository.upenn.edu/gse_pubs.

Irizarry, J. G., & Raible, J. (2011). Beginning with El Barrio: Learning from exemplary teachers of Latino students. *Journal of Latinos and Education, 10*(3), 186–203. https://doi.org/10.1080/15348431.2011.581102.

Kilpatrick, S., & Abbott-Chapman, J. (2002). Rural young people's work/study priorities and aspirations: The influence of family social capital. *The Australian Educational Researcher, 29*(1), 43–67. https://doi.org/10.1007/BF03219769.

Kilpatrick, S., Cheers, B., Gilles, M., & Taylor, J. (2009). Boundary crossers, communities, and health: Exploring the role of rural health professionals. *Health & Place, 15*(1), 284–290. https://doi.org/10.1016/j.healthplace.2008.05.008.

Kline, J., White, S., & Lock, G. (2013). The rural practicum: Preparing a quality teacher workforce for rural and regional Australia. *Journal of Research in Rural Education, 28*(3), 1–13.

Kuteesa, F., Magona, I., Wanyera, M., & Wokadala, J. (2007). Uganda: A decade of budget reform and poverty reduction. *OECD Journal on Budgeting, 6*(2), 1–25. https://doi.org/10.1787/16812336.

Lindqvist, P., Nordänger, U. K., & Carlsson, R. (2014). Teacher attrition the first five years–A multifaceted image. *Teaching and Teacher Education, 40,* 94–103. https://doi.org/10.1016/j.tate.2014.02.005.

Liu, S., & Onwuegbuzie, A. J. (2012). Chinese teachers' work stress and their turnover intention. *International Journal of Educational Research, 53,* 160–170. https://doi.org/10.1016/j.ijer.2012.03.006.

MacBeath, J. (2008). Stories of compliance and subversion in a prescriptive policy environment. *Educational Management Administration & Leadership, 36*(1), 123–148. https://doi.org/10.1177/1741143207084064.

Masinire, A. (2015). Recruiting and retaining teachers in rural schools in South Africa: Insights from a rural teaching experience programme. *Australian and International Journal of Rural Education, 25*(1), 1–13.

Mayer, D., Dixon, M., Kline, J., Kostogriz, A., Moss, J., Rowan, L., et al. (2017). Employment pathways, mobility and retention of graduate teachers. *Studying the effectiveness of teacher education* (pp. 99–119). Singapore: Springer.

Ministry of Education. (2017). Education Abstract. Kampala: Ministry of Education. Retrieved from https://www.education.go.ug/wp-content/uploads/2019/08/Abstract-2017.pdf.

Mulkeen, A., Chapman, D., DeJaeghere, J., & Leu, E. (2007). *Recruiting, retaining, and retraining secondary school teachers and principals in Sub-Saharan Africa*: World Bank.

Mulkeen, A., & Crowe, T. N. (2010). *Teacher attrition in sub-Saharan Africa: The neglected dimension of the teacher supply challenge*. Paper presented at the 9th Meeting of the High level Group on Education for All, Addis Ababa, Ethiopia.

Muwagga, A. M., Genza, G. M., & Ssemulya, R. (2013). School leadership and denominational identity: The case of Roman Catholic-founded schools in Uganda. *American Journal of Educational Research, 1*(8), 327–333. https://doi.org/10.12691/education-1-8-10.

O'sullivan, M. (2006). Professional lives of Irish physical education teachers: Stories of resilience, respect and resignation. *Physical Education and Sport Pedagogy, 11*(3), 265–284. https://doi.org/10.1080/17408980600986314.

Olivarez, M. M., & Arnold, M. (2006). Personal and demographic characteristics of retained teachers of special education. *Education, 126*(4), 702–711.

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review, 16*(1), 145–179. https://doi.org/10.5465/amr.1991.4279002.

Opfer, D. (2011). Defining and identifying hard-to-staff schools: The role of school demographics and conditions. *Educational Administration Quarterly, 47*(4), 582–619. https://doi.org/10.1177/0013161X11400598.

Reid, J.-A., White, S., Green, B., Lock, G., Cooper, M., & Hastings, W. (2011). *TERRAnova: Renewing rural teacher education for rural and regional Australia–Volume 2: Case study reports*. Charles Sturt University, Australia.

Reid, J.-A., White, S., Green, B., Lock, G., Cooper, M., & Hastings, W. (2012). *TERRAnova: Renewing teacher education for rural and regional Australia. Volume 2: Case study reports*. New South Wales, Australia: Charles Sturt University, Australia.

Reininger, M. (2012). Hometown disadvantage? It depends on where you're from: Teachers' location preferences and the implications for staffing schools. *Educational Evaluation and Policy Analysis, 34*(2), 127–145. https://doi.org/10.3102/0162373711420864.

Rice, S., Richardson, P. W., & Watt, H. M. G. (2017). Hard-to-staff Australian school: How can we ensure that all students have access to quality teachers. In *Educating Australia: Challenges for the decade ahead* (pp. 279–295): Melbourne University Press.

Ritchie, J., Lewis, J., & Elam, G. (2003). *Designing and selecting samples*. London: Sage.

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative research in psychology, 11*(1), 25–41. https://doi.org/10.1080/14780887.2013.801543.

Ssekamwa, J. C. (1997). *History and development of education in Uganda*. Kampala, Uganda: Fountain Publishers Limited.

Suri, H. (2011). Purposeful sampling in qualitative research synthesis. *Qualitative Research Journal, 11*(2), 63–75. https://doi.org/10.3316/QRJ1102063.

Tembe, J., & Norton, B. (2008). Promoting local languages in Ugandan primary schools: The community as stakeholder. *Canadian Modern Language Review, 65*(1), 33–60. https://doi.org/10.3138/cmlr.65.1.33.

The Observer. (2018). 2017 S4 results: ALL 2594 schools ranked *The Observer*. Retrieved from https://observer.ug/special-editions/56969-2017-s4-results-all-2594-schools-ranked.html.

Trinidad, S., Sharplin, E., Lock, G., Ledger, S., Boyd, D., & Terry, E. (2011). Developing strategies at the pre-service level to address critical teacher attraction and retention issues in Australian rural, regional and remote schools. *Education in Rural Australia, 21*(1), 111–120.

Urwick, J., & Kisa, S. (2014). Science teacher shortage and the moonlighting culture: The pathology of the teacher labour market in Uganda. *International Journal of Educational Development, 36,* 72–80. https://doi.org/10.1016/j.ijedudev.2013.11.004.

Weldon, P. R. (2015). The teacher workforce in Australia: Supply, demand and data issues. Policy insights. *Australian Council for Educational Research* (Issue 2).

White, S., & Kline, J. (2012). *Renewing rural and regional teacher education curriculum. Final report* (1921916435). Retrieved from https://eprints.qut.edu.au/109112/.

Yin, R. K. (2017). *Case study research and applications: Design and methods*. London, UK: Sage publications.

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Chapter 17
Teacher Professional Development, the Knowledge-Rich School Project and the Curriculum Design Coherence Model

Elizabeth Rata and Graham McPhail

Abstract The chapter is about the Curriculum Design Coherence Model (CDC), an innovative curriculum design tool for use in the professional development of teachers in all education sectors. The theory of knowledge-that informs the Model's design is explained. This is followed by a description of the Knowledge-Rich School project which is trialling the CDC Model. The Project's findings show that the Model is an effective curriculum design method in teacher professional development. Insights into the Model's strengths and limitations which have emerged from its application in the project and which have led to the Model's ongoing refinement conclude the chapter.

1   Introduction

In this chapter, we address the ongoing issue of professional development within the context of a global tension between generic, outcomes-based curricula and knowledge-based approaches (Lourie, 2020). This tension has placed a focus both on teachers' ability to design their curriculum and on the role of professional development programmes in this task. The continuing professional development of teachers (CPD) in relation to curriculum design became a significant concern internationally as the trend of generic, outcomes-based curriculum documents became the norm from the 1990s (Priestley & Sinnema, 2014; Voogt & Roblin, 2012). These international policy shifts towards under-specified curricular content ostensibly place more responsibility on teachers to become curriculum designers as well as teachers. There is a tacit assumption that teachers are up to the task, which is a complex one (Muller, 2006). The issue of teacher development in the area of curriculum design has been

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highlighted recently in England where the National Office for Standards in Education, OFSTED, has emphasised curriculum design as a renewed focus for school inspections and teacher certification (Department of Education, 2019; OFSTED, 2018, 2019; Spielman, 2018).

While curriculum development is less explicitly linked with compliance and inspection in other countries the issue remains that teachers are now expected to play a much greater role in curriculum design than in the past (e.g. Hoadley, 2018; Ministry of Education, 2019; NSW Education Standards Authority, 2018). For countries like New Zealand, which have a localised curriculum and no nationally prescribed content, teachers have complete autonomy to both select and design the curriculum. Within this context of heightened awareness of the need for increased teacher expertise we provide an account of an innovative professional development programme that is focussed on empowering teachers in the area of curriculum design through the use of *The Curriculum Design Coherence Model* (CDC) (McPhail, under review, 2020; Rata, 2019a). The model is being trialled in the *Knowledge-Rich School Project* in New Zealand and in England (Pountney, 2020).

The CDC Model is an innovative curriculum design tool for use in the professional development of teachers in all education sectors including primary, secondary, and higher education. Our purpose in the chapter is to argue that good curriculum design is essential to teacher professional practice (Spielman, 2018; Young and Lambert, 2014) and to show the contribution of the CDC Model to developing that expertise. Such expertise includes first, effective performance in course design and teaching, and second, the ability to judge one's performance in those two areas. In turn, making judgements requires evaluative criteria with which to inform curriculum design decisions. Knowing the reasons for and the effects of one's decisions enables critical reflection and analysis leading to improved decision-making. Indeed, making informed judgements is the hallmark of a professional. It is what elevates teaching from being a technical or craft activity based on tacit knowledge and skills (however competently executed) to a profession (Winch, 2017).

For this reason, the CDC Model recognises the three forms of knowledge identified by Aristotle in his *Nicomachean Ethics* (1994) as the components of teachers' professional practice. They are *theoria* or the epistemically structured form of knowledge which proposes ideas themselves. Following Ryle (1949) and Winch (2013) we use the term 'knowledge-that' to refer to this propositional knowledge. In the CDC Model 'knowledge-that' is an over-arching term for a number of propositional knowledge forms. These include 'knowledge-why' (explanation), 'knowledge-what' (definition), 'knowledge-who', 'knowledge-where', and 'knowledge-how'.

There is another form of knowledge which is connected to but different from all these knowledge-that propositional forms. This is 'knowing-how-to' (Aristotle's *techne)*. In the teaching profession 'knowing-how-to' is the application of a teacher's knowledge-that to professional practice, to pedagogy in other words. It includes pedagogical skills connected to the curriculum such as the skill of 'knowledge-that' selection and sequencing. It may also refer to competency in designing the knowledge to be taught so that it matches the level of the students and links prior understanding to new understanding. 'Knowing-how-to' is the application of 'knowledge-that' in all

professions. In the teaching profession specifically, the connection of 'knowledge-that' to 'knowing-how-to' is the connection of pedagogy to the curriculum. Before that connection can happen however, each academic subject's 'knowledge-that' must be designed in logical ways to capture the inherent systems of meaning which structure its propositional knowledge. These systems of meaning are knowledge-that's epistemic structure and we say more about this term below.

The third form of knowledge (Aristotle's *phronesis*) refers to the moral and ethical dimensions which the knowledge serves in relation to developing students' academic identity. *Phronesis* is recognised in the aim of the CDC Model which is to build teachers' competency or know-how-to so that students benefit from their teachers' increasing expertise. The ethical position informing the CDC Model is that all students, whatever their backgrounds and circumstances, have a right to the type of knowledge (*theoria*) that will enable them to both see beyond the limits of their experience and bring that critical intellectual faculty to understanding, even to changing, their circumstances (Rata, 2017). This requires teachers to have subject expertise (KT) and pedagogical expertise. The CDC Model is a tool to develop both forms of professional expertise.

Given the central role that curriculum design plays in professional practice we have created an innovative curriculum design model which gives teachers a coherent process to apply in designing their courses. The model can be utilised to develop curricula at the topic level and at the course or programme level. Crucially the CDC Model justifies each step in the design process according to the knowledge being designed (McPhail, 2020; Rata, 2019a). In other words, the CDC Model is informed by a theory of knowledge (Bernstein, 1999; Winch, 2013; Young 2013) which not only recognises that knowledge's epistemic structure (the source of an academic subject's internal coherence) but carries the logic into how the knowledge is designed for teaching (Muller, 2009).

We begin the chapter with a detailed description of the CDC Model. This includes an account of the theory of knowledge which informs the Model's design and creates its innovative features. This grounding in established theories of epistemically structured knowledge, a structure comprising 'knowledge-that' and 'knowing-how-to' (Aristotle, 1994; Ryle, 1949; Winch, 2013), justifies our claims for the CDC Model's usefulness as a curriculum design tool. Section three follows with a description of the Knowledge-Rich School project which is trialling the CDC Model with teachers in a number of New Zealand schools and with a group of primary school curriculum leaders in the England. We describe the Project's initial findings to show how these findings support the wider claims for the CDC Model's usefulness in teacher professional development. In section four we describe insights into the Model's strengths and limitations which have emerged from its application in the project and which have led to the Model's ongoing refinement.

2   The Curriculum Design Coherence Model

The model is underpinned by a theory of knowledge-that Muller terms *socio-epistemic* (Muller, 2009). The theory recognises the social processes that constitute the production of disciplinary knowledge, its contested and fallible nature, but also its objective potential. This objective potential is made possible by the approaches of science where knowledge is continually put to the test, revised, and always considered fallible, and where knowledge is structured with internal epistemic coherence. Epistemically structured knowledge provides unique affordances for cognitive development because of its inferential structure which creates 'a system of meaning'. This is Aristotle's 'theoria', Vygotsky's (1986) 'scientific' knowledge, Durkheim's (1998) 'sacred' knowledge, Bernstein's (1999, 2000), 'vertical discourse', and Young's (2008) 'context-independent knowledge'.

As Winch (2017) notes, deep learning (mastery) is about understanding and utilising the relationships between the propositions and concepts of an area of knowledge rather than an accumulation of facts. Developing this inferential ability gradually provides the means for a teacher to 'see the whole'. The unique affordances for such epistemically structured knowledge justify the emphasis on it in the model rather than on socio-cultural knowledge. In the field of social realism the distinction between epistemically structured propositional knowledge (knowledge-that) and the social knowledge based in experience is termed *knowledge differentiation.* The significance of epistemically structured knowledge as the site of systems of meaning is encapsulated in the term 'powerful knowledge' (Barrett & Rata, 2014; Parker, 2018; Maton & Moore, 2010; McPhail & Rata, 2015; Moore, 2007, 2013; Muller, 2000; Muller, & Young, 2019; Rata, 2012; Wheelahan, 2010; Young & Muller, 2013; Young, 2008).

The key proposition underpinning the Model is that the epistemic structure of the academic subject is the source for learning coherence and depth. Epistemic structure as elaborated in conceptual systems of meaning provides the model's main cohering mechanism. It is important to note at this point that by concepts we mean subject or disciplinary concepts not generic concepts such as critical thinking and problem-solving. The latter have no epistemic basis separate from a knowledge domain (McPhail, under review, 2020). The second source of coherence is the central place theorised for 'knowledge-that' (subject concepts and content) and knowledge-how-to (subject competencies, techniques, and skills). The interdependent relationship between them is seen in the way that 'knowledge-that' provides the concepts which feed into their use in 'knowing-how-to' application. This interdependence avoids the skills versus knowledge bifurcation by connecting both forms of knowledge in a coherent and justifiable manner.

The Model's second key proposition is that developing a greater level of connection and coherence between these knowledge forms will lead to improved curriculum design, teacher understanding of the relationship between what, when, and how to teach, and deeper student learning. To that end the Model identifies four connected

Elements which make up the curriculum design process. The elements are: 1. Subject topic proposition and concept selection; 2. Connecting concepts and content; 3. Connecting 'knowledge-that' to 'know-how-to'; and 4. Evaluating 'knowledge-that' and its application in the various 'know-how-to' competencies. Further coherence is achieved as subject content, subject competencies, and evaluation are all connected to the concepts identified in Element 1. We will now outline each of the Elements of the model in more detail.

Where the model is being utilised at the topic level, Element 1 *Select and sequence the subject concepts from a topic proposition* involves establishing a proposition for the topic which should encapsulate the key concepts. For example, for the science topic 'photosynthesis' the proposition is likely to be something along the lines of 'photosynthesis is a process used by plants and some bacteria and some protistans to convert light energy into chemical energy… oxygen is also produced'. For early years study of grammar where the topic is the written sentence the proposition would be 'the sentence is the basic grammatical unit for the communication of ideas always expressing a complete idea that makes sense standing alone and that typically contains a subject and predicate'. The teacher then brainstorms all the concepts related to the topic and considers the relationship between them. There is likely to be some form of hierarchy—a meta-concept and subordinate concepts, which in turn may imply sequencing for teaching. Table 1 contains an ordering of some of the key concepts for the topic 'the sentence' for a primary school context. It also shows the content which 'belongs to' the concepts. This content, such as 'noun', 'verb', and 'adverb' is used when children practise the knowledge in the various learning activities.

It is important to note at this point that the model is a theoretical curriculum design tool and not a teaching (i.e. pedagogical) design tool. As Bruner has suggested 'a curriculum is more for teachers than it is for pupils' (Bruner, 1977, p. xv). The breadth and depth of the conceptual map of the subject topic that the teacher will reveal to students is a pedagogic decision dependent on the learning level and prior knowledge of the students. Significant key concepts are likely to be the same throughout the years of schooling, and to recur in a spiral fashion although the systems of meaning they generate will increase in complexity according to the curriculum level (Bruner, 1977). The purpose of the CDC Model is to make visible the interconnections of concepts within the subject topic because a concept acquires its meaning in relation to other concepts within the epistemic structure of 'knowledge-that'. In relation to Knowledge-that, students' eventual mastery relies on gradual cognisance

Table 1 Example of a conceptual map of a topic for early years teaching

Topic The written sentence	
Meta concept Grammar	
Concepts and Content syntax—subject, predicate, verb, and object … word class—noun, verb, adjective, and adverb … punctuation—capital letter, full stop, and comma … sentence extension—conjunctions, phrases, clause, subordinate clause, adjectively phrases, and adverbial phrases …	

of inferential relationships within the overall system of meaning, and the connection to 'knowing-how-to' (See Element 3). As Rata (2019a) has explained:

> Although the CDC model's first element refers to concepts, this does not mean that concepts should always be taught before competencies and content. Making visible the connections between the model's elements is intended to assist the teacher in curriculum design. Pedagogic design in contrast, while acknowledging the knowledge connections, also requires teachers to take into account the myriad of factors involved in teaching, all of which require professional know-how-to (p. 693)

Where the model is being utilised at the course design level, Element 1 will involve a more in-depth and comprehensive consideration of the conceptual content of topics at the meta-level. For example, one participant group in the project has used the model to design a course for years 7–13 Mathematics in a New Zealand school.

Element 2 concerns the selection of content through which the concepts selected in Element 1 are elaborated and made real; *Connect Concepts to Content.* The differentiation between concepts and content was initially a difficult intellectual task but an important one in terms of recognising the different functions they fulfil in curriculum design. Concepts are abstract and therefore transferable and potentially context-independent whereas content is specific and bound to a context. To establish a deep and coherent connection between the concepts and the content three criteria are suggested for content selection. The first criterion is epistemic. The teacher needs to ask: what content best exemplifies and elaborates the meaning of the concepts? Is the content (for example a poem, a novel, a scientific principle, sets of evidence) apposite for elaborating the particular qualities of the concept(s) to be studied.

The second criterion for selecting content concerns the socio-epistemic nature of conceptual knowledge; 'the context of the concept'. The teacher includes content that elaborates the history of the concept; e.g. the social and political circumstances in the eighteenth century surrounding the emergence of democracy for a Social Studies topic, or, in the case of Music, the history of The Blues in the experiences of African Americans. Providing this historical context enables the teacher to show that concepts develop and change and that ideas are always provisional and subject to challenge. Understanding that concepts and theories are always provisional helps teachers and students to grasp the difference between fixed beliefs and fixed content on the one hand (those found in religion for example), and the dynamic and generative nature of epistemically structured concepts and theories on the other.

The third criterion for content selection is socio-political. The teacher asks: is this knowledge that we, as a society, want the next generation of citizens to know? How will the students benefit from acquiring this knowledge? For example, in many instances of content selection it is likely to be important to draw attention to the contributions of minority groups to knowledge production and to the contested nature of 'truth' within a subject. This criterion supports the argument that a national curriculum has a larger purpose than being about students' education only. That purpose is to create and transmit a society's collective representations (the way it views itself) to future generations. In other words, the national curriculum is the main contributor to a modern society's cohesion (something often performed by religion in the past) (Rata, 2018).

The third Element of the model, *Connect 'knowledge-that' to 'knowing-how-to'* brings these subject components together. This is a response to the knowledge-skills bifurcation that has led to fragmented curricular in at least two countries that have adopted outcomes-based curricula and teacher autonomy in curriculum design—New Zealand and South Africa (Hipkins, Johnston, & Sheehan, 2016; Hoadley, 2018) and more recently, Wales (Sinnema, Nieveen, & Priestley, 2020). This Element focuses on two competencies of 'knowing-how-to'. *Performance competencies* refer to the skills used to apply 'rules' in practice and to the student's ability to assess the performance of that application in terms of the quality of the outcome. *Judgement competencies* refer to the degree of mastery in using concepts to inform practice or theoretical problems and therefore apply understanding. This competency also includes judging the effectiveness of the solutions and understanding. Judgement competencies require students to use their 'knowledge-why' or explanatory knowledge to say why something is the case and assessment (Element 4) needs to recognise how the two types of competencies are different but how they are connected using explanatory judgement.

The activities that connect knowledge-that to 'know-how-to', 'carry' the concepts in a sequence that draws on the epistemic structure of propositional knowledge and that is appropriate for the topic, the activity, the student age level, inherent conceptual challenges (such as threshold concepts), and prior learning. These learning activities use the content which best expresses the concepts (Criterion 1). Crucially, the purpose in connecting 'knowledge-that' and 'know-how-to' is to link the subject concept to a range of specific instances where the concept can be applied and 'made real'. This moves the student beyond only being able to identify and describe towards demonstrating 'intelligent 'knowing-how-to'.

The final Element is *'Evaluate knowledge-that and 'knowing-how-to'*. Lying at the heart of the Model is the student's developing ability to make judgements through demonstrating intelligent 'knowledge-why'. Rata (2019a, p. 684) suggests that making judgements is the 'connective tissue' of the model. Judgements are the means (the acts) by which the connection between 'knowledge-that' and 'knowing-how-to' is made visible. Where a student has been given access to and begun to understand the interrelationships between the concepts and their application to real life, the student will be able to begin to make judgments with deep understanding; that is by drawing on their knowledge-that to evaluate their 'knowing-how-to'. Both formative and summative tasks should be designed with this premise in mind; for students to be able to show their increasing understanding of the connection between 'knowledge-that' and 'knowing-how-to'; through the demonstration of their 'knowledge-why' understanding.

Three competencies are highlighted for evaluation in the model—recall, skill and technique, and intelligent 'knowing-how-to'. Recall is important because memorising content creates long-term memory banks by providing the 'raw material' for conceptual understanding to work on. This competency requires students to recall the object(s) that a concept can be applied to. To do this, students need to know a great deal of content. Teaching facts, figures, numbers, letters, vocabulary, names, events, and so on—all the content that makes up the objects of academic subjects—should

occur from year one. Student *understanding* happens when the concept is 'brought to' the content. This competency also assesses the student's use of the correct vocabulary used in all three Elements.

Competency two concerns the level of mastery of the skills and techniques needed to demonstrate understanding of concepts and memorisation of content. It focuses on the degree of performance competency the student has in using specific skills and techniques to apply formulaic or procedural rules to the concepts and content. The final competency—intelligent 'knowing-how-to'—is the most important in that it includes selecting what formula or understanding to apply, which skills and techniques to use, in which context or situation, and finally judging whether these selections produce quality. This is the level of judgement competencies referred to in Element 3. Each competency in Element 3 requires responses at increasingly higher order or abstract cognitive levels. For example, for the topic of the sentence introduced earlier, the student would be able to write apposite and accurate sentences appropriate for a specific purpose. The student will also be able to use correct language for the content that expresses the concepts (e.g. Concept—syntax. Content: subject, verb, object, clause, conjunction) to explain to the teacher how they consciously constructed their sentences explaining aspects such as SVO order.

3   Section Three

This section provides a brief description of the application of the CDC Model in the Knowledge-Rich School Project and describes the initial findings at the end of the project's first year. The Knowledge-Rich School Project is a four-year collaboration between university researchers and teachers in New Zealand and in a teacher professional development programme in England (Pountney, 2019). The project builds on an earlier study undertaken in a university engineering faculty (Collis, Wang, Rowe, Rata, McPhail, 2017). The original model theorised how to design the curriculum for a concept-rich but problematic first-year electrical engineering course. Following that study the CDC Model was developed into its current form (see preceding section) and initiated the Knowledge-Rich School Project starting at the beginning of 2019. This collaboration between university researchers and teachers is a professional development project which 'takes place often through a dialogical relationship between researchers and practitioners' (Heikkinen, de Jong & Vandervinde, 2016, p. 5). The following account refers to the project in New Zealand.

The central question of the project is: Is the *Curriculum Design Coherence* Model an effective curriculum tool for the design and delivery of topics that creates deep curriculum coherence, develops teacher curriculum expertise, and contributes to student learning and understanding? Our specific objective for the 1st year was to investigate how the teachers in the project found using the Model to design their curriculum. We then refined the Model in response to these findings. The project involves applying the CDC Model to designing specific topics, a year's course, and a

school-wide programme and includes a range of data collection and analysis methods. It includes experienced teachers from three secondary schools and a primary school, with a kura Kaupapa Maori (Maori language and culture school) joining the project in 2020. Five workshops were held during the year for the participating teachers from the secondary schools to design programmes or subject topics while one of the research team worked with teachers in the primary school. A final symposium provided the opportunity for the teachers to present examples of their work showing how they used the CDC Model as a tool to connect subject concepts, content, and subject competencies in a coherent way.

The presentations included accounts of a year 7–10 Mathematics programme, a History topic for year 10, Social Studies for year 9, Music for year 8, and Physics for multilingual students in a junior science programme. The Physics presentation also showed how the Model's design process can be combined with the Trans-Acquisition language method developed by a member of the project team for classes with multilingual students (Tamati, 2019). The presentation about the CDC Model's application to a primary school's writing programme (see 'sentence' example above) provided a good example of the reach of the Model to all school sectors. The inclusion of primary school teachers in the project is important because the absence of clear subject delineation in that sector makes it even more difficult for primary teachers to identify subject specific concepts, content, and competencies than the difficulty found by their secondary colleagues. The following section describes the initial findings were that were identified at the end of the first year of the project. We note that all the findings are equally important.

4 Findings

4.1 Making Curriculum Design Explicit

The first finding from the teachers' work with the CDC Model is that *curriculum design requires deliberative professional decisions made by the teacher.* The more experienced teachers reported that using the Model enabled them to identify in conscious ways exactly how they design their courses, something that formerly occurred as the result of experience. For the less experienced teachers, the Model's elements provided a specific decision-making language and process. Although all the teachers found the Model difficult to varying degrees, the practice provided in the workshops under the guidance of the researchers, did lead to growing design expertise. This expertise was demonstrated in the symposium presentations. The presenters adhered to the Model's design to show how knowledge was selected for 'across the years programmes', 'within a year programme', and also for individual subject topics within those programmes. The teachers did this according to the Model's requirements by identifying *what the knowledge actually is (the content), what it means (concepts) and what can be done with knowledge once its meaning is understood (competencies).*

Both the workshop practice and the symposium presentations showed how applying the Model to curriculum design ensured that planning could not be 'fudged', a practice observed by Zame (2019) in her critique of an inquiry learning pedagogy. Using the Model made it clear to the teachers in the project that both curriculum design decisions and pedagogical decisions (see finding five) contribute to the selection of learning objectives, but that the starting point is the Model's focus—curriculum design.

4.2 Knowledge-that: Concepts and Content

Selecting the subject concepts required for Model's Element 1 was difficult for the project's teachers. However, the primacy of knowledge-that in the design process (the result of subject or topic epistemic structure) meant that curriculum design does need to start with Element's 1 and 2—the knowledge-that elements, so this difficulty had to be identified and confronted. There was a lot of to-ing and fro-ing between the Elements and pre-existing teacher knowledge. The word 'concept' is widely used in education with varying and sometimes conflicting meanings. To address this, we altered the Model's Element 1 from 'concept' to 'subject concept' to clarify what is a very complex term, but one that is essential to the Model's approach. The addition of the word 'subject' to the term 'subject concept' in Element 1 alerted the teachers to other problems with the use of the word 'concept'. There is considerable slippage between generic curriculum concepts, such as 'change' and the specific subject concepts, such as 'syntax' (English grammar) or 'melody' (Music) that the Model requires.

To add to the difficulty, there is another area of confusion regarding the word 'concept'. This is the increasingly widespread use of social and dispositional concepts such as 'cooperating', 'managing self', or 'working in groups'. These refer to pedagogy. We needed to direct our teachers away from these other uses of the term 'concept' to its specific use in the Model with reference to subject concepts. The way to do this was to clarify the difference between the object or topic of the lesson/ programme (*what* actually was being studied, for example, 'the sentence', 'multiplication', 'photosynthesis', 'the origins of World War I, 'the periodic table', 'dinosaurs', and 'song writing'), with *how* the object of lesson is to be studied.

To clarify the words we needed to use, we chose 'subject topic' to refer to *what* was being studied, that is, the object of study or inquiry or *what* the teachers want their student to know about. Using the examples of topics above, we can say that 'syntax' is the concept which allows us to understand (ascribe meaning to) the topic 'the sentence'. 'Place value' is a maths subject concept which gives meaning to the topic of multiplication. 'Evolution' is a subject concept that might be used to understand the topic 'dinosaurs'. 'Chemical' is a key subject concept used in science to 'give meaning' to the topic of the periodic table. 'Melody' is a subject concept used to understand the topic 'song writing'.

In addition to the difficulty found in differentiating between a subject topic and the subject concepts, identifying subject content proved to be another complex task. For some, especially the English teachers, this was traced back to the initial difficulty in identifying their subject concepts, a difficulty exasperated by the complete autonomy English teachers in New Zealand have in selecting their topics (Grace, 2019). The need to do this drove them back to first principles, to ask 'what is our subject? What are the main concepts? What content should be selected to express those concepts?' Several teachers commented that the depth of professional reflection required to 'dig deep' into their subject was invigorating and rewarding, despite its difficulty. The Music teachers led entertaining discussions in the workshops describing how they wrestled with their subject concepts. Was 'tonality' 'the' key concept? What about 'pitch, 'timbre', 'chord', and 'scale'? What content should be selected to express these concepts? When should a subject concept be introduced and how should it be carried through subsequent years?' One of the topics worked on in the workshops was 'the Russian Revolution'. It illustrated the thought required to select subject concepts by showing how concepts are connected to content. For example, the concept 'ideology' is the correct concept to use for 20th century content about the Revolution. However, the concept 'autocracy' is needed for content about the pre-revolutionary period (Etty, personal communication).

The importance of subject language precision emerged early in the workshops as part of the wider discussion about concept selection. Concepts exist as linguistic entities and can only be known through the word symbol itself. The Model recognises this concept-symbol connection. Indeed, that connection justifies our insistence on language precision. It is required for consistency in the design process. It also means that the language used in one year is carried into the following year where it could be built upon.

We realised from the discussions in the workshop that it helped the teachers to identify their subject concepts (for both topics and programmes) if we worked with Elements 1 and 2 together. This is the case because both subject concepts and content are knowledge-that elements and belong together. Indeed, there is nothing new about this. Kant identified both the concept-content distinction and their connection in his dictum 'Thoughts without content are empty; intuitions without concepts, blind' (1784/1993, p. 69). In other words, concepts need content. Working with Elements 1 and 2 together created its own demands but with the trial and error of ongoing practice, using knowledge-that's components in the workshop activities became one of the more satisfying activities in the project. The three content justification criteria in Element 2 emerged as the 'stars of the show' by requiring the links between subject concepts and the content to be made explicit as content selection was justified by its connection to the concepts.

The year 7–10 Mathematics programme design demonstrated working with Elements 1 and 2 together in the symposium presentation (Palmer & Pavlovich, 2019). In referring to the Model as a 'useful tool to help us identify concept development across year levels', the Maths teachers noted the importance of the 'order of content' saying how the Model 'illustrates content sequence of topics or within topics'. Interestingly, with reference to the multiplication and measurement topics in the year

7–10 programme, they said how using the Model helped them answer the question 'where is topic heading?' with the conceptual progression implications for student learning that this question contains. They could see that the subject concepts which are included in each year and the content which is specific to a year should lead to the achievement outcomes of 'generalise, recognise situations, and classify and apply formulae' (Palmer & Pavlovich, 2019). These are 'know-how-to' achievements which are the foundation for post-year 10 senior Mathematics. They are specifically linked to Maths' 'knowledge-how' or the procedural knowledge which is a form of propositional knowledge (see above). This is the case because 'knowing-how-to' expertise which uses math concepts requires knowing that mathematical processes 'proceed' within respective systems of meaning within the overall framework of 'knowledge-that'. Mathematics is a special case of propositional knowledge because it is characterised by knowledge-how systems of meaning in a way that other academic subjects are less so. For example, the 'knowledge-that' propositions in History and Science are more characterised by 'knowledge-what' and 'knowledge-why' as well as the 'knowledge-how' form.

Applying the Model enabled the teachers to 'combine backwards and forwards—mapping' of concepts and content needed for the 'across the years' programme design. This to-ing and fro-ing from subject concepts to content and back again kept their focus firmly on the integral connection of content and contents. However, sometimes it was difficult to make the distinction when a subject concept is being used as the 'idea' and when it serves as 'content'. For example, the word 'parliament' can be both. As a concept, 'parliament' is the idea of a law-making body. As content 'the parliament' is a specific body, such as the 'New Zealand parliament'. The primary school writing programme also provided an excellent example of this difficulty. In fact, it drew our attention to the problem in the first place and demonstrated the usefulness of the three criteria for content selection in helping to distinguish between when a word functions as a concept and when it is included in the content. Figure 1 above shows that 'noun', 'verb', and 'adjective' may serve as both the inferential concepts of the concept 'word class' and also be the content connected to that 'word class' concept.

All the symposium presentations showed that the teachers recognised that using the Model required including plenty of content. This focus on the importance of content selection (justified by the three criteria) and its connection to subject concepts raised a question noted in the Social Studies presentation. (This presentation not only used a large amount of content but justified the importance of including primary and secondary sources in the topic design.) 'What does a teacher do: when faced with the huge amount of content knowledge required to design each topic: when selecting content that comes from contradictory, disputed, or limited sources: when the content is unknown or known inadequately by the teacher?' (Rata, 2019b). It is a highly relevant question for New Zealand teachers who are faced with a localised curriculum and considerable teacher autonomy with respect to curriculum selection (Moore, 2019; Ormond, 2019).

Fig. 1 The curriculum coherence design model (©Elizabeth Rata and Graham McPhail) (Diagram design © John Etty 2019)
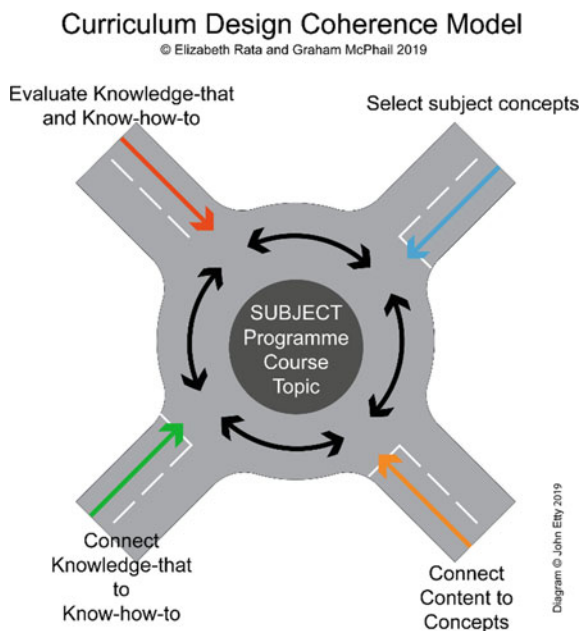
4.3   Subject Concepts in Topics and Across Programmes

We found that subject concepts serve as the integrators in programme design within a year level programme and for programmes across the year levels. This was demonstrated by the Mathematics teachers who began by designing individual topics then shifted to designing their year 7–10 programme. They found that to-ing and fro-ing between topics and programmes for each year level proved to be an effective way to create a coherent 'across the years' programme. Using the Model showed clearly that it was the subject concepts which *re-appeared* year upon year, albeit in increasing sophisticated ways. In contrast it was the connected content which *changed*. In their presentation at the project's end of year symposium referred to above (Palmer & Pavlovich, 2019), one of the concepts selected was 'place value'. For year 7 and 8 students the content which expresses this concept (Element 2, Criterion 1) is multiplication of 4-digit numbers and decimal place involving repeated additions, reversibility, and multiplying by 10 s, 100 s, and 1000 s. This content expresses both 'place value' change, and 'place value' partitioning. By year 9 the content which expresses the subject concept of 'place value' enables progression to algebra with its generalising capacity.

Element 2's selection criteria also proved useful to the Maths teachers. They were able to justify their content selection by saying explicitly how this content expressed and developed the meaning of the subject concepts, pointing out that this well-designed conceptual progression (Rata, 2017) requires 'careful choice of content (which) reinforces concepts at ever deepening levels' (Palmer & Pavlovich, 2019).

They also noted that to use the Model, 'A teacher of maths needs to have knowledge of where the concept is going in higher levels to help guide meaning of concepts'.

4.4   The Design Direction

The teachers initially found it difficult to begin with knowledge-that preferring the more visible and measurable competencies in knowledge-how or in familiar topic content. In New Zealand, outcomes-based Achievement Objectives, which are expressed as competencies, provide the usual framework for design. The teachers were accustomed to thinking about their subject using verbs rather than using nouns. However, the Model's requirement of a propositional statement in Element 1 helped to shift the teachers from starting the design with competencies (Element 3) to starting by identifying what the knowledge is that they want to teach; the 'knowledge-that' which informs the 'knowing-how-to'. For example, the science teachers were accustomed to planning by identifying the outcomes of a topic. In the photosynthesis examples used above, the intended outcome would be stated as *describe* the bacteria and some protistans to convert light energy into chemical energy. In contrast, the CDC Model design would start with the proposition stating what the knowledge is, for example, '*photosynthesis is* a process used by plants and some bacteria and some protistans to convert light energy into chemical energy… oxygen is also produced'. By the end of the project's first year there was agreement that planning by identifying knowledge-that first did make sense. It enabled the 'know-how-to' competencies of the achievement objectives, to be deliberately and specifically connected to the knowledge selected for teaching.

4.5   The Design Delivery Distinction

The importance of the design-delivery (curriculum-pedagogy) distinction and connection emerged as a significant finding. Unsurprisingly teachers want to start with 'how shall I teach this?' This is the 'pedagogic imperative' identified by the researchers in the England project (Richard Pountney, England project researcher personal communication). Those trialling the Model, both in New Zealand and England (Pountney and Swift, personal communication; Pountney, 2020), reported that it is difficult to shift teachers' mindset from delivery matters to design. To do so requires separating curriculum from pedagogy. Once the knowledge to be taught has been selected then the logical connection to 'what does this design mean for how I teach it' can be made. This is not to say that it was easy for the teachers to make the mindset shift given that pedagogical activities are essential to student knowledge-how-to; something recognised in the Model's Element 3.

Those who taught subjects with a strong practice component, such as Music and the primary school's writing programme, found it more difficult than the Mathematics and History teachers to separate design matters from pedagogical ones. The former was drawn to thinking that the activities with which they begin their lessons are where they should begin the design. However, in terms of applying the Model, there is no doubt that we need to emphasise what the Mathematics teachers said—that the Model is 'for the teacher. Its focus is on teacher knowledge of their subject area to identify progression'. Not only does design precede teaching but comprehensive subject knowledge is required for the design process. Pedagogical expertise is essential for the next stage—that of teaching what has been designed.

5 Refining the Model

The first year of the project provided initial findings about the Model's usefulness for the teachers in their planning. It has also allowed us to reflect and refine the Model itself. In this section we discuss three insights we have gained about the Model from the first year of its application by teachers. The first insight refers to our deepening understanding about why the Model is difficult for teachers but also why, for those same reasons, it is a genuine professional development tool. The reasons refer to its theoretical strength and how it enables teachers to judge and justify their professional practice with respect to the curriculum.

Applying the Model in practice has certainly 'tested' the theory as we intended (Rata, 2019a) and its logic as a design tool has proved sound. However, there is always a gap between an idealised model and practice. We have described above how curriculum design is difficult. A strength of the Model is that it doesn't 'fudge' this fact. However, as an idealised model or theoretical construct, it doesn't, indeed cannot, fit neatly to the real life of teachers' work. We realised that we need to write an intermediary stage, one that would assist teachers to connect the idealised model to their specific practice. Therefore, we are developing a Teachers' Guide from the work of the project. It will include a shorter description of the Model's theoretical underpinnings because professional teachers do need to know about the epistemic structure of knowledge and cognitive learning theories which justify the Model. But the Guide will also contain plenty of examples of the Model in use, examples taken from the project to assist teachers in using the Model not only to design their curriculum but also to apply their professional judgement to the quality of their design. In that way they will develop their professional 'know-how-to' expertise.

Our second insight concerns the curriculum-pedagogy relationship. We have realised how important it is to see the Model as a design tool only. It is not a model for delivery. Our insistence of the separation of curriculum and pedagogy in planning was initially drawn to our attention by Michael Young (2010). According to the theory of knowledge which underpins our approach, curriculum design decisions are made *according to the epistemic structure of the knowledge*. Pedagogical decisions follow design decisions and are made *for learning reasons*. These may include, for example,

a student's age, prior learning, social background, dispositions towards knowledge. Interestingly, this crucial distinction between curriculum design and teaching pedagogy appears in the distinction we had made earlier between 'engagement with the knowledge' and 'motivation to learn' (Rata, McPhail, & Barrett, 2019) and now becomes important to the Model. This is because the CDC Model is focused on 'engagement with the knowledge' through our recognition that the epistemic structure of the knowledge determines the way it is designed for teaching. Good curriculum planning means designing the knowledge in ways which *engage* students with the knowledge. Pedagogical methods *motivate* students to want to engage.

The third insight comes from our ongoing theoretical work. We realised that we needed to clarify how we refer to knowledge in the CDC Model. Given that 'knowledge' itself and its Greek form 'episteme' have many meanings, it has become increasingly important that we decide what we mean by 'knowledge'. In particular, the distinction between the two main forms of knowledge which inform the CDC Model, 'knowledge-that' and 'knowing-how-to' needed to be addressed. This meant sorting out the difference between 'knowledge-how' as a form of propositional 'knowledge-that' on the one hand and 'knowing-how-to' as the application of 'knowledge-that' (including 'knowledge-how') on the other. The confusion about the difference is not helped by the OECD (2018) which describes epistemic knowledge as procedural knowledge, that is 'knowledge about the disciplines, such as knowing-how-to think like a mathematician, historian or scientist' (p. 5). Rather than the pleonastic use of 'epistemic knowledge' we use the term 'epistemically structured knowledge' to capture the idea that 'knowledge-that' comprises propositions which require the organisation of concepts to create logical systems of meaning. In other words, it is the way knowledge is structured that matters and which warrants invoking the Greek word for knowledge, i.e. epistemic, given that it is a theory of knowledge which can be traced to the ideas of Plato and Aristotle.

In clarifying the way we theorise knowledge for the CDC Model we also needed to address the misguided notion in the New Zealand literature, and one that has influenced teachers in the project (Gilbert, 2005), that knowledge is 'process' or learning, not *what* is to be learned. We had addressed this 'learnification' problem in earlier work (see McPhail & Rata, 2015) but need to address it specifically for the project. Our desire for clarification has also be encouraged by the more recent tendency in the literature (Johnston, Hipkins & Sheehan, 2017; OECD, 2018), to use 'epistemology' and 'epistemic knowledge' in confusing and contradictory ways.

6   Conclusion

Overall, the initial findings of the Knowledge-Rich School project support our claim that the CDC Model is an effective professional development tool and not a template that can be 'placed over' a course. The Model builds teacher design expertise enabling them to create a coherent curriculum, firstly by providing the tool with which to design the course or topic, then to connect that design to the delivery of the course.

It does not provide a quick-fix solution to curriculum design. This is a difficult task but one which elevates teaching from being a technical skill to a professional activity requiring expertise in both skill and judgement. In this it is truly a professional development tool requiring teachers to think deeply about what their subject is and how they understand it, then to make judgements about how best to teach it by applying 'know-how-to' based on their 'knowledge-that'.

References

Aristotle. (1994). *Nicomachean Ethics (Loeb Classical Library Edition)*. Cambridge: Harvard University Press.

Barrett, B., & Rata, E. (Eds.). (2014). *Knowledge and the future of the curriculum: International studies in social realism*. Basingstoke, UK: Palgrave MacMillan.

Bernstein, B. (1999). Vertical and horizontal discourse: An essay. *British Journal of Sociology of Education, 20*(2), 157–173.

Bruner, J. (1977). *The process of education*. Cambridge, Massachusetts: Harvard University Press.

Collis, B., Wang, C., Rowe, G., Rata, E., & McPhail, G. (2017). Towards an informed course design. In *Conference presentation. Association of Australian Engineering Education (AAEE)*. Sydney, 10–13 December 2017.

Department of Education. (2019). *Early career framework*. Retrieved from https://assets.publishing.service.gov.England/government/uploads/system/uploads/attachment_data/file/773705/Early-Career_Framework.pdf.

Etty, J. (2019). Applying the curriculum design coherence model to year 10 history, The origins of world War I. In *Presentation to the Knowledge in Education Research Unit (KERU): 9th Annual Symposium*. The Knowledge-Rich School Project: The Curriculum Design Coherence Model for a new National Curriculum, 19 November.

Gilbert, J. (2005). *Catching the knowledge wave? The knowledge society and the future of education*. Wellington, NZ: NZCER.

Grace, E. C. (2019). Missed opportunities: A social realist perspective on text selection in secondary school English. Unpublished Master of Education thesis, The University of Auckland.

Johnston, M., Hipkins, R., & Sheehan, M. (2017). Building epistemic thinking through disciplinary inquiry: Contrasting lessons from history and biology. *Curriculum Matters, 13,* 80–102.

Heikkinen, H. T., de Jong, F. P. C. M., & Vandervinde, R. (2016). What is (good) practitioner research? *Vocations and Learning, 9*(1), 1–19.

Hipkins, S., Johnston, M., & Sheehan, M. (2016). *NCEA in context*. Wellington: NZCER Press.

Hoadley, U. (2018). *Pedagogy in poverty lessons from twenty years of curriculum reform in South Africa*. London & New York: Routledge.

Lourie, M. (in press). Recontextualising 21st century learning in New Zealand education policy: the reframing of knowledge, skills and competencies. *New Zealand Journal of Educational Studies.*

Maton, K., & Moore, R. (Eds.). (2010). *Social realism, knowledge and the sociology of education: Coalitions of the mind*. London, UK: Continuum.

Ministry of Education. (2019). *Local curriculum package of support for 2019.* Retrieved from https://nzcurriculum.tki.org.nz/News/Local-curriculum-package-of-support-for-2019.

McPhail, G., & Rata, E. (2015). Comparing curriculum types: 'Powerful Knowledge' and '21st Century Learning' *New Zealand Journal of Educational Research, 51*(1), 53–68.

McPhail, G. (2016). From aspirations to practice: challenges for a new 21st Century' secondary school. *The Curriculum Journal*, *27*(4), 518–537. http://www.tandfonline.com/doi/abs/10.1080/09585176.2016.1159593.

McPhail, G. (2020). The search for deep learning: A curriculum coherence model. *The Curriculum Journal*. http://dx.doi.org/10.1080/00220272.2020.1748231.

McPhail, G. (under review). 21st Century Learning and the case for more knowledge about knowledge.

Moore, J. (2019). *Does knowledge matter?: Curriculum decision making in junior social studies*. Unpublished M.Ed. Thesis. University of Auckland.

Moore, R. (2007). *Sociology of knowledge and education*. Continuum: London.

Muller, J. (2000). *Reclaiming knowledge: Social theory, curriculum and education*. London: Routledge.

Muller, J. (2006). Differentiation and progression in the curriculum. In M. Young & J. Gamble (Eds.), *Knowledge, curriculum and qualifications for South African further education* (pp. 66–86). Cape Town: Human Sciences Research Council.

Muller, J. (2009). Forms of knowledge and curriculum coherence. *Journal of Education and Work, 22*(3), 205–226.

Muller, J., & Young, M. (2019) Knowledge, power and powerful knowledge re-visited. *The Curriculum Journal*, *30*(2), 196–214. https://doi.org/10.1080/09585176.2019.1570292.

New South Wales Education Standards Authority. (2018). *Australian teacher professional standards.* Retrieved from https://www.educationstandards.nsw.edu.au/wps/portal/nesa/home.

OECD. (2018). *The future of education and skills, education 2030*. Retrieved from https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf.

Ofsted. (2018). An investigation into how to assess the quality of education through curriculum intent, implementation and impact: Phase 3 findings of curriculum research. Retrieved from https://assets.publishing.service.gov.England/government/uploads/system/uploads/attachment_data/file/766252/How_to_assess_intent_and_implementation_of_curriculum_191218.pdf.

Ofsted. (2019). Inspecting the curriculum: Revising inspection methodology to support the education inspection framework. Retrieved from https://www.gov.England/government/publications/inspecting-the-curriculum.

Ormond, B. (2019). *Knowledge in history education: History teachers as curriculum makers.* Unpublished Ph.D thesis. University of Auckland.

Parker, W. (2018). Human rights education curriculum problem. *Human Rights Education Review*, *1*(1). http://doi.org/10.7577/hrer.2450.

Priestley, M., & Sinnema, C. (2014). Downgraded curriculum? An analysis of knowledge in new curricula in Scotland and New Zealand. *The Curriculum Journal, 25*(1), 50–75.

Palmer, J., & Pavlovich, J. (2019). Mathematics concept and content coherence across years 7–10. In *Presentation to the Knowledge in Education Research Unit (KERU) 9th Annual Symposium*. The Knowledge-Rich School Project: The Curriculum Design Coherence Model for a new National Curriculum, 19 November.

Pountney, R. (2020). The knowledge-rich school project: The curriculum design coherence model. In *Proceedings of A Research Approach to Curriculum Development, Rotherhide, London, 15th November 2019*. BERA/British Curriculum Forum.

Rata, E. (2012). *The politics of knowledge in education*. London: Routledge.

Rata, E., McPhail, G., & Barrett, B. (2019). An engaging pedagogy for an academic curriculum. *The Curriculum Journal, 30*(2), 162–180.

Rata, E. (2017). Knowledge and Teaching. *British Educational Research Journal, 43*(5), 1003–1017. https://doi.org/10.1002/berj.3301.

Rata, E. (2018). Connecting knowledge to democracy. In B. Barrett, U. Hoadley, & J. Morgan (Eds.), *Knowledge, curriculum and equity: Social realist perspectives*, *Routledge*, (pp. 19–32). London: Routledge.

Rata, E. (2019a). Knowledge-rich teaching: a model of curriculum design coherence. *British Educational Research Journal, 45*(4), 681–697. https://doi.org/10.1002/berj.3520.

Rata, E. (2019b). Applying the curriculum design coherence model to year 9 social studies topic–Ngati Kuri. In *Presentation to the Knowledge in Education Research Unit (KERU) 9th Annual Symposium*. The Knowledge-Rich School Project: The Curriculum Design Coherence Model for a new National Curriculum, 19 November.

Ryle, G. (1949). Knowing how and knowing that. *Proceedings of the Aristotelian Society, 56,* 212–225.

Sinnema, C., Nieveen, N., & Priestley, M. (2020). Successful futures, successful curriculum: What can Wales learn from international curriculum reforms? *The Curriculum Journal*, *31*(2).

Spielman, A. (2018). HMCI commentary: curriculum and the new education inspection framework. Retrieved from https://www.gov.England/government/speeches/hmci-commentary-curriculum-and-the-new-education-inspection-framework.

Tamati, S. T. (2019). Transacquisition pedagogy with emergent bilinguals in indigenous and minority groups for cultural and linguistic sustainability. In C. Seals & V. Olsen-Reeder (Eds.), *Embracing multilingualism across educational contexts*. Wellington: Victoria University of Wellinton.

Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *The Journal of Curriculum Studies, 44*(3), 299–321.

Wheelahan, L. (2010). *Why knowledge matters in the curriculum*. London, UK: Routledge.

Winch, C. (2013). Curriculum design and epistemic ascent. *Journal of Philosophy of Education, 47*(1), 128–146.

Winch, C. (2017). *Teachers' know-how: A philosophical investigation*. Hoboken, NJ: Wiley.

Young, M. F. D. (2008). *Bringing knowledge back in: From social constructivism to social realism in the sociology of education*. London, UK: Routledge.

Young, M. (2010). Why educators must differentiate knowledge from experience. *Pacific-Asian Education, 22*(1), 9–10.

Young, M. (2013). Overcoming the crisis in curriculum theory: A knowledge based approach. *Journal of Curriculum Studies, 45*(2), 101–118.

Young, M., & Muller, J. (2013). On the powers of powerful knowledge. *Review of Education*, *3*, 229–250.

Young, M., & Lambert, D. (2014). *Knowledge and the future school: Curriculum and social justice*. London: Bloomsbury.

Zame, L. (2019). Knowledge in inquiry learning. Unpublished M.Ed. thesis, University of Auckland.

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Chapter 18
Reflecting on Japanese Teacher Education by Looking Globally at Teacher Education Through a Policy Learning Lens

Yuko Fujimura and Mistilina Sato

Abstract This study is an international comparative study of teacher education that uses a policy learning conceptual framework. In response to new policy directions from Japan's Central Council for Education, a group of researchers looked globally at trends in teacher education. Through a secondary analysis of the original report, we identify three analytic themes that raise questions for the local context of Japan: conceptualizing the role of professional practice; the academization of teacher education; and responding locally to globalization forces. The discussion points to the importance of exploring local values and needs when responding to the global forces in education.

1 Introduction

Teacher educators and policy makers around the world have turned their gaze outward towards other countries much more regularly in recent years (Paine & Zeichner, 2012). In this chapter, we describe how a group of educational researchers in Japan looked outward towards nine countries' teacher education systems (Fujimura & Horiuchi, 2018). Their purposes were a combination of wanting to contribute to the work of improving teaching quality in Japan, wanting to learn from other countries in order to keep Japan in twenty-first-century conversations about teacher education, and wanting to see just how different or similar the Japanese approach to teacher education is when contrasted with other countries. One of the co-authors of this paper was a member of the original research team and also translated the research report to English. This chapter is drawn from the original research report and reanalyses the findings with an eye towards understanding how a nation, such as Japan, can draw

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on comparative examples from other nations in order to learn about the assumptions and issues within their own system of teacher education.

The next section lays out findings from prior global studies of teacher education, pointing out how these studies have found both variation and similarities in teacher education across jurisdictions. We then frame our current analysis using a policy learning lens. A brief discussion of the Japanese context of teacher education is provided to describe the impetus behind the original research study and to sketch out the general approach to teacher education in Japan. We then provide a secondary analysis of the original research report, identifying three analytical themes: (1) conceptualizing the role of professional practice in teacher education; (2) academization of teacher education through professional master's degrees; and (3) local considerations in response to globalization. In the discussion, we explore three themes for potential reflection and learning in the Japanese context. In this discussion, we pose questions and present dilemmas in the spirit of exploring learning opportunities for the teacher education sector in Japan. Our discussion aims to explore how the examination of different systems of teacher education shed light on what these issues mean locally in Japan. In many ways, we see these as global issues that have very local meanings (Vavrus & Bartlett, 2012).

2 Prior Research and Conceptual Framing

Previous studies looking internationally at teacher education have noted how teacher education varies widely across countries due to variation in organizational structures, what counts as knowledge for teaching, understandings of how teachers can and should learn, and how to manage the relationship between theory and practice in the professional preparation of teachers (Tatto, 2009, 2011). The Organisation for Economic Co-operation and Development (OECD) (2005) produced a set of case studies of recruitment, preparation, and retention of effective teachers in 25 countries. These case study comparisons revealed important variations across countries. For example, teacher education took place in universities, in teacher training colleges, as well as in independent and state agencies. For some jurisdictions, but not all, teacher education took place after an undergraduate degree was awarded, suggesting a higher level of subject-matter knowledge expectation. The role that in-school practice has in teacher education is another point of variation, in terms of how long a teacher education student spends in practice-based learning settings, in how the relationship between practice-based knowledge/theory and social/educational theory is characterized and developed, and in how school teachers and higher education faculty are viewed as teacher educators.

Taking a more systems-view approach to international comparisons, Darling-Hammond et al. (2017) identified some common features across jurisdictions that can be supportive of teacher development and overall teaching quality. For example, Darling-Hammond et al. (2017) set out to understand how high performing jurisdictions (based on PISA assessment outcomes) supported their teaching forces through

their national policies and local practices. The authors concluded from seven juris-dictional case studies that in addition to more generally holding a high regard for teachers within the national culture, teacher education had a distinct process for selecting people into the profession; had strong financial support for teacher preparation and ongoing professional learning; had a set of national professional standards that outlined the expectations for teaching; and teacher development was treated as a continuum within the educational system.

Comparative research is not always done with the intention of finding better practices to adopt or to copy what works in another context. 'Comparative education can help us understand better our own past, locate ourselves more exactly in the present, and discern a little more clearly what our educational future may be' (Noah, 1986, p. 154). Building on the idea of using international comparative analysis as a means of learning, we take a policy learning approach through this analysis, as opposed to a policy borrowing assumption. Policy borrowing is built on the assumption that so-called best practices can be transferred across national contexts (Phillips & Ochs, 2003). With a policy learning assumption, nations can learn from international peers and those they perceive to be leading in innovation, while also holding the home nation's values, culture, history, and contextual constraints and affordances in mind during policy deliberations (Raffe & Spours, 2007). This situated problem solving reflects the social dynamics that are at play in the context of more global conversations about key educational issues such as teaching quality, student achievement, and equity-oriented systems. Nations do not operate as isolated entities, but instead are bound up in a larger social fabric where understanding what others do can be beneficial in understanding one's own systems. Additionally, 'A policy learning approach also learns from a country's own history and develops forms of governance with effective communication between policy and practice' (Raffe, 2011, p. 1).

3   Japanese Context of Teacher Education

In Japan, teacher education programmes grant future primary and secondary teachers a single credential for studies in subject-matter content, pedagogy, and other courses in education. The primary education programmes prepare generalist teachers to teach from grades 1–6 and the secondary programmes prepare specialist teachers to teach from grades 7–12. All teacher education programmes are four-year university undergraduate programmes. After completing a university programme, the student applies for a teacher certificate from a prefecture board of education and takes the selection examination set within the prefecture or the government-ordinance-designated city where they are seeking employment.

Teacher education programmes generally offer courses in four areas: (1) liberal arts, (2) teaching subjects and related content, (3) educational foundations, and (4) clinical experiences. Programmes comprise 95 academic credits (1425 class hours) with only 5 credits (75 class hours) dedicated to clinical experience. These field experiences primarily serve as introductory preparation for getting to know schools

as organizations; learning about the work of teachers and whether students find it an appropriate choice of career; observing students; and assisting in teaching tasks in limited and closely supervised ways. This small portion of clinical experiences has been criticized, setting off a national policy requirement to change programme structures.

A report from the Japanese Central Council for Education in 2006 made several recommendations for improving the overall teaching quality in Japan. These recommendations included extending the duration of clinical experiences in teacher education, establishing a graduate programme for teachers, and introducing a teaching licensure renewal process for teachers. This report was a turning point in teacher education in Japan, creating a wave of new graduate programme development and teacher education programme revisions that continues today.

In response to these policy recommendations, a group of six educational researchers in Japan took on a project to look abroad at how teacher education was organized in nine countries. The research group adopted a multi-site comparative analysis methodology, focusing on how pre-service teachers are educated. Nine countries were included: England, Finland, France, Germany, Latvia, Russia, South Korea, Thailand, and the United States. They were chosen based on having teacher education programmes located in higher education settings and existing connections that researchers had in each country. Data were collected in 2015–16 through curriculum analysis and in-country interviews. Each researcher wrote a descriptive case study, outlining the history of significant educational reforms in teacher education, programme design and the roles of the university and the schools, and other influencing factors. A comprehensive descriptive report was constructed from these case studies with several points of recommendations for the design and development of new programmes in the Japanese context. In the following analysis, we report on seven of the nine nations in the original study, removing the United States and Russia due to the complexity of these nations' approaches and the difficulty of making general statements about their teacher education programming.

4   Thematic Analysis of Seven Nations' Approaches to Teacher Education

Our intent in this analysis was to find themes that would inform the Japanese teacher education context using a policy learning approach. We did not set out to directly compare Japan with these nations or to compare these nations to one another on a point-by-point basis. In the introduction to each nation, we provide enough general information to characterize the teacher education approach in order to ground the reader in the generalized model or approach to teacher education. In some cases, we provide a bit more history about the changes in teacher education over time where we have the data available and when it seems to matter in order to show changes over time. Our analysis shows us something about the global issues that

are confronting teacher education—issues that Japan can become aware of and learn from. For example, in analysis theme 1 the examples of England, Germany, and Thailand illustrate the theme of conceptualizing the role of professional practice in teacher education. In analysis theme 2, the examples of France and Finland show us how the academization of teacher education has evolved through the development of professional master's degrees. Finally, the Latvia and South Korea examples provide examples of local considerations in response to globalization in analysis theme 3.

4.1   Analysis Theme 1: Conceptualizing the Role of Professional Practice in Teacher Education

From a policy learning perspective, approaches to bridging theory and practice together is one of the lessons Japan is seeking to learn about. The models from England, Germany, and Thailand illustrate for us three key issues related to the way practice-based knowledge is conceptualized in teacher education—as time in schools, as lower-status knowledge compared to academic knowledge, and as a collaboration between universities and schools.

First, we will look at a model of pre-service teacher education in England, focusing on the postgraduate qualification certificate in education (PGCE) programme, which is one of the main routes to becoming a primary and secondary teacher in England. The programme organization requires two phases of post-secondary education; first, an initial university degree in liberal studies with specialization in a subject-matter field for three to four years, and then a postgraduate experience focused mostly on pedagogy and practicum for one year. The postgraduate scheme allows people from diverse content backgrounds to become teachers through a one-year professional preparation process.

The teacher preparation programmes are distinguished between primary education and secondary education, and the secondary education teacher training course has specialized education by subjects. Programme content is organized according to professional teaching standards developed by the National College for Teaching and Leadership (NCTL), which is an organization under the Ministry of Education. The use of teaching standards across multiple teacher preparation programmes holds all programmes accountable to a common set of expectations.

Our particular focus was on the programmes offered by the Institute of Education, University College of London. In this particular model, the curriculum is divided into three modules. Module 1 is a total of 12 weeks, divided across the first half and the second half of the programme and focuses on subject area content, observations of practice, and preparing and presenting a research project. Module 2 comprises two weeks in the summer term and focuses on observations in specialized educational settings such as child centres and special support schools. Module 3 is nine to ten weeks long and is the period of more intensive practical work in schools with responsibility for planning and teaching lessons and being evaluated on teaching quality.

Similarly, Germany recently moved to a model of expecting pre-service teachers to complete postgraduate study for teacher certification. This was a consequence of the Bologna process that promotes European integration through the standardization of higher education degrees (Tsujino, 2015). This standardization of master's level qualifications for teacher education across Europe is reported to promote occupational mobility by providing access to the teaching profession at many career stages, not just at the undergraduate qualification level.

In Germany, teacher preparation is a two-stage process. The first stage takes place in universities through the completion of an undergraduate degree followed by a master's level programme. In general, the three-year undergraduate course requires 180 credits and the one-year graduate course requires 60 credits. Practicum training is 30 credits and academic research is represented across the undergraduate and graduate programme through 21 credits. The second stage is a form of pedagogical learning experience in schools for 18–24 months. Exams must be passed at the end of both stages of preparation in order to have successful employment, with the exam after stage two being a national level exam.

Germany's teacher education curriculum is based on a set of teacher education standards that define the competencies that future teachers and in-service teachers should have in order to hold a teaching position. The four main themes in the standards are teaching (Unterrichten), education (Erziehen), assessment (Beurteilen), and innovation (Innovieren). These standards are further defined into eleven competencies. These teacher education standards have influenced the design of teacher education curriculum in the university programmes and in stage 2 practical training portion of teacher education nationally (Tsujino, 2015).

A third illustration in this study comes from Thailand. In 2005 Thailand shifted from a four-year teacher certification system to a five-year bachelor's degree with a one-year teaching internship as the requirement for acquiring a teaching license. Also, in 2005, Education Professional Standards were adopted and were revised in 2013. University programmes align their curriculum to these standards and programme accreditation guidelines from the Teacher Council (Kurusaphar). With the change from a four-year system to five-year system, the total acquired credits increased from 130 credits to more than 160 credits. Subjects related to general education were reduced from 40 credits to 30 credits, and selected courses were reduced from 10 credits to 6 credits. Also, one year of teaching practice in an internship was increased from 10 credits to 12 credits or more. The largest increase was in teaching subjects from 35 to 50 credits and pedagogical subjects from 45 to 74 credits.

Examining these models in light of the Japanese teacher education system, we reflect on how Japanese teacher education has long been criticized for its lack of attention to the relationship between the theories of educational practice and the actual practice of teaching (Fujimura & Sato, 2020). Teacher preparation students spend very little time in actual classroom practice, usually only three weeks, and teacher education faculty usually have very limited experience working in schools. The British PGCE model embeds practice within the one-year intensive programme; the German two-stage model and the Thai one-year internships added additional time to the teaching qualification programme.

These models also help us question the status that practice-based knowledge is afforded in these programmes. In the PGCE curriculum, the modules are evaluated for the level of academic work expected of the students and the levels within the UK academic scheme. Module 1 and module 2 are designated at Master's level and assigned 60 credits. However, Module 3, which primarily focuses on the practical work of teaching, is designated at the undergraduate level. The PGCE model from the Institute of Education, University College of London offers a way to see more practical work in teacher preparation in how the programme is structured, allowing more time for observation and work in schools. But while the weight of practical training is heavy, the practical work itself is not regarded as master's level academic work. Research projects are given higher status than learning complex integration of knowledge and skills along with the on-the-ground decision-making that make up much of teaching through practice. The academic level schemes used in England and elsewhere do not seem to acknowledge the variety of ways that a student can learn important concepts and skills through practical experiences. The degree schemes, as education policy, have embedded assumptions about the status of different kinds of knowledge. This gives us pause to consider how we can conceptually understand what we mean by bridging theory and practice together and how the knowledge and skills gained through practice can be conceived within teacher education as valuable, high-level, academic learning.

Finally, we see that the German and Thai model have resolved the issues of the relationship between academic preparation for teaching and practical training for teaching in schools through policies that support collaboration between universities and schools. The practical training, while in schools, requires collaboration among universities, schools, and educational administrative agencies in order to create and cultivate teacher professional capabilities. The academic training and the practical experiences are linked together through allegiance to a set of agreed upon expectations for teachers that are used to guide both university programme design and the learning-in-practice component. It is important to note that these models do not completely shift the responsibility of pre-service preparation to schools. In Thailand, for example, the design is intensive for the schools, with mentors needing to have specialized training to support the interns in schools. The qualification of mentor teachers in schools is enacted by the Teacher Council and the mentor teachers are required to have this qualification in order to work with the teacher intern. The combined work of the university, the Teacher Council, and the teachers in schools seems to create a system in which the burden of preparing beginning teachers is shared across all sectors of the education system.

4.2   Analysis Theme 2: Academization of Teacher Education Through Professional Master's Degrees

Next, we look at France and Finland. Both of these nations have requirements of a master's degree for teaching qualifications and have a strong focus on research activity by teachers. We draw attention to two core issues through our policy learning lens—the role of research in teaching practice and the nature or practitioner knowledge within teaching.

In France, teacher qualification requires a master's degree as a basic requirement. Teacher training is conducted at universities' écoles supérieures du professorat et de l'éducation (ESPE), which were established through national law in 2013. ESPEs are schools or departments within universities and there is one ESPE for each education region in France (a total of 32 ESPEs) (Cornu, 2015). After three years of undergraduate study at the university, teacher candidates enter ESPE and take courses for two additional years leading to a national master's degree for professional teaching (Métiers de l'enseignement, de l'éducation et de la formation). After completing the first year of teacher preparation, teacher candidates take an employment examination. This is considered the entry point to the teaching profession. Successful candidates continue to the second year of the EPSE. In the second year, the teacher candidates are paid as trainee teachers. They take coursework such as methodology of teaching and pedagogy, complete a research project (mémoire), and teach half-time in a school. After passing the qualification examination at the end of the second year, the candidates receive a master's degree and are considered permanent teachers.

France has had several waves of reform in teacher education in the past 30 years. Prior to the 1990s primary teachers were prepared through normal schools (écoles normales) with two years of university education and two years of pedagogical training. Secondary teachers were primarily viewed as subject-matter experts with very little formalized pedagogical preparation. The shift in the 1990s to University Institutes for Teacher Education brought teacher preparation for both primary and secondary teachers closer to the university (while they still remained separate from the university) and established parity between the preparation and salaries of primary and secondary teachers. This reform was premised on building stronger connections between disciplinary content knowledge and professional knowledge and competencies while also instilling a stronger connection to university-based research. The shift to ESPEs in 2013 institutionalized pre-service teacher education within universities and strengthened the expectation that teachers received a master's degree for their five years of university study.

Researchers visited the University of Paris at Créteil for this study. The curriculum in ESPEs, while locally developed, must align with national professional standards or competencies for teaching and with the academic framework for the master's degree qualification. According to the national standards, four general themes guide teacher preparation: subject area knowledge, teaching the subject area, teaching methods, and research. During the first year of ESPE, teacher candidates are primarily preparing for the national examination. The curriculum includes courses focused on knowledge in

subject specialization, teaching method, psychology, understanding children, social and cultural foundations, and research. Research is undertaken by teacher candidates in both the first and second year of the ESPE programme and a formal study is conducted in order to graduate. Students have two weeks of professional practicum in both the first and second semester which includes observation practice and guided instructional practice.

A candidate could take the employment examination without completing the first year of the ESPE curriculum and then enrol in ESPE from the second year. In the second year, the students get a salary as a trainee civil servant and carry out teaching and classroom management part-time while completing the rest of the ESPE requirements, which includes a graduating research study. Teacher education at the graduate level is designed to foster the research abilities of future teachers. Research methods are learned in coursework, and then students set the theme for their graduation research. Studies are focused on analysis of a problem actually faced in the classroom. The curriculum and guidance provided for the research study emphasizes that problems that teachers will face in a diversified society will continue over time, and the possibility that unexpected things will arise is fully considered. Accordingly, teachers are expected to acquire the ability to discover, analyse, and solve problems in practice given the ever-changing nature of schools and society.

Finland also places an emphasis on the research capabilities of teachers through its five-year qualification that results in a master's degree. In 1968, the Finnish teacher preparation system started a three-year primary teacher training undergraduate course and in 1974 the faculty of education was established in all universities. In 1979, a master's degree was required as a basic qualification for comprehensive school and general upper secondary school teachers.

This study focused on the University of Helsinki. The Faculty of Education has a Department of Pedagogy, which is responsible for theoretical research, and a Department of Teacher Education, which is responsible for practical research. For both primary and secondary school teaching, a three-year undergraduate and two-year master's course is required. Generally, secondary school teachers have a master's degree corresponding to their focused subject area. The programme focus is on developing a teachers' way of pedagogical thinking and relies heavily on teachers understanding theory and conducting their own research. To obtain a teaching qualification, teachers complete a master's thesis with the theme typically based on actual school-based issues.

Examining the French and Finnish models through a policy learning lens for Japan, we can see the steady move of teacher education into the university. Both nations have focused on teacher professionalism through raising academic expectations resulting in a professional master's level qualification with an emphasis on research methodologies that is very distinct from Japanese teacher preparation. There is also a focus on supporting teachers to develop their own research skills and grounding their research in problems of practice from the classroom.

We looked to see how students are supported in making connections between research and practice is the Finnish example. One of the main ways that students are supported in this research-based approach is by a faculty that is very experienced in

the daily work of schools. Most, if not all, teacher education faculty are former school teachers who have returned to university to obtain a doctorate degree and become university-based instructors. All members of the faculty at Helsinki University who were interviewed for this study had a background as primary or secondary school teachers. This leads us to understand that one way to bridge the theory and practice aspects of preparing teachers is by examining the experience of our own faculty members in teacher education in Japan. From a policy learning lens, the Finnish example challenges a Japanese assumption that the research faculty and practitioner teacher need to be so distinctly separate as they are currently in Japan.

If more people with deep understanding of the thinking and knowledge that is bound up in the practice of teaching were members of the teacher education faculty, we might see a very different way to frame the issue of how theory and practice can work together. For example, in the Finland interviews, we came to understand that the focus on pedagogical thinking as a core aspect of teacher preparation created a different focus within the teacher education curriculum. Pedagogy was treated as a discipline in and of itself rather than as a way of applying theory to practice. This leads us to wonder if a close examination of our curriculum, which is largely set by the government, needs to be reconsidered with more input and consideration given to the high level of reasoning and creativity that goes into teaching every day.

4.3   Analysis Theme 3: Local Considerations in Response to Globalization

Finally, we look at the cases of Latvia and South Korea as contrasting examples of reacting to global shifts in teacher education. Latvia, which joined the EU in 2004, is in the process of matching its entire education system to the EU standard. The undergraduate university degree is four years and the master's degree, in general, is one year. Shifting to the EU system will change the current framework to three years for undergraduate degrees and two additional years for a postgraduate degree.

We particularly examined the programmes at Riga Teacher Training and Educational Management Academy, the National University of Latvia, and University of Liepaja which are the main institutions for pursuing teaching certificates. The curriculum at the undergraduate level primarily covers six areas: general subjects, basic theory (equivalent to pedagogical subjects), teaching subjects, free choice, teaching practice, and a graduation thesis.

At the time of this data collection, the master's degree was not required for the teaching certificate but was designed to further enhance the undergraduate learning for practicing teachers. About one-third of undergraduate students go on to the master's degree after graduating and while working as school teachers. The majority of the master's degree total credits are devoted to teaching practice and master's thesis guidance. We interpret this to suggest that the aim of the master's degree is the theoretical exploration of practical tasks and to deepen the knowledge acquired in

the undergraduate courses. Since all of the master's degree students work as school teachers, their practical work in the master's programme is based on their research interests at their school. This system is similar to the graduate level education programmes being developed for teachers in Japanese schools, which serve as an ongoing professional learning opportunity.

As the EU integration progresses in Latvia, the programme will need to be designed to match the EU standard. The intention of having a common set of expectations across degree programmes and professional qualifications is to help promote the movement of people through international exchange activities and credit compatibility among EU member countries. For Latvia and the other countries in the EU that have smaller economies, this shift in educational expectations for teacher certification is a major systemic change that also has economic implications. For example, Latvia's population continues to decline because of the economic and income disparity with more economically advantaged countries such as Germany and France. Teaching is not a stable profession in Latvia and the salaries for teachers are quite low. Therefore, the incentive to pursue a master's level degree for the professional wage of teaching is not very high. The standardization of professional qualification within the EU also contributes to the outflow of doctors and other professionals from Latvia.

Additionally, like other Baltic countries, Latvia has a complex history in relation to its neighboring powers of Poland and Russia. It was annexed by the Soviet Union in 1940 and is considered a constituent republic of the Soviet Union, having achieved independence in 1991. Today, 30% of the Latvian population is Russian and more than 60% are considered stateless. Securing a national identity in race, ethnicity, and language is regarded as a major educational issue for the country.

In contrast, the overall structure of teacher education in South Korea resembles the Japanese model of teacher education and remains primarily a four-year undergraduate design. In South Korea, teaching as an occupation is a very popular option. Salaries are strong and benefits are attractive. This makes pre-service teacher preparation a competitive endeavour for those who want to become teachers.

This study looked specifically at Gyeongin National University of Education and Chuncheon National University of Education. These undergraduate preparation programmes comprise 126 credits: liberal arts (35 credits), pedagogical subjects (24 credits), teaching subjects (47 credits), practical teaching subject such as English skills and computer skills (12 credits), advancement course (2 credits), and teaching practice (6 credits). Additionally, students have a graduation thesis and voluntary activities that do not carry credits. Teaching practice is organized in four stages: observation, participation, teaching class, and classroom management. Most people interviewed reported that they thought six credits was not enough dedicated credits to teaching practice. This is not surprising given that 60–70% of the faculty members interviewed at the universities in this study have had teaching experience at primary and secondary schools and are now pursuing academic research grounded in their professional practical experience.

Master's degree level study is available for teachers in South Korea after the initial teaching qualification. This level of study can focus on pedagogical issues, educational administration, and deepening subject-matter teaching specialization. Almost all school teachers go to graduate school between 5 and 15 years after beginning their teaching career. Pursuing a graduate degree as a teacher may be attractive in South Korea because there are opportunities to be promoted into managerial and teacher leadership positions. Teachers must pass an examination to be eligible for these promotions and having a master's degree can support this process. It may also be attractive because of the relevance of the degree to the practice of teaching. The curriculum in the graduate programmes that were reviewed in this study aligns with the activities of teaching and the school curriculum areas of study—a strong focus on teaching methods for primary school teachers and on subject-matter content for secondary school teachers.

For Japan, the Latvian example of integrating into the EU education and qualification system is a good reminder to carefully consider our own history and national identity as part of our efforts to improve teacher education. Before rushing into adopting master's level teacher preparation programmes which has become a popular call in education policy (Central Council for Education, 2006) we should examine the incentives for our undergraduate students to enter teacher education. We should further examine the value of a postgraduate degree in teaching for both the initial qualification and for advanced qualifications by asking not only about the economic advantage that this might bring to teachers, but also by asking how our national identity and purposes of educating our students can better be served by advancing the knowledge and skills of our teaching force. The Latvian example of conforming to the external pressures of globalization are a reminder for us to stay in the global conversation about improving teacher education while also understanding how our current systems may or may not be serving our local economic, cultural, and educational values.

As Japan considers graduate level education for teachers, the South Korean example illustrates how graduate level study can continue to support teachers' development of deep pedagogical knowledge after they achieve the initial teaching qualification. The fusion of theory and practice was evident in these institutions' programmes and was supported by their faculty who also had teaching experience. These examples helped us see that professional educators could be supported in their ongoing pursuit of knowledge and professional learning if the curriculum is relevant to their daily work and career ambitions.

5   Discussion: Local Reflections for Japan

Looking globally in order to understand the local issues in Japan raises three key questions for policy in Japan regarding teacher education. First, how does the Japanese system reflect the connection between theory and practice in teacher education? Second, while the role of the university in the initial education of teachers is quite clear

in Japan, these international illustrations helped illuminate a set of questions around the ongoing role of the university in teacher learning. And third, how do we account for our local and contextual considerations while feeling the forces of globalization?

5.1 Conceptualizing the Relationship Between Theory and Practice

All of the nations in this study position the main proportion of pre-service teacher education in higher education settings. The agreed upon assumption is that teaching qualifications are tied to achieving a bachelor's or a master's degree. In addition to the university-based learning experiences, however, several have constructed their teacher preparation programmes to incorporate extensive time learning in practice and under the guidance of school-based practitioners and they weave the practicum-based work with the university-based work. The PGCE model in England incorporates practice-based learning across each of the three modules in the one-year postgraduate programme, with an extensive professional practice learning experience in the third module. France has incorporated a two-year postgraduate process that includes a paid period of in-school practice during the second year. Germany has incorporated a year-long internship requirement before a teacher candidate is eligible to take the national examination and seek employment. And Thailand has added a year-long internship after the bachelor's degree that requires universities to partner with schools in new ways.

All of these examples help us look at the Japanese model of teacher education and ask questions of how we have conceptualized the knowledge for teaching and the connections between theory and practice. Most of the time studying to be a teacher in Japan is set in the university, with time in schools being limited to three to four weeks. We sometimes view the time our students spend in schools as a burden on the schools. Generally, we have created a fairly clear distinction between the universities' responsibilities and the schools' responsibilities for preparing new teachers. The models from the countries in this study, however, illustrate ways to share the responsibility between the universities and the schools. These models require resources of time from schools, coordination efforts from both universities and schools, and efforts to share a common set of expectations for how to support successful learning for teacher candidates. These resources are not trivial. Resources aside, however, the key question for the Japanese context would be the willingness to reimagine the knowledge and skills we value in the university and the schools.

These examples also raise questions for us about the kinds of knowledge we value in the university in Japan. Our university staff in teacher education do not typically have a background or experience in teaching, yet almost every faculty in the countries examined in this study have acquired a teaching qualification and have teaching experience in primary or secondary education. In Japan, we have valued the professoriate as theoreticians and created our programmes to rely on the expertise

they bring from their disciplinary perspectives. We have very little role for practical knowledge of teaching in our teacher education programmes. We rely on the schools to develop this kind of knowledge among teachers after they are hired. Should we re-examine our assumptions about the kinds of knowledge that we embrace in the university? How would practical theory and practical knowledge be supported in our universities? Should we reimagine the way that we hire and promote university staff in order to represent a more diverse range of knowledges in teacher education? Could we represent the relationship between theory and practice through different kinds of relationships with schools and school-based teacher educators?

5.2   The Role of the University in Teacher Education

As the Japanese policy context shifts to expecting universities to offer graduate degrees for teachers, we saw in these examples a range of ways to imagine the role of the university in teacher education both at the pre-service and in-service periods of teachers' careers. While the role of the university in the pre-service education of teachers is quite clear in Japan, these international illustrations helped illuminate a set of questions around the ongoing role of the university in teacher learning after initial teacher qualification. These national illustrations provided an important contrast for Japan, raising questions of who we hire as teacher educators; what our university faculty have to offer to the ongoing learning of teachers; and what is the role of universities in the professional growth of teachers?

These cases provide some evidence of the overall academization of teacher education during the pre-service preparation with the shift to graduate level education in most countries in the study. We also saw in the case of France, the transition of teacher education from normal schools, to university-affiliated institutes, to university departments. With this shift to graduate level education for pre-service teacher education and the general academization of teacher education, we see the requirement for teachers to be research-engaged increasing. Research methods was common in the programme curriculum and in the well-known Finnish model, teachers are viewed as researchers in the classroom. Universities are well positioned to provide expertise in the development of knowledge of research methods and guidance in conducting research activities. The challenge for Japan will likely lie in how to frame research questions and activities through the lens of practicing teachers and what questions matter most for them and their practice.

In Latvia, South Korea, and Thailand graduate programmes are available for ongoing teacher professional development. The questions these examples raise for Japan are around the types of knowledge that are most applicable, meaningful, and supportive for teachers who might choose to pursue these higher degrees. If gaining information that will be immediately applicable to classroom practice is the goal, maybe our current university faculty are not the best suited instructors. Should the universities then be seeking to employ expert practitioners to deliver practice-based

knowledge? If learning how to be a practitioner researcher is the goal, maybe our current university faculty need more knowledge and experience in this form or research. Should the universities be partnering with practitioner researchers to learn together?

5.3   Responding to Pressures of Globalization

Reading across international reports of teacher education, the opening frames are predictably about globalization forces tied to economic arguments and the need for stronger accountability to ensure a system that manufactures human resource outcomes that will contribute effectively to national economies. International comparisons of teacher education systems often conclude that: 'Notwithstanding their origins, commonalities, and differences, all systems of teacher preparation have to rethink their core assumptions and processes in the new global context' (Gopinathan et al., 2008, p. 14). While we agree with the call to rethinking our core assumptions, we are not suggesting that we do this in order to conform to the globalization arguments that are based on economic and market-force arguments. The local contextual considerations must account for something in our policy deliberations. Within the context of Japan, the history of the nation, the culture of people, and the role of teaching within society are important to consider in our policy learning frame.

The history of the profession also matters a great deal in how the work of teaching and teacher education is constructed. For example, the Finnish Model is not simply a matter of a master's degree and research preparation for teachers. There is a history and culture within the teaching profession that supports teaching as a research-based profession. The history of the nation matters as well. The Latvian example shows us a nation that is entering into the EU alliance while still struggling to claim its own national identity. Additionally, market forces are not only global, they are local to the region. Again, Latvia illustrates how adopting the Bologna principles for professional education is in conflict with local economic issues: holding a master's degree as a teacher does not align with the current available salaries for teachers and other highly trained professionals are leaving the country to secure higher salaries elsewhere in the EU.

For Japan, we should account for the culture of the teaching profession and the expectations that teachers hold of one another in terms of their professional learning. Are graduate degrees a necessary form of learning and will they help advance knowledge within the profession? We would also ask about the role of national values and identity in education. What is uniquely Japanese that may be worth preserving? And what are the local market forces that we are engaging in? Is the hiring of teachers competitive across prefectures? Is the teaching population mobile? What are the local incentives for the pursuit of more university qualifications?

6 Closing Thoughts

We have chosen to look globally in order to understand the local issues that Japan is facing and to put our assumptions into contrast with other systems. As researchers, we need to understand our lenses and values alongside the global discourses of teacher education reform. At the same time, we need to be locally aware:

> In light of these cultural, political, economic, technological, and demographic shifts, and of the range of research that points to the power of both global and local to shape the work, supports, and discourses of teaching, we need to ask questions about the ways global and local interact in relation to teaching and teacher education internationally. (Paine & Zeichner, 2012, p. 573)

We have identified some key issues that this international comparison sample helps identify for the professional and research field of teacher education. These issues— the way in which the practice of research is woven into teacher education, the status of practitioner or practical knowledge within university-based teacher education, the construction of roles in teacher education for universities and schools, and how the forces of globalization challenge our current systems—are not surprising and many will recognize them as recurring, persistent, and sometimes contentious aspects of teacher education. The learning we draw from this analysis is that if changes are to be adopted based on globalization forces, the powerful role the local systems and values play in how teacher education is organized must be thoughtfully considered. We entered into this analysis cautious about a stance of policy borrowing. Policies from one nation cannot be transported and implanted without local considerations. Not all answers can be found in research studies or by looking outward to other nations. Through our policy learning lens, we leave this analysis with many helpful questions regarding the changing nature of teacher education in Japan.

References

Central Council for Education, (2006). *The way of future teacher training, license system.* Retrieved from http://www.mext.go.jp/b_menu/shingi/chukyo/chukyo0/toushin/1212707.htm.

Cornu, B. (2015). Teacher education in France: Universitisation and professionalization—From IUFMs to ESPEs. *Education Inquiry*, *6*(3). https://doi.org/10.3402/edui.v6.28649.

Darling-Hammond, L., Burns, D., Campbell, C., Goodwin, A. L., Hammerness, K., Low, E. L., et al. (2017). *Empowered educators: How high-performing systems shape teaching quality around the world.* San Francisco, CA: Jossey-Bass.

Fujimura, Y., & Horiuchi, T. (2018). *Comparative study on teacher education focused on system and curriculum of graduate programs in 10 countries*, JSPS KAKENHI Grant Number 26301041.

Fujimura, Y., & Sato, M. (2020). How Japanese education boards frame teacher education as a training, learning, and policy problem. *Journal of Education for Teaching, 46*. https://doi.org/10.1080/02607476.2019.1708625.

Gopinathan, S., Tan, S., Yanping, F., Devi, L., Ramos, C., & Chao, E. (2008). *Transforming teacher education: Redefined professionals for 21st Century Schools* (a report commissioned by The

International Alliance of Leading Education Institutes. Singapore: National Institute of Education. Retrieved from: https://www.academia.edu/6034904/a_Transforming_Teacher_Education_Redefined_Professionals_for_21st_Century_Schools_Contents.

Noah, H. (1986). The use and abuse of comparative education. In P. G. Altbach & G. P. Kelly (Eds.), *New approaches to comparative education* (pp. 153–166). Chicago, IL: University of Chicago Press.

Organisation for Economic Co-operation and Development (OECD). (2005). *Attracting, developing, and retaining effective teachers. Final report: Teachers matter.* Paris, France: Author.

Phillips, D., & Ochs, K. (2003). Processes of policy borrowing in education: Some explanatory and analytical devices. *Comparative Education, 39*(4), 451–461. https://doi.org/10.1080/0305006032000162020.

Raffe, D., & Spours, K. (Eds.). (2007). *Policy-making and policy learning in 14–19 Education*. London: University of London Institute of Education.

Raffe, D. (2011). Policy borrowing or policy learning? How (not) to improve education systems. *CES Briefing no. 57*. Retrieved from http://www.ces.ed.ac.uk/PDF%20Files/Brief057.pdf.

Paine, L., & Zeichner, K. (2012). The local and the global in reforming teaching and teacher education. *Comparative Education Review, 56*(4), 569–583.

Tatto, M. T. (2009). *Reforming teaching globally*. Charlotte, NC: Information Age Publishing.

Tatto, M. T. (2011). Reimagining the education of teachers: The role of comparative and international research. *Comparative Education Review, 55*(4), 495–516.

Tsujino, K. (2015). An outsider's viewpoint of Germany's teacher education reform: What kind of influence was brought by teacher education standards? *Journal of the International Society for Teacher Education, 19*(1), 85–96.

Vavrus, F., & Bartlett, L. (2012). Comparative pedagogies and epistemological diversity: Social and materials contexts of teaching in Tanzania. *Comparative Education Review, 56*(4), 634–658.

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Chapter 19
Upgrading Professional Learning Communities to Enhance Teachers' Epistemic Reflexivity About Self-regulated Learning

Shyam Barr and Helen Askell-Williams

Abstract Globalisation, the evolution of artificial intelligence, and information and communication technology are rapidly changing social and workforce landscapes. As a result, pre-service and in-service teacher education providers must prepare teachers to meet the needs of their students' futures. This chapter argues for teacher education to reshape teachers' epistemic cognition and epistemic reflection (i.e., key components of teachers' identities) to deeply engage with the 21st century capability of self-regulated learning (SRL). We propose that epistemic reflexivity is a key process underpinning teachers' decisions about whether and how to explicitly teach strategies for SRL. We introduce a new process–model of epistemic reflexivity and provide examples of how pre-service and in-service teacher educators can 'upgrade' professional learning communities to incorporate epistemic reflexivity as a core educative process. Additionally, we provide practical examples of implementing professional education for epistemic cognition and reflection.

1 Introduction

Teacher education plays a fundamental role in the preparation of teachers entering the workforce and the provision of opportunities for continuous professional education for practicing teachers. In this volume, teacher education is placed under the microscope as authors identify how universities and professional education providers are responding to global educational issues. Globalisation, the evolution of artificial intelligence (AI), and information and communication technology (ICT) are rapidly changing the job landscape. Automation of routine tasks creates a need for the current workforce to engage in a continuous process of upskilling. As a result, increased

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attention is being directed towards the development of students' 21st century capabilities so that they are well-equipped as life-long learners to thrive in this ever-changing world (Council of Australian Governments Education Council, 2019). However, a focus on 21st century capabilities requires substantial change in teachers' knowledge, beliefs and pedagogical practices, leading to pressure being placed on teacher education providers to reconsider the effectiveness of current professional education that adequately equips teachers to, in turn, prepare their students for future workforces and societies. As such, teacher education needs to not only adaptively respond to current changes, but anticipate future requirements and changes, and begin to reshape with the future in mind. Teacher education must be proactive in this change.

Our chapter argues for teacher education to engage with a reshaping of teachers' epistemic cognitions and epistemic reflection (i.e., key components of teachers' identities) in relation to the 21st century capability of self-regulated learning (SRL). We position teachers' epistemic reflexivity as a key process underpinning teachers' decisions about explicitly teaching strategies for SRL to their students. We propose a new process–model of epistemic reflexivity and provide an example of how pre-service and in-service teacher educators can 'upgrade' professional learning communities to incorporate epistemic reflexivity as a core educative process.

2   Globalisation and Increase in AI and ICT

The current job landscape is changing rapidly with enhanced technology, artificial intelligence, and a proliferation of information through online education. Jobs that require repetitive or routine tasks are being replaced by robotics/machines, creating a need for the current workforce to engage in a process of ongoing upskilling. To succeed in this evolving world, researchers (e.g., Dede, 2010; Voogt & Roblin, 2012) have advocated that both current and future workforces (i.e., current students) require 21st century capabilities. These include high level communication skills, problem-solving capabilities and the ability 'to adapt and innovate in response to new demands and changing circumstances' (Binkley et al., 2012, p. 17). Additionally, due to globalisation, the world's increasing complexity necessitates 'fundamental reforms' in how individuals are supported as learners (World Economic Forum, 2017, p. 15), and therefore how students are supported to develop 21st century capabilities.

3   21st Century Capabilities

Students' 21st century capabilities are included in global discussions about how to best prepare students for the future (OECD, 2018). Many researchers, global organisations and educational bodies have attempted to define 21st century capabilities, resulting in no current universal definition. Some researchers (e.g., Binkley et al.,

2012; Voogt & Roblin, 2012) have conducted a comparative analysis of the international frameworks about 21st century skills and attempted to synthesise frameworks into a single framework. For example, Binkley et al. (2012, pp. 18–19) conducted an analysis of twelve frameworks of 21st century skills from around the world, and identified ten shared skills [(1) Creativity and innovation, (2) Critical thinking, problem-solving, decision-making, (3) Learning to learn, Metacognition, (4) Communication, (5) Collaboration, (6) Information literacy, (7) ICT literacy, (8) Citizenship, (9) Life and career, and (10) Personal and social responsibility]. A similar list of capabilities was produced by Voogt and Roblin (2012) in their synthesis of international frameworks for 21st century competences. Other authors (e.g., Kereluik, Mishra, Fahnoe, & Terry, 2013) have synthesised frameworks into three broad knowledge categories (e.g., *foundational knowledge (to know)* including core content knowledge, cross-disciplinary knowledge and digital/ICT literacy; *meta knowledge (to act)* including creativity and innovation, problem-solving and critical thinking, thinking, and communication and collaboration; and *humanistic knowledge (to value)* including life/job skills, ethical/emotional awareness and cultural competence). Whether presented as a list of key skills (e.g., Binkley et al., 2012) or three broad categories of knowledge (e.g., Kereluik et al., 2013), students require opportunities to develop these 21st century capabilities.

Globally, it has been acknowledged that formal education plays a critical role in the development of students' 21st century capabilities (Council of Australian Governments Education Council, 2019; Ministerial Council on Education, Employment, Training and Youth Affairs, MCEETYA, 2008; OECD, 2018). Although many organisations and researchers have advocated for the incorporation of the teaching of 21st century skills into formal education, and teachers have been reported to value knowledge that underpins 21st century capabilities (Mishra & Mehta, 2017), very few have reported successful attempts at integrating these general capabilities into the curriculum. Locally, it seems that governing bodies (e.g., ACARA, 2019; AITSL, 2019) continue to list aims that include a focus on 21st century capabilities, but researchers have flagged that realisation of such aims in classroom contexts requires substantial work. For example, Care and Kim (2018) stated that the 'introduction of twenty first century curricula requires knowledge and understanding of how the aspirations in mission statements translate into the particulars of what students need to learn and know how to do, and of what teachers need to teach and know how to assess' (p. 21–22). Poor implementation of 21st century capabilities in classrooms was also documented in the comparative review by Voogt and Roblin (2012) who reported good consistency between frameworks, but stated that 'intentions and practice seemed still far apart' (p. 299). Although the intention is clear (i.e., to develop students' 21st century capabilities), there is still a 'grey area' about how teachers translate this knowledge into actions in classrooms.

We ground our thinking of teachers' promotion of 21st century capabilities in social cognitive theory (Bandura, 1978, 2001). We conceive of teachers' behaviour (e.g., implementation of evidence-based initiatives for students' 21st century capabilities) existing in a reciprocally determined relationship with their personal factors (e.g., knowledge, beliefs, dispositions) and environmental factors (e.g., professional

development opportunities, policy, leadership, school vision). Therefore, we envisage teachers' adoption of evidence-based teaching practices for students' 21st century capabilities as voluntary behaviours suggesting a need for changes in teachers' personal factors and environmental factors.

Implementation of strategies to foster 21st century capabilities in classrooms requires further attention. Acknowledging the breadth of 21st century capabilities, in this chapter, we focus on the 21st century capability of self-regulated learning (SRL) against a background of research that has demonstrated wide variability in teachers' implementation of evidence-based teaching practices that promote students' SRL (e.g., Dignath & Büttner, 2018; Kistner, Otto, Büttner, Rakoczy, & Klieme, 2015).

3.1 21st Century Capability: Self-regulated Learning (SRL)

SRL has been documented in numerous frameworks of 21st century capabilities. For example, SRL includes what Binkley et al. (2012) referred to as 'Learning to learn, Metacognition' (p. 18). Additionally, the Organisation for Economic Cooperation and Development (OECD, 2005) included SRL within the 21st century capability titled 'the ability to form and conduct life plans and personal projects' (p. 15), including setting goals, self-monitoring and self-evaluation, which are all considered key elements of SRL. Furthermore, Voogt and Roblin (2012) reported that aspects of SRL have been mentioned in a number of global frameworks regarding 21st century capabilities.

In Australia, increased attention has also been directed towards the skill of SRL, which will support students to evolve as life-long learners; capable of and committed to a process of ongoing upskilling and re-training (ACT Education Directorate, 2018; Council of Australian Governments Education Council, 2019; MCEETYA, 2008; OECD, 2019). Indeed, the Australian Curriculum, Assessment and Reporting Authority (ACARA, 2019) has integrated a focus on SRL within more than one category of general capabilities. For example, the personal and social capability indicates a focus on developing self-awareness and self-management, which are two key components of SRL. Additionally, the critical and creative thinking capability highlights a need for students to be engaged in high-quality metacognition, also included under the umbrella of SRL. Furthermore, Gonski et al. (2018) recommended that the Australian Government 'give more prominence to the acquisition of the general capabilities e.g., critical and creative thinking, personal and social capability' (p. xii), essentially requesting that teachers adopt a greater focus on the development of students' SRL skills. Recently, the Council of Australian Governments Education Council (2019) endorsed the Alice Springs (*Mparntwe*) Declaration which documented the goal that 'all young Australians become…successful lifelong learners' (p. 4) and detailed this goal with a number of explicit statements related to SRL (e.g., 'develop their ability and motivation to learn and play an active role in their own learning'; 'are responsive and adaptive to new ways of thinking and learning', p. 7).

Research about SRL, or components of SRL (e.g., metacognition, self-awareness), have exponentially grown over the past decade. Panadero (2017) claimed that 'SRL has become one of the most important areas of research within educational psychology' (p. 1). From a social-constructivist view, we conceptualise SRL as 'a broad term that encapsulates different variables that influence learning (e.g., goal orientation, self-efficacy, metacognition, motivation, volitional strategies)' (Barr & Askell-Williams, 2019, p. 2). Furthermore, while some definitions have focused on different components (e.g., egocentrism from the Piagetian perspective; language capability from the Vygotskian position), we believe SRL is best conceived as a process (Klug, Ogrin, Keller, Ihringer, & Schmitz, 2011) and highlight that metacognitive functioning plays an important role in SRL (Flavell, 1979; Winne & Hadwin, 1998).

Essentially, SRL occurs when students set goals, select their learning strategies throughout the task and regularly monitor and evaluate the effectiveness of their approaches to learning (Zimmerman, 2008, 2013). According to Zimmerman (1986), 'self-regulation theory… focuses attention on *how* students personally activate, alter, and sustain their learning practices in specific contexts' (p. 307). Numerous researchers have proposed conceptual models that attempt to explain the interacting components of SRL. In a comprehensive comparative review, Panadero (2017) considered similarities and differences between six models of SRL (e.g., Boekaerts, 1997; Zimmerman, 2002). He reported that there was cross-over between the different models, primarily the understanding that SRL 'includes the cognitive, metacognitive, behavioural, motivational, and emotional/affective aspects of learning' (p. 1). Furthermore, Panadero's findings indicated that the models of SRL offer useful frameworks to support students' development of strategic knowledge. Indeed, there is consensus that motivational, cognitive and metacognitive strategies that underpin SRL can be explicitly taught (Donker, de Boer, Kostons, Dignath van Ewijk, & van der Werf, 2014; Kistner et al., 2010).

Unfortunately, researchers continue to observe that teachers rarely engage in explicit and sustained teaching of self-regulatory learning strategies. For example, Kistner et al. (2015) considered 20 mathematics teachers' beliefs and practices related to teaching for SRL. In their study, each teacher-participant engaged in five video-recorded lessons and completed a survey regarding their beliefs. Analysis of video–recorded lessons revealed that teachers' strategy instruction 'predominantly consisted in implicit prompting of strategic behaviour' (Kistner et al., 2015, p. 192), rather than being explicitly taught. Kistner et al. reported that teachers' beliefs influenced the types of strategies taught and how they were taught. For example, they reported that teachers with relatively traditional beliefs about the teaching of mathematics were less likely to promote SRL strategies such as elaboration, while teachers with more progressive beliefs were more likely to teach SRL strategies such as monitoring and evaluation.

More recently, Dignath and Büttner (2018) conducted an observational study of 28 primary and secondary school mathematics teachers' teaching about SRL. Findings indicated that teachers rarely engaged in the explicit teaching of SRL strategies, and when they did, they typically spent more time focussed on cognitive strategies over metacognitive strategies. Analysis of interviews indicated that teachers did not

possess the necessary knowledge about SRL and were also 'reluctant to promote it' (p. 127). Concerns about teachers' knowledge about SRL have been raised in numerous other studies as well (e.g., Dignath-van Ewijk & van der Werf, 2012; Perry, Hutchinson, & Thauberger, 2008; Spruce & Bol, 2015) and have been used to explain the lack of explicit teaching of SRL strategies observed in classrooms. As a result, Dignath and Büttner recommended that teachers engage in appropriate professional education to support their implementation of evidence-based SRL teaching initiatives.

In our earlier research (e.g., Barr & Askell-Williams, 2019), we also found that teachers varied substantially in the knowledge and beliefs that they possessed about SRL. We have argued that personal factors (e.g., knowledge about SRL, beliefs related to SRL) provide the foundation that underpins teachers' thinking and decision–making about SRL: These personal factors need to be elevated to the highest quality. For example, a teacher with high-quality knowledge of SRL would understand the process of SRL and the different motivational, cognitive and metacognitive strategies that underpin effective SRL. Additionally, they would possess high-quality knowledge about pedagogical strategies to foster students' SRL knowledge. With regard to teachers' beliefs about SRL, as an example, teachers' high-quality beliefs about SRL would include social-constructivist beliefs (Dignath-van Ewijk & van der Werf, 2012), high self-efficacy for fostering students' knowledge about SRL and high expectations of students' capability for SRL (Spruce & Bol, 2015). We argue that professional education should continue to aim to develop teachers' high-quality knowledge and beliefs, BUT possessing high-quality knowledge and suitable beliefs about SRL is not sufficient in itself: teachers also need to enact those knowledge and beliefs, which requires teachers to engage in high-quality epistemic cognition about SRL, particularly epistemic reflexivity about SRL.

3.2 Teachers' Epistemic Cognition About SRL

Teachers' epistemic cognition about SRL refers to how teachers think about the knowing of, and the knowledge of, SRL. More broadly, epistemic cognition can be understood as a process of developing, assessing and applying knowledge (Hofer & Bendixen, 2012), influenced by one's prior knowledge, beliefs and attitudes (Greene & Yu, 2016). Recently, studies have demonstrated connections between teachers' epistemic cognition and their teaching practices (Greene, Sandoval, & Bråten, 2016), hence our interest in teachers' epistemic cognition about SRL. In a developing model of teachers' epistemic cognition about SRL (Barr & Askell-Williams, 2019), based upon the work of Zimmerman (2002), we view epistemic cognition about SRL occurring over three phases, the *Forethought phase, Performance phase and Self-Reflection phase*. During the *Forethought phase*, teachers engage in epistemic reflexivity (detailed in the section below), effectively thinking and making decisions about their teaching actions (e.g., setting epistemic aims, selecting reliable processes

to achieve their epistemic aims). The *Performance phase* involves the implementation of the teaching actions, and the *Self-Reflection phase* is when the teachers reflect on their teaching actions and assesses whether they have achieved their set knowledge aims. Teachers' epistemic cognition about SRL is a complex process: for the purpose of this chapter we focus on teachers' epistemic reflexivity about SRL and its relationship with teachers' teaching practice about SRL.

3.3 Teachers' Epistemic Reflexivity

Teachers' epistemic reflexivity has emerged as an important aspect of teachers' professional work, with researchers (e.g., Lunn Brownlee et al., 2019) arguing that educators need to enhance their flexible thinking modes related to epistemic matters. Epistemic reflexivity is a process of self-talk about knowing and knowledge: it occurs predominantly within the forethought and performance phases of teachers' epistemic cognition about SRL. For example, teachers' epistemic reflexivity about SRL refers to the inner dialogue that occurs during teachers' decision making and problem-solving about knowing and knowledge related to SRL (e.g., lesson planning, enactment of lesson plan). We conceive epistemic reflexivity to be similar to 'other reflexive terms… [namely] reflexive thinking, reflexive mediation and reflexive deliberation' (Barr & Askell-Williams, 2019, p. 4). The following paragraphs document the way different researchers have attempted to describe epistemic reflexivity, its key components and the key moments of the epistemically reflexive dialogue.

Drawing on Mead's (1934) and Peirce's (1984) work, Wiley (2010) explained that the more general concept of 'reflexivity' involves three components existing on a timeline: I (present), me (past), and you (future). Other researchers (e.g., Fives, Barnes, Buehl, Mascadri, & Ziegler, 2017) have referred to the three components as subject–object–subject (i.e., I-me-you) and proposed that reflexivity can be distinguished from other forms of reflection by a "mental and self-referential 'bending back' upon oneself" (Archer, 2010b, p. 3). According to Feucht, Lunn Brownlee, and Schraw (2017), 'reflection becomes reflexivity when informed and intentional internal dialogue leads to changes in educational practices, expectations, and beliefs' (p. 234).

Reflexivity and its relationship with behavior has been a topic of interest to researchers for many years. James (1892/2001) argued that self-questioning (e.g., 'Will you or won't you have it so?' p. 327) was a key-part of decision making. Since James' (1890/2007) research into principles of thought and introspection, many researchers have focused on the nature of inner dialogue (e.g., Bakhtin, 1929/1973; Mead, 1934; Peirce, 1984; Vygotsky, 1962). Archer's (2000, 2003, 2007, 2010a, 2010b) extensive program of research advocated that reflexivity happens over three moments. The idea that reflexivity occurs as three moments is common among other models of reflexivity (e.g., Lunn Brownlee, Ferguson, & Ryan, 2017; Wiley, 2010).

**Table 1** Comparison of the moments of the reflexive (self) conversation

Researcher(s)	Moments in the reflexive conversation
Archer (2000)	Discernment — Deliberation — Dedication (●———●———●)
Wiley (2010)	Defining (*similar to a combination of Archer's Discernment and Deliberation*) — Choosing — Enacting (●————————●————————●)
Lunn Brownlee et al. (2017, 2019)	Reflect-discern (*similar to a combination of Archer's Discernment, Deliberation and Dedication moments*) — Reflexivity-deliberate — Resolved action-dedicate (●————————●————●)

Different models have been proposed to explain the different moments of reflexivity, and more recently, of epistemic reflexivity. Table 1 shows our comparison of the naming and time dimensions in three extant models.

From Table 1, one of the most prominent models of reflexivity proposed by Archer (2000) is the Discernment, Deliberation and Dedication (DDD) scheme. In this scheme, the *discernment* moment is when a person lists any projects of concern or value. During the *deliberation* moment, the individual critically evaluates the worth of each project, engaging in a temporary prioritisation of the projects of concern. The final moment of Archer's DDD scheme is *dedication,* whereby the individual decides which project of concern(s) will be acted upon. Similarly, Wiley (2010) documented three moments of the reflexive conversation as *Defining* (i.e., listing projects of concern and prioritising based on value; like Archer's discernment and deliberation moments)*, Choosing* (i.e., selecting the project of concern that will be progressed to action; similar to Archer's dedication moment) and *Enacting* (i.e., the action taken).

Building on Archer's (2000) work, Lunn Brownlee et al. (2019) described three moments termed *Reflect-discern, Reflexivity–deliberate* and *Resolved action-dedicate.* The *reflect–discern* moment involves a consideration of an epistemic aim (knowing and/or knowledge related goal) or potential problem. This is followed by the *reflexivity-deliberate* moment where teachers engage in a critical evaluation of their concerns drawing on their personal and contextual factors. Lastly, the *resolved action–dedicate* moment involves the implementation of the chosen action.

Our analysis of the various definitions of these three moments of reflexivity suggests key differences between the models. For example, Wiley (2010) includes the *enacting* moment that acknowledges the action that can result from the reflexive conversation. Lunn Brownlee et al.'s (2019) current interpretation of Archer's (2000) work appears different, in that Lunn Brownlee et al. define their second moment of the reflexive conversation as 'reflexivity/deliberate'. While on face-value this may appear similar to Archer's second moment *deliberation*, it is confused by Lunn Brownlee et al.'s interpretation of Archer's first moment *discernment* as the setting of epistemic aims. In our view, the setting of an epistemic aim implies a decision has been made
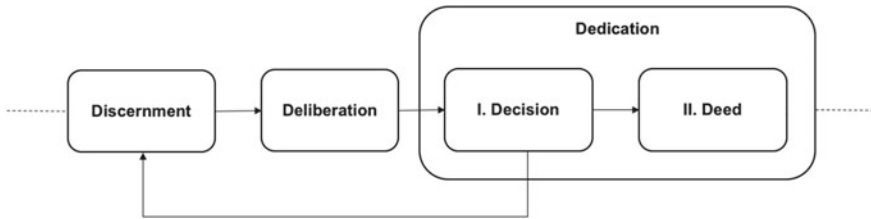
Fig. 1 DDD-D process of epistemic reflexivity

about which epistemic aim is of greatest value. We have highlighted substantial variation in some of these prominent models of reflexivity and epistemic reflexivity (refer Table 1) and we propose a new process model of epistemic reflexivity comprising *four* moments Discernment, Deliberation, Decision and Deed (DDD-D) as listed in Fig. 1.

From the model in Fig. 1, a teacher engaged in epistemic reflexivity about SRL would list the development of students' knowledge about SRL as a project of concern and a potential epistemic aim (*discernment*). The teacher would then *deliberate* the potential epistemic aim about SRL in relation to a range of personal factors (e.g., knowledge, motivations, values), contextual factors (e.g., school priority, Australian Curriculum) and other potential epistemic aims. A *decision* would be made as to whether the epistemic aim about SRL and the associated methods to achieve it should be progressed. For teachers, the decision might be documented in a lesson plan as a first level of commitment reflecting the decision. Then, the teacher may implement the chosen actions in their classrooms (i.e., *deed*). However, this is not always the case, for between lesson planning and the lesson itself a teacher might return to the *discernment* moment of the process of epistemic reflexivity about SRL. Our model brings together the key moments of prior models but acknowledges the potential to change one's *decision* before *deed*—a key point of difference from previous models. A teacher engaged in high-quality epistemic reflexivity would deem SRL as highly valuable, prioritise the teaching of SRL among other teaching actions, decide on suitable epistemic aims and teaching actions about SRL, and enact these actions in their practice.

Teachers' epistemic reflexivity is a critical process in the decision-making and enactment of SRL teaching initiatives in regular classrooms. Our argument is that to ensure that SRL teaching initiatives become embedded and sustained in practice, beyond the development of teachers' high-quality knowledge and beliefs about SRL, teachers' epistemic reflexivity about SRL needs to be addressed during their professional education. The following section documents a professional education model for developing teachers' epistemic reflexivity.

4 Promoting Teachers' Epistemic Reflexivity About SRL: Professional Learning Communities (PLCs)

Evidence-based approaches to teacher education, for example PLCs, provide opportunities for school improvement. Some researchers have argued that there is no shared definition or model of practice of PLCs (e.g., Dogan, Pringle, & Mesa, 2016) and in our search of the literature, we conclude a similar finding. However, there is some consensus that a PLC consists of a group of educators engaging in shared problem-solving with the aim of addressing classroom challenges. PLCs have been repeatedly shown to be effective for promoting change in schools (refer Dogan et al., 2016; Vangrieken, Meredith, Packer, & Kyndt, 2017; Vescio, Ross, & Adams, 2008). As one example, Gore and colleagues (e.g., Beveridge, Mockler, & Gore, 2018; Bowe & Gore, 2016; Gore, Griffiths, & Ladwig, 2004) have conducted a substantial program of research about Quality Teacher Rounds, a framework for teacher education that includes PLCs as a key component. Their program of research has included a series of randomised controlled trials that has demonstrated that PLCs are an effective method of professional education that can be utilised to effectively shift teachers' personal factors, such as their knowledge and beliefs.

As a result of the evidence-base surrounding the positive effects associated with PLCs, the Australian Government (e.g., Victoria State Government, 2019) and schools continue to embrace PLCs as a useful mode of professional education. While PLCs have been presented as an evidence-based method of professional education for reshaping teachers' knowledge and beliefs (Bowe & Gore, 2016; DuFour & Eaker, 1998), we argue that possessing high-quality knowledge and beliefs about SRL is simply not enough. In addition, teachers' reflexive decision-making also needs to be supported, and this has substantial potential to be achieved in the PLC context. Based on our search of the literature, researchers have rarely explored how PLCs can explicitly prompt teachers' epistemic reflexivity. The following section details our proposed PLC-ER, an extended PLC model that incorporates an explicit focus on improving epistemic reflexivity (ER).

4.1 Upgrading PLCs to PLC-ERs for Enhanced Teaching Practice About SRL

A PLC-ER includes all the elements of a typical PLC (e.g., opportunities for teacher collaboration, a focus on student learning), meaning that it is well placed to support the development of teachers' high-quality knowledge and beliefs about SRL. In addition, a PLC-ER includes explicit educative tools to engage teachers in each moment of the DDD-D process model of epistemic reflexivity (refer Fig. 1), namely, the *discernment moment,* the *deliberation moment*, the *decision moment* and the *deed moment*. The following sections provide scenarios showing how education

for epistemic reflexivity might appear in a PLC-ER. Following these scenarios, we provide practical examples demonstrating how we have implemented aspects of the DDD-D model for teachers' epistemic reflexivity in our own classroom-based research.

4.2   Teachers' Discernment Moment About SRL

For example, teachers involved in a PLC-ER would have opportunities to consider their projects of concern, that is to be explicitly engaged in the *discernment* phase. This might involve a facilitator or teacher-leader explicitly asking the teachers to list all their projects of concern (e.g., subject-content, general capabilities, SRL, well-being, pastoral care). Explicit engagement in the *discernment phase* allows teachers to recognise the many projects of concern that they are balancing. In the context of promoting SRL in the classroom, the aim is to have SRL listed as a project of concern. If the promotion of SRL is not listed, then this is an opportunity for a facilitator or group leader to prompt discussions about the value of equipping students with good-quality SRL strategies.

4.3   Teachers' Deliberation Moment About SRL

Following the listing of their projects of concern, the teachers would be encouraged to critically reflect on each project, debating its value in relation to their own personal factors (e.g., knowledge, motivations, self-beliefs) and environmental factors (e.g., school vision, mission, values, policies). During this moment, the teachers would prioritise their concerns from most valuable to least valuable. While promoting SRL in the classroom might be listed by teachers as a project of concern (i.e., *discernment*), the teachers' *deliberation* is important as it questions where promoting SRL sits within their project priorities. If the promotion of SRL is not prioritised it is unlikely to gain the attention it deserves and therefore may not be enacted in the classroom. We argue that this early phase may be the barrier for teachers' implementation—that is, balancing the different projects of concern to ensure that students are well-equipped with all the necessary 21st century skills. Again, a facilitator can use pedagogical tools such as evidence and discussion to elevate SRL to a high priority project.

4.4   Teachers' Decision Moment About SRL

To encourage teachers in the *decision moment* of epistemic reflexivity about SRL, teachers can be encouraged to create lesson plans that include epistemic aims (as learning objectives/outcomes) and appropriate pedagogical strategies (e.g., explicit

teaching of SRL strategies) related to the development of students' SRL capabilities. A pre-formatted lesson plan template might include explicit prompts for SRL (e.g., include a learning outcome for SRL). However, the DDD-D process acknowledges that while a teacher may have made decisions during their lesson planning for the promotion of SRL in the classroom, the space (e.g., time delay) between *decision* and *deed* means that teachers may need to return to the discernment and deliberation moments to reevaluate their projects of concern.

4.5 Teachers' Deed Moment About SRL

The teachers' teaching actions (i.e., *deed moment*) often occurs in the context of their own classrooms. Collecting data from lessons is a common practice in PLCs. Data about teachers' *deed moment* might include colleagues observing lessons that have an explicit focus on the teaching of SRL strategies and creating opportunities (such as providing time) for students to engage in SRL. The Assessing how Teachers Enhance Self-Regulated Learning observation instrument (ATES; Dignath-van Ewijk, Dick-häuser, & Büttner, 2013) offers a useful tool to support teachers in documenting the *deed moment* of epistemic reflexivity about SRL.

We propose that supporting teachers to engage in epistemic reflexivity about teaching SRL is more likely to lead to sustainable changes in their practice, compared to simply providing them with, for example, information about the value of SRL and a checklist of SRL strategies. To investigate our proposal, in an earlier study, (a precursor to this chapter), we evaluated the effects of a researcher-facilitated PLC-ER about SRL with four science teachers in an independent school in Melbourne (see Barr & Askell-Williams, 2019). As part of the PLC-ER intervention, during conversations, the facilitator engaged teachers' epistemic reflexivity about SRL with the intention of supporting changes in teachers' knowledge, beliefs and teaching practice about SRL. During these conversations, teachers were prompted to discuss the different and competing learning aims, the different modes for how the aims might be achieved and how these aims related to the school's strategic direction. Lesson plans were crafted (i.e., *decision moment*) and teachers were asked to implement and complete a self-reflection of their implemented actions (*explicit prompt for the deed moment*). Analysis of teachers' pre-post interviews and self-reported teaching actions alongside their lesson plans revealed that the PLC-ER enhanced teachers' knowledge, beliefs and practices about SRL (Barr & Askell-Williams, 2019).

Building on this research, we are currently investigating the effects of a facilitated PLC-ER about SRL on school middle-leaders' (e.g., Heads of departments, Subject Coordinators) epistemic cognition (including knowledge, beliefs and epistemic reflexivity) and practice, teachers' self-systems about SRL, and students' SRL. Specifically, following each PLC-ER meeting, school middle-leaders have been asked to think-aloud while completing a lesson planning template that includes prompts for teachers' epistemic reflexivity about SRL. Our preliminary findings

suggest that a facilitated PLC-ER about SRL supports school middle-leaders' engagement in epistemic reflexivity and leads to sustained improvements in their explicit teaching of SRL strategies.

We propose that PLCs can be upgraded to incorporate explicit education to engage teachers in epistemic reflexivity that can lead to an increased likelihood of sustained implementation of evidence-based practices for students' SRL.

5 Implications for Policy, Research, and Practice

Students who are left to discover 21st century skills such as SRL by themselves are at the mercy of chance or good fortune, such as availability of family members who can teach those skills. Overcoming the gap between research that shows that explicit SRL instruction works, contrasted against reports from classrooms that explicit and sustained SRL instruction is relatively rare, requires a new approach, such as the focus on epistemic reflexivity that we advocate in this chapter.

We have argued that to support the development of students' 21st century capabilities such as SRL, teachers' epistemic reflexivity must highly value and prioritise SRL, to support teachers' sustained implementation of evidence-based teaching about SRL. Upgrading the current model of PLCs to PLC-ERs provides an exciting pathway to achieving enhanced teachers' epistemic reflexivity about SRL. Higher education institutions and schools could incorporate our suggested educative tools into their existing PLC structures, to encourage teachers to explicitly engage in a process of epistemic reflexivity, whether about SRL or other 21st century capabilities or topics of interest. Teachers who are more epistemically cognisant of their stance and epistemically reflexive about their practices regarding explicit teaching of SRL will contribute to learners being more effective life-long learners who have skills to effectively contribute to their own growth and to society at large.

PLCs are being implemented locally (e.g., ACT Education Directorate, 2018; New South Wales State Government, 2019; Victoria State Government, 2019) and globally (e.g., Vangrieken et al., 2017). Therefore, 'upgrading' PLCs to our PLC-ER model is not a matter of implementing a new structure. Rather, our suggested changes are 'potential tweaks' to current professional education. While in this chapter we have discussed building on the well-evidenced PLC model of professional development, we envisage that embedding epistemically reflexivity into other professional education models could also be achieved.

6   Conclusions

In this chapter, we advocate that to achieve sustained implementation of evidence-based interventions that support students' 21st century capabilities (e.g., SRL), teachers need to engage in high-quality epistemic reflexivity about 21st century capabilities. We have highlighted that, in the context of SRL, concerns have been raised about the quality of teachers' knowledge and beliefs, and subsequently their teaching practice about SRL. Following a critical evaluation of current models of epistemic reflexivity, we have proposed the DDD-D process model of epistemic reflexivity. We argue for the incorporation of educative tools that will engage teachers in epistemic reflexivity during their initial teacher education and ongoing professional education. The sustained promotion of students' SRL in classrooms requires substantial change in teachers' self-systems about SRL (e.g., knowledge, beliefs, attitudes, perceptions, values), and also teachers' re-prioritisation of their educational goals and practices. In other words, in addition to professional education that addresses teachers' knowledge and beliefs about SRL, teachers need to engage in high-quality epistemic reflexivity about SRL.

Providing high-quality education with a focus on 21st century capabilities to all students is a social justice issue. It is about ensuring that every child is prepared to thrive in an ever-changing world. By both developing teachers' knowledge and beliefs about SRL and explicitly engaging teachers' epistemic reflexivity about SRL, we argue there is greater likelihood of evidence-based SRL teaching initiatives being sustainably translated into teachers' practices.

Glossary

Epistemic reflexivity A person's inner dialogue related to knowing and knowledge that leads to action.

Epistemic cognition How one thinks about knowing and knowledge (e.g. thinking about developing, assessing and applying knowledge).

Professional Learning Community (PLC) A mode of professional education that involves teachers engaging in shared problem-solving with the aim of addressing classroom challenges. Typically this includes collaborative meetings, consideration of student work and the trialing of new teaching strategies.

PLC-ER A professional learning community that includes explicit educative tools to engage teachers in epistemic reflexivity.

21st Century capabilities A set of general capabilities (e.g. critical thinking, problem-solving, collaboration) believed to be necessary for succeeding in the 21st century.

Student self-regulated learning When students set goals select their learning strategies throughout the task and regularly monitor and evaluate the effectiveness of their approaches to learning (Zimmerman, 2008, 2013).

References

ACARA. (2019). The Australian Curriculum. Retrieved from https://www.australiancurriculum.edu.au/.

ACT Education Directorate. (2018). The future of education: An ACT education strategy for the next ten years. Retrieved from https://www.education.act.gov.au/__data/assets/pdf_file/0015/1231080/Future-Of-Education-Final-Strategy_Web.pdf.

AITSL. (2019). National professional standards for teaching. Retrieved from http://www.aitsl.edu.au/australian-professional-standards-for-teachers/standards/overview/organisation-of-the-standards.

Archer, M. S. (2000). *Being human: The problem of agency*. Cambridge, MA: Cambridge University Press.

Archer, M. S. (2003). *Structure, agency and the internal conversation*. Cambridge, MA: Cambridge University Press.

Archer, M. S. (2007). *Making our way through the world human reflexivity and social mobility*. Cambridge, MA: Cambridge University Press.

Archer, M. S. (2010a). *Conversations about reflexivity*. London: Routledge.

Archer, M. S. (2010b). Introduction: The reflexive re-turn. In M. Archer (Ed.), *Conversations about reflexivity* (pp. 1–14). London: Routledge.

Bakhtin, M. (1929/1973). *Problems of Dostoevsky's poetics* (C. Emerson, Ed., Vol. 8). Minneapolis, MN: University of Minnesota Press.

Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist, 33*(4), 344–358. https://doi.org/10.1037/0003-066X.33.4.344.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*(1), 21–41. https://doi.org/10.1146/annurev.psych.52.1.1.

Barr, S., & Askell-Williams, H. (2019). Changes in teachers' epistemic cognition about self-regulated learning as they engaged in a researcher-facilitated professional learning community. *Asia-Pacific Journal of Teacher Education, 48*(2), 187–212. https://doi.org/10.1080/1359866X.2019.1599098.

Beveridge, L., Mockler, N., & Gore, J. (2018). An Australian view of the academic partner role in schools. *Educational Action Research, 26*(1), 1–17. https://doi.org/10.1080/09650792.2017.1290538.

Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., et al. (2012). Defining twenty-first century skills. In P. Griffin, B. McGaw, & E. Care (Eds.), *Assessment and teaching of 21st century skills* (pp. 17–66). Dordrecht, the Netherlands: Springer.

Boekaerts, M. (1997). Self-regulated learning: A new concept embraced by researchers, policy makers, educators, teachers, and students. *Learning and Instruction, 7*(2), 161–186. https://doi.org/10.1016/S0959-4752(96)00015-1.

Bowe, J., & Gore, J. (2016). Reassembling teacher professional development: The case for quality teaching rounds. *Teachers and Teaching, 23*(3), 352–366. https://doi.org/10.1080/13540602.2016.1206522.

Care, E., & Kim, H. (2018). Assessment of twenty-first century skills: The issue of authenticity. In E. Care, P. Griffin, & M. Wilson (Eds.), *Assessment of teaching of 21st century skills: Research and applications* (pp. 21–40). Cham, Switzerland: Springer.

Council of Australian Governments Education Council. (2019). *Alice Springs (Mparntwe) education declaration*. Retrieved from https://docs.education.gov.au/documents/alice-springs-mparntwe-education-declaration.

Dede, C. (2010). Comparing frameworks for 21st century skills. In J. Bellanca & R. Brandt (Eds.), *21st century skills* (pp. 51–76). Bloomington, IN: Solution Tree Press.

Dignath, C., & Büttner, G. (2018). Teachers' direct and indirect promotion of self-regulated learning in primary and secondary school mathematics classes—Insights from video-based classroom observations and teacher interviews. *Metacognition and Learning, 13*(2), 127–157. https://doi.org/10.1007/s11409-018-9181-x.

Dignath-van Ewijk, C., Dickhäuser, O., & Büttner, G. (2013). Assessing how teachers enhance self-regulated learning: A multiperspective approach. *Journal of Cognitive Education and Psychology, 12*(3), 338–358. https://doi.org/10.1891/1945-8959.12.3.338.

Dignath-van Ewijk, C., & van der Werf, G. (2012). What teachers think about self-regulated learning: Investigating teacher beliefs and teacher behavior of enhancing students' self-regulation. *Education Research International* Article ID 741713, 1–11. https://doi.org/10.1155/2012/741713.

Dogan, S., Pringle, R., & Mesa, J. (2016). The impacts of professional learning communities on science teachers' knowledge, practice and student learning: A review. *Professional Development in Education, 42*(4), 569–588. https://doi.org/10.1080/19415257.2015.1065899.

Donker, A. S., de Boer, H., Kostons, D., Dignath van Ewijk, C. C., & van der Werf, M. P. C. (2014). Effectiveness of learning strategy instruction on academic performance: A meta-analysis. *Educational Research Review, 11*(2014), 1–26. https://doi.org/10.1016/j.edurev.2013.11.002.

DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Bloomington, IN: Solution Tree.

Feucht, F. C., Lunn Brownlee, J., & Schraw, G. (2017). Moving beyond reflection: Reflexivity and epistemic cognition in teaching and teacher education. *Educational Psychologist, 52*(4), 234–241. https://doi.org/10.1080/00461520.2017.1350180.

Fives, H., Barnes, N., Buehl, M. M., Mascadri, J., & Ziegler, N. (2017). Teachers' epistemic cognition in classroom assessment. *Educational Psychologist, 52*(4), 270–283. https://doi.org/10.1080/00461520.2017.1323218.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist, 34*(10), 906–911. https://doi.org/10.1037/0003-066X.34.10.906.

Gonski, D., Arcus, T., Boston, K., Gould, V., Johnson, W., O'Brien, L., et al. (2018). *Through growth to achievement: Report of the review to achieve educational excellence in Australian schools*. Canberra: Commonwealth of Australia.

Gore, J. M., Griffiths, T., & Ladwig, J. G. (2004). Towards better teaching: Productive pedagogy as a framework for teacher education. *Teaching and Teacher Education, 20*(4), 375–387. https://doi.org/10.1016/j.tate.2004.02.010.

Greene, J. A., Sandoval, W. A., & Bråten, I. (2016). An introduction to epistemic cognition. In J. A. Greene, W. A. Sandoval, & I. Bråten (Eds.), *Handbook of epistemic cognition* (pp. 1–14). New York, NY: Routledge.

Greene, J. A., & Yu, S. B. (2016). Educating critical thinkers: The role of epistemic cognition. *Policy Insights from the Behavioral and Brain Sciences, 3*(1), 45–53. https://doi.org/10.1177/2372732215622223.

Hofer, B. K., & Bendixen, L. D. (2012). Personal epistemology: Theory, research, and future directions. In K. Harris, S. Graham, & T. Urdan (Eds.), *APA educational psychology handbook, Vol 1: Theories, constructs, and critical issues* (pp. 227–256). Washington, DC: American Psychological Association.

James, W. (1890/2007). *The principles of psychology* (Vol. 1). New York, NY: Cosimo.

James, W. (1892/2001). *Psychology: The briefer course*. New York, NY: Dover.

Kereluik, K., Mishra, P., Fahnoe, C., & Terry, L. (2013). What knowledge is of most worth: Teacher knowledge for 21st century learning. *Journal of Digital Learning in Teacher Education, 29*(4), 127–140. https://doi.org/10.1080/21532974.2013.10784716.

Kistner, S., Otto, B., Büttner, G., Rakoczy, K., & Klieme, E. (2015). Teaching learning strategies: The role of instructional context and teacher beliefs. *Journal for Educational Research Online, 7*(1), 174–195. Retrieved from http://www.j-e-r-o.com/index.php/jero/article/download/542/228.

Kistner, S., Rakoczy, K., Dignath van Ewijk, C. C., Otto, B., Büttner, G., & Klieme, E. (2010). *Teachers' promotion of self-regulated learning in classrooms and its effects on student performance*. Paper presented at the Annual meeting American Educational Research Association, Denver, CO.

Klug, J., Ogrin, S., Keller, S., Ihringer, A., & Schmitz, B. (2011). A plea for self-regulated learning as a process: Modelling, measuring and intervening. *Psychological Test and Assessment Modeling, 53*(1), 51–72. Retrieved from http://www.psychologie-aktuell.com/fileadmin/download/ptam/1-2011_20110328/04_Klug.pdf.

Lunn Brownlee, J., Ferguson, L. E., & Ryan, M. (2017). Changing teachers' epistemic cognition: A new conceptual framework for epistemic reflexivity. *Educational Psychologist, 52*(4), 242–252. https://doi.org/10.1080/00461520.2017.1333430.

Lunn Brownlee, J., Rowan, L., Ryan, M., Walker, S., Bourke, T., & Churchward, P. (2019). Researching teacher educators' preparedness to teach to and about diversity: Investigating epistemic reflexivity as a new conceptual framework. *Asia-Pacific Journal of Teacher Education, 47*(3), 230–250. https://doi.org/10.1080/1359866X.2018.1555794.

MCEETYA. (2008). *Melbourne declaration on educational goals for young Australians*. Retrieved from http://www.curriculum.edu.au/verve/_resources/national_declaration_on_the_educational_goals_for_young_australians.pdf.

Mead, G. H. (1934). *Mind, self and society: From the standpoint of a social behaviourist* (C. W. Morris, Ed.). Chicago, IL: The University of Chicago Press.

Mishra, P., & Mehta, R. (2017). What we educators get wrong about 21st-century learning: Results of a survey. *Journal of Digital Learning in Teacher Education, 33*(1), 6–19. https://doi.org/10.1080/21532974.2016.1242392.

New South Wales State Government. (2019). Quality teaching rounds. Retrieved from https://education.nsw.gov.au/teaching-and-learning/professional-learning/quality-teaching-rounds.

OECD. (2005). The definition and selection of key competencies (executive summary). Retrieved from http://www.oecd.org/pisa/35070367.pdf.

OECD. (2018). The future of education and skills: Education 2030. Retrieved from https://www.oecd.org/education/2030/E2030PositionPaper(05.04.2018).pdf.

OECD. (2019). *TALIS 2018 results (Volume I): Teachers and school leaders as lifelong learners*. Paris: OECD.

Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology, 8*. https://doi.org/10.3389/fpsyg.2017.00422.

Peirce, C. S. (1984). *Writings of Charles S. Peirce: A chronological edition. Volume 2, 1867–1871* (E. C. Moore, Ed.). Bloomington, IN: Indiana University Press.

Perry, N. E., Hutchinson, L., & Thauberger, C. (2008). Talking about teaching self-regulated learning: Scaffolding student teachers' development and use of practices that promote self-regulated learning. *International Journal of Educational Research, 47*(2), 97–108. https://doi.org/10.1016/j.ijer.2007.11.010.

Spruce, R., & Bol, L. (2015). Teacher beliefs, knowledge, and practice of self-regulated learning. *Metacognition and Learning, 10*(2), 245–277. https://doi.org/10.1007/s11409-014-9124-0.

Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2017, January). Teacher communities as a context for professional development: A systematic review. *Teaching and Teacher Education, 61,* 47–59. https://doi.org/10.1016/j.tate.2016.10.001.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80–91. https://doi.org/10.1016/j.tate.2007.01.004.

Victoria State Government. (2019). Professional learning communities. Retrieved from https://www.education.vic.gov.au/school/teachers/management/improvement/plc/Pages/default.aspx.

Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies, 44*(3), 299–321. https://doi.org/10.1080/00220272.2012.668938.

Vygotsky, L. (1962). *Thought and language*. Cambridge, MA: MIT Press.

Wiley, N. (2010). Inner speech and agency. In M. Archer (Ed.), *Conversations about reflexivity* (pp. 17–38). New York, NY: Routledge.

Winne, P. H., & Hadwin, A. F. (1998). Studying as self-regulated learning. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 277–304). Mahwah, NJ: Erlbaum.

World Economic Forum. (2017). *Annual report 2016–2017*. Retrieved from http://www3.weforum.org/docs/WEF_Annual_Report_2016_17.pdf.

Zimmerman, B. J. (1986). Becoming a self-regulated learner: Which are the key subprocesses? *Contemporary Educational Psychology, 11*(4), 307–313. https://doi.org/10.1016/0361-476X(86)90027-5.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice, 41*(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2.

Zimmerman, B. J. (2008). Theories of self-regulated learning and academic achievement: An overview and analysis. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulated learning and academic achievement: Theoretical perspectives* (pp. 1–38). Mahwah, NJ: Routledge.

Zimmerman, B. J. (2013). From cognitive modeling to self-regulation: A social cognitive career path. *Educational Psychologist, 48*(3), 135–147. https://doi.org/10.1080/00461520.2013.794676.

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Chapter 20
TEMAG Reforms, Teacher Education and the Respatialising Effects of Global-Local Knowledge Politics

Ben Arnold, Claire Manton, Stefan Schutt, and Terri Seddon

Abstract This chapter considers how teacher education and ideas about quality teacher professionalism are complicated by contemporary changes in educational governance. We approach teacher education as a multi-scaled assemblage of uneven space-times (McLeod, Sobe, & Seddon, 2018) and document the practice architectures (Kemmis, Wilkinson, Edwards-Groves, Hardy, Grootenboer, & Bristol, 2014) and the experienced relationalities, spatialities and temporalities (Barbousas & Seddon, 2018) that teacher educators must navigate if they are to realise TEMAG reforms. We trace the effects of 2014 reforms of teacher education recommended by the Teacher Education Ministerial Advisory Group (TEMAG) and endorsed by the Australian Commonwealth Government in two ways. First, using a policy perspective, we track how TEMAG reforms offered a novel vocabulary that prioritised 'classroom-ready teachers' and their preparation through 'integrated partnerships' between schools, universities and school systems. We show how that discourse, privileging partnerships, created regulatory discursive arrangements that were not specifically Australian, but an expression of the global trajectory towards network governance in education. Second, we illustrate how that trajectory towards network governance was realised in Australia through space-times that bridged between education policy and practice. We illustrate some of the space-times that are unfolding between levels of government, regulatory agencies and as professional teacher educators engage with schools. We suggest this respatialisation of teacher education raises significant questions about 'who knows' teacher education.

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> We're sitting at our tables in Thornbury, a long windowless conference room in a city hotel. Mints, water bottles, worksheets and reference manuals cover all available table space. It's the second and final day of a 2019 AITSL panel training workshop, after a long and exhausting Day One. Fifty of us have gathered in Melbourne from around Australia. We're learning how to assess accreditation applications from universities for teacher training courses.

> Today we've been moved to new tables, to shake things up and prepare us for some mock panel activities. There are six of us at this table, mostly senior educational managers from government departments, education offices and universities. All nine tables have a chair –someone who's previously had the panel chair training. I've been chatting with the guy to my left. He's a government department leader in Indigenous education. Fit and wiry, he was once a ranger in the tropics. We joke about bureaucracy, in all its hilarious dysfunction.

Jokes about bureaucracy and its dysfunction have a long history in education. They can be traced in Australia through the stories of Spencer Button, who navigated the carapace of rules required by the New South Wales State Education Department between the 1890s and 1940s (James, 1950), and the struggles by today's teachers terrorised by performative neoliberal expectations circulating on a global scale (Ball, 2003). Button rose from country school student to teacher and principal by engaging with rules made by experienced teachers and men who became inspectors. Today's teachers navigate market logics by engaging with discursive regulation defined through standards and indicators. So how do these differently regulated spaces of education affect education professionals and, in particular, the situated learning of teacher educators?

This chapter considers how 'quality' teacher professionalism is complicated by contemporary changes as educational governance that respatialise and reculture teacher education. We begin by explaining how we understand locations of teacher education, where 'location' is both an effect of practice architectures that produce an intersubjective space, and a historicised space-time of education that spawns tangible workplaces, where professional's learning is situated at different scales. Then we trace this iterative process of work and learning through differently scaled intersubjective spaces. We show how the space of global educational policymaking has introduced new forms of networked governance. We trace how the recent reform of teacher education has rearranged relationships between schools, universities and authorities that award schools and universities new responsibilities whilst also subjecting them to new pressures. Finally, we plunge into case study sites to suggest how sayings, doings and relatings travel between spaces of policy and the professional practice of teacher educators' work in integrated partnerships.

1   Researching Integrated Partnerships

Our research has its roots in interdisciplinary studies of teachers' work (Connell, 1985), which we read through studies of globalising education policy (Rizvi & Lingard, 2010) and professionals' situated work and learning (Lave & Wenger, 1991). We see integrated partnerships as workplaces made through third spaces (Soja, 1996)

as professionals navigate their global, national, local situatedness within analytic borderlands (Sassen, 2000). These settings are constituted through interactions and are lived experientially and cognitively, historically and spatially, as people come to understand one another and develop language practices that make their world knowable and actionable (Kemmis, Wilkinson, Edwards-Groves, Grootenboer, & Bristol, 2014).

From this perspective, an integrated partnership is something made: a space-time of education (McLeod, Sobe, & Seddon, 2018) that locates professional work and learning. This intersubjective space has effects that are embodied and lived personally, professional and politically (Nuttall, Kostogriz, Jones, & Martin, 2017). A workplace is:

> …always already arranged in particular ways, so that people receive one another in these spaces in ways already shaped for them by the arrangements that are already to be found there—and sometimes by new objects that are brought there. These intersubjective spaces 'lie between' people. They are not mysterious; they are palpable and even tangible. They are the meat and drink of our lives as human beings. We encounter these intersubjective spaces, first, in language; second, in space-time in the material world; and third, in social relationships. (Kemmis et al., 2014)

We used the Australian Commonwealth Government's 2014 policy recommendations for teacher education reforms as a point of departure to investigate teacher education. These reforms were launched by the conservative Liberal National Party Coalition Government, on the advice of the Teacher Education Ministerial Advisory Committee (TEMAG). It recommended that teacher education should be organised through 'integrated partnerships', in which schools and universities worked together within system expectations, where the outcome of learning was defined as 'classroom ready' teachers. We analysed the language practices of TEMAG and the Australian Institute for Teaching and School Leadership (AITSL) that created an intersubjective space of governance, which steers the development of integrated partnerships.

We also traced how those recommendations have affected specific locations 5 years later, in 2018–2019. National accreditation standards for teacher education programs show how global and local imperatives influence governance arrangements and logics underpinning integrated partnerships. Interview data with professionals in schools and universities, and case reports written by teacher educators in four Victorian universities, document how these global and local imperatives steer the work that teacher educators do.

These locations—where policy is made, expectations negotiated, and partnerships constructed—are examples of intersubjective spaces. They locate, orient and incubate professional practice as individuals and groups do things together in bounded times and spaces, where professional practices and locations unfold and are shaped by cultural-discursive, material-economic and social-political arrangements that act as practice architectures (Kemmis et al., 2014).

We analyse each location by documenting 'sayings' (how participants speak about their work), 'doings (how they engage in work activities) and 'relatings' (what their relationships look like). But we also attend to the voice and visuality (the seeing,

knowing and engaging) of the teacher educator who is located within these arrangements (Barbousas & Seddon, 2018). Working dialogically with teacher educators offers insights into their situation and how their point of view affects what they say and do, and how they relate as they navigate cultural-discursive, material-economic and social-political arrangements that act on them as constraints and enablers.

The analysis shows teacher educators are both positioned by, and in dialogue with, spaces of governing, spaces of teacher education and diverse linking spaces. These complex spatialities create intersectional sayings, doings and relatings that are mediated by particular schools, universities, systems and by personal life histories. The colliding professional practices become visible through questions of knowledge: who knows what, who is recognised as holding knowledge, and how rights to know and act are realised. We illustrate these politics of knowledge by plunging into specific workplaces to show how teacher educators are affected by regulatory frameworks, school cultures and the personal professional choices of teacher educators. This interplay between policy and practice suggests how TEMAG reforms require, and steer, teacher educators, but where they still have choices about how to navigate the logics of fluidity and control, which characterise integrated partnerships.

2   Globalising Policy in a Post-bureaucratic World

The teaching profession is 'the epicentre of global policy' in education (Furlong, 2014: 182). In an effort to enhance the quality of education systems, a diverse range of bodies, including international organisations, philanthropic entities, advocacy networks, multinational corporations and multilateral banks, have made teacher development a key focus of their planning and programming (Robertson, 2012; Verger, Fontdevila, & Zancajo, 2017). Through the circulation of 'best practices', international standards, and research and reviews, definitions of the 'good' teacher and related reforms to teacher education are circulating with greater range and speed than in the past (Paine, Blömeke & Aydarova, 2016).

In response to concerns that traditional higher education-led models of teacher education are 'overly-theoretical' and have failed to keep up with demands of the modern world, a number of organisations have called for reform to ensure that teachers are equipped for 'real life' experience (OECD, 2005). This has led to the promotion of 'school-led', 'clinical' and apprenticeship models of teacher education that include an extended practicum component, which is thought to help student teachers bridge theory and practice at the beginning of their teaching career (OECD, 2005; Schleicher, 2012). These globally circulating solutions to the problem of teacher preparation appear to have played an important role in Australia's response to teacher education reform.

The TEMAG report made 'integrated partnerships' between schools and universities a priority and called for longer, mandated school-based practicums for pre-service teachers (TEMAG, 2014). The shift towards in-school teacher education was intended to ensure that teachers were 'classroom ready'—that they were

equipped with the 'core skills' to teach in schools. The TEMAG report draws on international standards to diagnose teacher education as part of the 'problem of education' in Australia, advocating action on the grounds that 'the declining performance of Australian students in international (PISA) testing has recently driven increased community debate about the quality of teaching' (TEMAG, 2014: 23). The report also draws on international evidence of 'best practice' in teacher education to justify its call for extended pre-service teacher placements in schools.

By drawing on global 'best practice' to justify and legitimise reforms to teacher education, Australian policymakers enable global (non-state, i.e. 'non-governmental') actors to influence national (and local) agendas and policy settings (Ball & Junemann, 2012). Ball and Junemann argue that this variety of state and non-state actors in educational decision making has created forms of 'network' governance that are heterarchical: practices of governing that mobilise horizontal networks in unranked but interactive ways capable of steering and setting directions (Ball & Junemann, 2012). Rather than being solely responsible for national policymaking, governments are increasingly influenced by actors (like the OECD) operating within globally distributed networks. In formulating new policies, national governments must take into account 'their own operating codes and rationalities', and also those of 'their various substantive, social and spatiotemporal interdependencies' (Jessop, 2000: 2).

In the TEMAG report, the operating codes and rationalities of global organisations and other nation states were used to justify change and inform the reform agenda:

> International studies have shown that high performing and improving education systems have moved the initial period of teacher education from the lecture theatre to the classroom (TEMAG, 2014: 28).

> The OECD Teaching and Learning International Survey (TALIS) reports that to build teacher capacity it is important to ensure that, during initial teacher education, pre-service teachers have several sufficiently long periods of teaching practice in a variety of schools. (TEMAG, 2014: 29)

But alongside these global influences, the histories and habits of different Australian states and territories also shaped TEMAG reforms (Savage & Lewis, 2018). For example, an emphasis on partnerships between schools and universities had been part of the Victorian state-level accreditation process since 2006, long before the formulation of national accreditation standards. In addition, federally funded but state directed projects were presented to the TEMAG team as examples of best practice in teacher education partnerships (Ingvarson et al., 2014). In Victoria, these best practice projects included the School Centres of Teaching Excellence (SCTE) and Academies for Professional Practice, launched in 2009 and 2013 respectively.

By taking these global, state and territory rationalities into account, government steered and enabled the development of the teacher education system (Jessop, 2000). In this way, Australia's states and territories have played a role in actively constituting the national space of teacher education, '*in addition* to, but also *in combination with,* the federal government' (Savage & Lewis, 2018: 134). Yet despite these practices of governing being constituted by different actors, organisations and policies that

operate at different scales, the TEMAG reforms have the effect of facilitating federal oversight and increasing federal power over education. This relation between policy and politics arises because network governance coproduces governing rationalities in specific moments in ways that are always already framed by discursive frameworks constituted through relations of power. These historicised processes of global, national and local networking create a novel intersubjective space that reframes education governance. In this way, the TEMAG report provided a new framework for governing teacher education at the subnational level.

3 Governing Teacher Education Nationally

To improve the quality of teacher education, TEMAG affirmed networked forms of governance and facilitated its development through partnerships at local levels. Higher education institutions were to work in partnership with schools to share responsibilities and obligations (AITSL, 2018). In this arrangement, schools appear to have been awarded new decision-making power. However, TEMAG also specifies the context for these partnerships by calling for 'a strengthened national quality assurance process' and a 'robust assurance of classroom readiness' (TEMAG, 2014: xiii). The report presents partnerships, and especially the relation between schools and HEIs, in terms of how they contribute towards students' learning and graduate outcomes.

The devolution of responsibility for teacher education to school-university partnerships is accompanied and framed by an updated teacher accreditation process. In these accountabilities, HEIs need to provide 'robust evidence' that 'their graduates have the knowledge and teaching practices they need to be classroom ready' (TEMAG, 2014, p. xi). These accreditation standards for school-university partnerships means that, rather than simply giving schools more autonomy through the devolution of power, hierarchical (federal) pressure is placed on schools and universities to adhere to centrally prescribed standards and to seek approval from government (Mincu & Davies, 2019). The responsibility for teacher education is devolved to local level actors but at the same time these actors are subjected to increased regulation. In this 'post-bureaucratic' arrangement, the centred and hierarchical state, familiar to us as 'government', is replaced by the 'regulatory state' that is decentred and polycentric—where 'governance' is a means of steering social actors indirectly through the state's regulatory powers (Ozga, 2011).

TEMAG reforms offer schools and HEIs new roles in teacher education, which are allocated through central regulatory mechanisms. These roles appeal to actors' sense of autonomy and reflexivity but, in practice, mobilise actors' professional capabilities as means of governing (Ozga, 2011). In this way, the recent reforms of teacher education in Australia encourage forms of 'coercive autonomy' based on more directive regulation (such as the introduction of new standards), which become visible when government urges schools and universities to work in partnership. These governance practices encourage professionals to 'use more discretion and to take

more responsibility while also being more closely monitored from above' (Edwards, 2000, p. 154 in Greany & Higham, 2018).

TEMAG reforms open up and reframe Australian teacher education through an intersubjective space of governing that is subject to global, national and local influences. Ideas that travel through global agencies and their cross-national policy networks are mediated through inherited Australian forms of state-federal government and their hierarchical legacies. Emergent practices of governance include policies of devolution (responsibilisation), centralised control and professional autonomy. However, as the old story of Spencer Button shows, these practices play into existing networks of actors that realise teacher education in ways that are both reconfigured and sometimes contradictory.

These novel terms and conditions of teacher education place local professionals under hierarchical pressures through a specific type of partnership that institutionalises fluidity and control. Today's professionals do not have the security of Spencer Button, who could learn to navigate hierarchical control through relatively fixed and permanent arrangements. Instead, they are subject to discursive controls through standards associated with teacher training, but are also required to engage in ongoing work that ensures their partnerships and teacher education practices remain stable. Australia's historic tensions between federal and state-level governments create further challenges on the ground that compound the influence of global policy ideas and practices and produce an increasingly fluid political sphere. As a result, processes of governance are subject to rapid reconfiguration and professionals must do even more work to keep these governance arrangements fixed in place.

The Australian practice of teacher education has a long history of partnerships between schools and universities (Sachs, 1997). Partnering sometimes rests on formalised agreements supported by funding arrangements, but also on informal arrangements that arise from pre-existing relationships between teacher educators and teachers. The TEMAG report cuts through this multiplicity of existing partnerships by calling for consistent, systematic partnerships to provide mutually beneficial outcomes to schools and universities alike. The report was critical of informal partnerships based on individual connections rather than wide-scale approaches (TEMAG, 2014).

TEMAG's preferred form of partnership is 'mutually beneficial' for both school and university. This kind of partnership may see the school benefit from professional development provided by academics with particular expertise. Simultaneously, the university may benefit by being able to provide placement experiences for pre-service teachers that align theory more closely with practice than traditional forms of pre-service professional experience. This 'mutually beneficial partnership' has become the 'gold standard' of successful partnerships in both Australian and international literature (Samena et al., 2012; Butler-Mader, Allen, & Campbell, 2006).

According to TEMAG, mutually beneficial arrangements occur when schools and universities enjoy close working relationships, while acknowledging complexities when they work together. Following the TEMAG report, the AITSL standards for the accreditation of initial teacher education programs were updated to include the

new focus on partnerships. For universities to be accredited they have to prove that they met the five sub-standards of Standard 5, 'Professional Experience'.

The AITSL standards aim to give universities and schools precise definitions and clarity on their respective roles, and how to work in partnership with one another. For example, sub-standard 5.1 requires universities ('providers') to engage in 'formal partnerships, agreed in writing' with schools, and to 'clearly specify components of placements and planned experiences, identified roles and responsibilities for both parties and responsible contacts for day-to-day administration of the arrangement'. The other sub-standards stipulate components of the partnership that universities must develop. They include the core components of the professional experience program (5.2) and the need for 'clear mechanisms to communicate' (5.3), the need for each partner to 'achieve a rigorous approach to the assessment of preservice teachers' achievements' (5.4) and for universities to support schools to deliver professional experiences in schools (5.5). Each state has used these national standards to develop its own accreditation standards. All of the state-level accreditation standards are virtually identical to the AITSL standards, although in some cases states do offer further guidance about how HEIs should meet a particular standard (e.g. NESA supporting documents for standard 4.4 in NSW).

These standards represent what are deemed to be the core components of partnership work and make judgements about the quality of partnerships 'appropriately precise' (Sykes & Plastik, 1993, p. 4 in Mulcahy, 2013). As with all standards, they go beyond simply describing pre-existing realities about effective partnerships to actively produce them (Mulcahy, 2013; Gorur, 2015). They introduce relationships that veer towards hierarchical power and control, positioning the state as overall regulator of partnerships between universities and schools, and allocating multiple roles to universities—as regulators, facilitators and providers of partnerships with schools. To gain accreditation, universities must prove that they meet the criteria for partnerships set out in the AITSL accreditation standards. Assessors decide whether university-provided materials (program details mapped to standards, plans for 'demonstrating impact', agreements and the like) provide sufficient evidence of university-school professional experience programs that meet AITSL standards.

4   Teacher Educators Navigating Intersubjective Spaces

Yet, in practice, problem solving in professional partnerships is far more nuanced than this crude binary logic would suggest. Instead, the process of accreditation points to a deeper clashing of knowledge systems. The problem is not so much the classic critique of bureaucracy, where educators are positioned like cogs within a circular and seemingly pointless administrative machine. It is more the result of what Habermas (1970) calls 'scientization': the reduction, and reductive management, of narratives by and about humans, and the society they are creating. This scientization frames narratives and constructs the spaces of story available to educators, governments and

communities according to narrow technical frames of reference that affect all aspects of partnership work.

We offer glimpses of these processes and how they unfold through cultural-discursive, material-economic and socio-political practices by tracing teacher educators' engagement in different workspaces, where intersubjective practices create meanings, which contribute to, and affect, integrated partnerships as tangible workplaces. These illustrations are drawn from both our empirical data, which includes teacher educator case reports and interviews with school and university-based professionals, and our dialogical work with teacher educators.

5   Cultural-Discursive Practices of Standardisation

Scientization is a knowledge politics that fixes discursive horizons. These horizons rest on particular assumptions, logics and ways of using words but they become the frame of reference into which teacher educators' ways of seeing, knowing and doing their work are channelled. These straight-jackets deploy legitimising, pseudo-scientific processes of knowledge production that are subject to pre-defined outcomes. These 'deliverables' are the basis on which a system and all its component parts are then compared and judged. In the quote that opened this chapter, we introduced a teacher educator who was participating in an AITSL panel training workshop. Here, we pick up that teacher educator's narrative to highlight how these complexities of professional knowledge building can be experienced in the context of fluid networks held together by agreed standards.

> For this session we're provided with de-identified applications on which we have to decide: standards met or not met? There's one we can't decide on. We look through the guidelines, provided, and we debate the meaning of the word 'impact' and what it means here. Ten more minutes to decide. We call over a facilitator, who sighs when we mention the 'I' word. They're not clear themselves; it's been the topic of internal discussion for some time. But still, we have to make a decision. Met or not met? We look over the documents, waver, read over the criterion again. We have two more minutes.

> The First Nations educator sitting next to me says there's not enough time. Still we plough on. The clock ticks. A group of us opt for 'met'. The chair invites comments. One person has a different view. Someone suggests majority rules. My neighbour adds that it's important that we all come to a consensus, that we're all in agreeance. Time's up - the one opposing person waves her hand and says sure, met, whatever. Somewhere, I hear the sound of a clashing of cultures. A push for an arbitrary 'outcome' and a call for relationality - end point and process - colliding.

Defining standards is a discursive practice. Although standards are introduced to make complex processes more legible and easily identifiable, the requirement for yes-no, or for-or-against, decisions forces evaluators towards arbitrary judgments framed by the centrally prescribed criteria that govern this intersubjective space. The standards structure and orient both the responses of the evaluators and the interactions between them, while the final recorded responses contain no trace of the debates or conflicts that preceded them.

This process leaves no room for those aspects of teacher education not captured by the standards, but which establish the officially prescribed horizon of standardisation. It is only when discussion moves away from the standards themselves that new relations and possibilities emerge:

> Later (was it later? Time warps in these workshops) we focus on Indigenous education in a session run by the organisation's First Nations team leader. In groups, we roleplay panel discussions on two standards related to Aboriginal and Torres Strait Islander learners and perspectives. The mood in the room is uncomfortable at first - and that is the point. What right do we have to assess someone else's knowledge and culture? But with a little help from the session leader, the room now opens up. People share heartfelt perspectives: fears of cultural appropriation, calls to not heap all the responsibility on to Indigenous educators, perspectives from other disenfranchised groups, etc., etc. Soon, the room feels quite different. At our table, we automatically defer to my neighbour, who doesn't say a lot - that is except after the discussion has concluded, when he says: that was the most real thing we've done all day. The others laugh and nod in agreement.

In moving away from the standards, and into broader discussions about Indigenous perspectives, 'real' conversations start to take place. During the session trainee assessors were pressured to make 'precise', narrow judgements about teacher education. Tensions and varying viewpoints surround Indigenous education. However, discursive Indigenous cultural practices – which may have served to resolve these tensions—did not fit neatly within the regulatory frame of reference. This suggests that rather than having single, uniform effects, standards produce a variety of different practices, even when enacted within one context.

6 Material-Economic Practices of Schools

This scientization has also taken hold in schools. As a result of the 'carrots and sticks' of funding and accountability, school cultures are increasingly focused on material-economic practices than they have been in the past when the proverbial 'bucket of money' came through the ceiling as an annual budget allocated by the state government. All actors are constrained by these material arrangements: the people, policies, standards, financial support, equipment, technology that constitute partnerships. Resources are mobilised in different ways to establish strategic objects of knowledge and produce the social realities preferred by policy makers (Mulcahy, 2013).

For schools, this means realising objectives by meeting targets defined through standards. For example, the introduction of high stakes testing in Australia has placed schools under pressure to improve their results in core curriculum subjects (Gorur, 2015; Thompson & Harbaugh, 2013). This has increased the pressure on schools to raise achievement in literacy and numeracy at the expense of other curriculum subjects (Thompson & Harbaugh, 2013), and has increased teachers' and principals' workloads (Dulfer et al., 2012).

One principal described how she used the idea of 'instructional time' as a means of managing these material-economic logics in a strategic way. She explained that

when her school looked for strategic partnerships, they focused on opportunities that would 'strengthen what we already do' and not 'distract us from what we already do'. Encouraged to elaborate these material-economic practices, she talked about the way she manages partnerships with external agencies, using the principle of 'core instructional time'. This concept categorises time and classifies it into learning time based on core instruction and less foundational learning time based on other activities. In this classification, the university and its work related to teacher education is 'external', just like the activities of community agencies and commercial enterprises.

> … like Tennis Victoria—I will come in and run tennis programs for kids. No, you won't! Because that's their core instructional time and I'll protect that time … I'm not giving you three hours of our core instructional time to promote your product into my small community because that's not what I'm here for.

> So, we do a lot of buffering and protecting around those offers … And that's where the community joint-use agreement comes in. I'm much more open to an after-school 'user-pays' model than have children missing out on their core instructional time and then, potentially, not getting their outcomes or the impact that we'd like to see in their learning growth and achievement (Janice, Principal, Southern Cross Primary School[1]:).

This economy of time was illustrated in the way a teacher at that school used the idea of 'core instruction' to prioritise her work. The challenge of pursuing excellence ('be the best you can be') makes student's core instructional time her first priority but also affects her willingness to engage in other conversations.

> I teach Grade 6. So, I feel like relationships are key. I'm spending probably an hour a day just having little conversations with students outside of class time … I'm doing a check-in, and doing that personal relationship building … But a lot of my time and energy seems to be going towards building those relationships.

> If you choose to do planning for an hour, you're probably not doing the best planning you could do for your kids at their point of need. But we don't have that time. I feel like in teaching it's that constant thing between wanting to be the best you can be, and you're always time poor. You never feel you have enough time. (Lucia, Teacher, Southern Cross Primary School).

This economy creates a scarcity of time, which also affects the teacher's partnership work with the teacher educator. The partnership at this school allows pre-service teachers to engage in summer and winter sports coaching with a roughly one-to-one ratio between the school children and preservice teacher. The teacher reads this benefit in terms of the school children, more than the tertiary students, because the school cannot resource that level of staffing.

> They'll have a conversation and it makes the sport and the talking less threatening, because the eyes aren't on them. It's more relaxed. [Children] see the adults as role models. When they see a new person, they're like, "Wow, they're really cool." In terms of the benefits for those [preservice] students, I can tell some are getting lots out of it. They're standing there and the passion for teaching is growing in their eyes. (Lucia)

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[1]Pseudonyms are used to name all professionals and schools.

This partnership does not rest on close links with the university but is mainly organised through the relationship built by Gloria, the teacher educator. She engineers agreements with teachers and the school that sustain the partnership for example, when school and university timeframes collided. Lucia explains

> … there was a massive time clash for us, and it wasn't going to work. But … Gloria was like, "They've made it on this day. It's not convenient, I know, but can we work around…" And we're like, "We do want it, because it's the numbers thing that really worked for us." I think if they said, "We're bringing five people for a hundred people," we wouldn't have done it. It's the sheer numbers that makes it so appealing, and [because] it's the exact sport they're [school children] going to be doing, so it has a purpose. They're the two components: the fact that it can be flexible, and the fact that it's purposeful, is what made us feel it was worthwhile for us.

These numbers were important because they allowed the teacher to reconcile the school's economy of time and her professional values.

> Children, especially, deserve positive interactions every day. It's just being noticed. It's like when someone says to you, "I hear you; I hear what you're saying," you feel so much better. So, it's that noticing, and because there's so many [preservice teachers], kids don't get overlooked. (Lucia)

The AITSL accreditation standards stipulate a range of different partnership activities that universities must undertake in order to gain accreditation. These activities require universities and schools to rearrange existing policies and practices to address these ends but, as Lucia suggests, without significant resources (e.g. funding for staff) to do that work. In this context, the material-economic practices of time become a powerful regulatory device that collides with, and shifts, the criteria of professional judgment.

7   Social-Political Practices of Teacher Educators

Teacher educators who work in partnerships have to negotiate the economy of time in two places, the school and university. This can be complicated work when timetables and reporting timelines differ, but universities are still responsible for generating evidence of their performance. As Gloria observed,

> It would be much easier for me to just do standard unit delivery. This [partnership] takes a lot of time and energy. I drag equipment out there, I have to go get equipment from the back of the uni, and load it up, get out to the school and all that sort of stuff. So, doing partnerships is a decision I make because I think it's important to make the effort. (Gloria, teacher educator partnering with Southern Cross Primary School)

Gloria chooses to work in partnership; she is not just driven by regulations or the imperatives of particular workplaces and their practice architectures. Her agency arises from her own subjective assessment of her personal-professional situation, which outweighs the hassle of working between different locations. But in choosing to partner, Gloria is also strategic about how she manages her time and works around the time economy of the school and its teachers:

> I know the teacher's busy time of the year. With year six graduation and stuff like that in December, there's no point talking to them then. For next year, I've got to do it earlier than that or later, maybe end of January or February conversations. I still get a little bit of response in December, but not much because they're just so flat out… The partnership's not important to [them] at that time.

This relational work requires flexibility, strategic choices and innovative solutions; it is critical in connecting actors into the increasingly elaborate actor networks that now organise education. Teacher educator's work rests on values and commitments that are not just effects of professional identity, workplace obligations or accountability regimes; they are also deeply personal, embedded in the lived experience and subjective assessments of individuals with reference to their communities. These relational matters are not only complex and often obscured from view, they are also deeply moral and political.

Practice architectures can be designed to realise different ends, but reforming teacher education requires interventionist regulatory practices that push against historic codes of professional behaviour. These processes drive change by positioning teacher educators in workplaces where they must navigate dilemma-driven personal situations and where accountabilities pivot on subjective experiences that steer sayings, doings and relatings. For as Kemmis et al. (2014: 7) argue,

> Transforming a social form like the school or a curriculum or a particular kind of pedagogy requires transforming the practices that produce and reproduce it. Transforming a social practice, in turn, requires transforming the social forms that produce and reproduce it—including the social forms hidden in the intersubjective spaces by which people comprehend one another, coordinate with one another in interaction, and connect with one another in social relationships.

The intersubjective space of contemporary teacher education policy is focused on the 'classroom-ready teacher' as an outcome, as if that learning and the work that sustains it is a simple linear process. But a professional's relational capability also depends on their personal situation and how they manage the boundaries between policy, professional and personal spaces as they make choices about how best to act.

The following notes offer an insight into one teacher educator's personal and professional experience of doing relational partnership work. This descriptive memo was written by one of the researchers after discussions with this teacher educator, Nerida. The aim of the memo was to reveal Nerida's relational capabilities, while also illuminating how her work constrains both her personal and professional relationships. Methodologically, this preliminary analysis shows how Nerida's intersubjective space become meaningful to her through a dilemma-driven personal situation where her personal and professional experiences are deeply entangled (Fransson & Grannäs, 2013). The dilemma that centres her intersubjective space is about how to classify her partner who is a schoolteacher at another school and, therefore, affects both her personal and professional intersubjective space.

> The first interview question asked Nerida to describe groups and individuals that she works with in her capacity as a teacher educator in partnership with Golden Plains Secondary College. She listed teachers, school students, pre-service teachers, private providers working

in her area of subject expertise, other teacher educators. Then she included her partner but grumbled about the way he saw her work as a teacher educator.

> … I try and talk about work with my partner [Olly] who is a teacher. But he's very dismissive with my academic work and all academics. So, we just don't talk about it really, unless I do something good in my actual teaching. Like getting nominated for a teacher award. He goes, 'Yes, because you're a good teacher.' But he sees that [teaching] as different to academics.

As she grumbles about Olly's way of splitting the academic's role in education from 'real' teachers, Nerida changes her mind about including him as a professional partner. She takes up the idea of 'real' teachers again later in the interview, but comments drolly,

> Why would I push shit uphill there? … that's not to be dismissive, he's allowed to think like that, of course. He's a very intelligent person.

Nerida credits her capacity to form professional partnerships to personal characteristics, her friendliness and approachability. She talks about her particular agency and enthusiasm; how she perceives a multitude of opportunities with every educator she meets, whether they are a next door neighbour (an Assistant Principal), a former pre-service teacher (PhD participant) or a university colleague who was in Year 12 in the same year and school where she began her teaching career.

Talking about these partners, Nerida expresses her hope that 'they' are getting something out of their work with her but seems to be doubtful about this. She recalls asking her next-door neighbour to speak to her pre-service teachers. The students were enthralled, taking copious notes, hanging off his every word. That she can quickly draw on these personal relationships benefits her pre-service teachers, but somehow her work seems to be taken for granted. She circles back to her dilemma, which pivots on her partner's classification of 'real teacher'.

> I think what these colleagues get out of my invitation [to speak to preservice teachers] is 'yeah, we're doing the real work'. So now (courtesy of Nerida), we can come and talk to the pre-service teachers and have a real impact on them. Because at uni, you're not really doing the real work'.

> Then she adds, "I doubt that I've ever been approached by someone for my expertise or a more formal relationship".

Yet Nerida's relationships are partnerships and her expertise is extensive. She worked as a secondary teacher and VCE private provider. She completed a Masters of Education, a Graduate Diploma and PhD that investigated teacher education. Throughout every stage of her career, she has developed and maintained connections with other educators, which she draws on for the benefit of the university. Despite her extensive experience spanning 20-years, she feels as if her expertise is undervalued by the schools and school-based educators she works with.

Nerida also spoke about the mandated requirements on teacher education and the university's imposition of these standards and targets through program audits. Again, it seems that her relational and professional capacity working with other educators goes unacknowledged.

> So, we'll have a meeting and people talk about TEMAG. Then we remember, we've got this grant opportunity. A colleague of mine and I said, 'let's apply for a little bit of funding to do some research about the TPA with some [school] teachers. We had to address an aspect of TEMAG to get the money. So, this project was a partnership.

> Then we did another teaching course review. Apparently, in their audit, they [university] had to… I got an email from [accreditation manager] saying, 'What kinds of teachers do you interact with and how do you interact with them? We have to show that we've got teaching staff that have current experience in schools.' I said, 'Well, does my partner count?' 'No!'

> Nerida's question about her partner may seem left field but he is a schoolteacher. Her dilemma troubles the discursive criteria for the audit. For how do you answer the question, 'what kind of teachers do you interact with?' Where do you draw the line between informal connections that grow out of shared experiences, and formalised connections signed off with an MOU?

Nerida both occupies and learns through the intersubjective space that produces her question about being a 'real' teacher. She lives this question as a dilemma at the intersection between policy, professional and personal relationships, and the practice architectures that drive each of those notionally separate intersubjective spaces. But at what point did she become something-other than a real teacher when transitioning from schoolteacher to a teacher educator?

More importantly, what does Nerida's intersubjective space—her experience with partners who seem blind to her relational capacities, her professional expertise that benefits the university, partner schools and preservice teachers—reveal about the cultural-discursive, material-economic and socio-political practices of teacher education? What system-wide costs arise because of Nerida's dilemma that feeds her professional uncertainty and subjective fears? And whose job is it to disentangle the myth of teacher educators' lack of expertise from the very real work they accomplish?

8   Teacher Education: Who Knows?

This chapter has traced the effects of the 2014 TEMAG reforms to better understand how integrated partnerships between schools, universities and systems affect teacher educators. We have shown that these partnership arrangements complicate the work of education professionals, and that teacher educators, more than other education professionals in schools, universities and systems, work in the cracks between partners and standards/systems. This work requires teacher educators to demonstrate cultural, economic and socio-political adroitness and expertise in addition to their educational skills. This is not a new development, but a time-honoured feature of educators' work in a wide range of settings where learning is enabled within the confines of particular governing projects.

But the question of what these integrated partnerships mean for quality teaching workforce development is more complicated. We suggest three main conclusions. First, the TEMAG policy shift towards integrated partnerships does not just *extend* Australian teacher preparation in ways that build on twentieth century models of professional preparation designed either by school systems or by universities. Instead,

these reforms *respatialise* the formation of teachers and *reculture* professional preparation so that meanings of 'teaching quality' are formulated through integrated partnerships, which embed practice in ways that are both scientized and disciplined by strong but dispersed accountability frameworks.

Second, these practice architectures and their complex spatialities anchor Australian teacher education in global, national and local intersubjective spaces that transform formerly solid professional identities and social and political infrastructures into increasingly fluid architectures premised on network governance. These arrangements create partnership spaces that demand new levels of inter-institutional and inter-professional cooperation based not just on practical and evidence-based collaborations between institutional partners (universities, schools and systems), but on deeply relational intersubjective work. This interpersonal expertise is central to teacher educators' partnership work but, by and large, it is unseen and ignored by schools, universities and educational systems.

Finally, when integrated partnerships become workplaces, they also create time-based effects by situating professionals and steering their learning (Lave & Wenger, 1991; Billett, 2001). Partnership participants—school teachers and teacher educators, as well as pre-service teachers, school children, parents and communities—learn through these intersubjective spaces and the entangled cultural-discursive, material-economic and socio-political practices that circulate through them. If participating professionals remain focused on their own school or university or system, they learn little about partnership work, the relationally sophisticated problem-solving that makes partnerships work possible, and also enables wider collaborations based on respectful relationships. This blinkered learning constrains social and institutional change by compromising narratives about past, present and future, which might become processes of transformations.

It is not yet possible to see long-term implications of network governance in fluid globalising education spaces. But historical narratives show that learning situated by practice architectures that do not attend to individuals' situation can have long term consequences. Spencer Button, for example, became a 1950s man on his journey through the NSW education system. He 'always did the right thing' but lived life through 'pedagogic grievances and ambitions, jealousies and snobberies, eternal and never-changing' (AustLit, 2019).

How tragic it would be if, in this era of geopolitical uncertainty, biological extinctions, intercultural hatred, people displacement and climate emergency, efforts to transform societies rested on flawed practice architectures that only reproduced the conformist Buttons of an earlier generation:

> (the) hero who completely lacks heroic qualities. At heart he is romantic and likes to cut a good figure; but he is conventional, careful and ambitious, and timidity and circumstance relentlessly mould him … [while] the assiduity with which he studies his advancement in the Department destroys him as a man. (AustLit, 2019)

References

AustLit. (2019). *The advancement of Spencer Button*. St Lucia, University of Queensland, 2002. Retrieved December 23, 2019, from https://www.austlit.edu.au/austlit/page/C39676

Australian Institute for Teaching and School Leadership (AITSL). (2018). *Guidelines for the accreditation of initial teacher education programs in Australia*. Melbourne, Australia: AITSL.

Ball, S. J. (2003). The teacher's soul and terrors of performativity. *Journal of Education Policy, 8*(2), 215–228.

Ball, S., & Junemann, C. (2012). *Networks, new governance and education*. Bristol: Bristol University Press.

Barbousas, J., & Seddon, T. (2018). Visualising the European space of education: Analytic borderland, transnational topologies and spaces of orientation. *European Educational Research Journal, 17*(6), 766–783.

Billett, S. (2001). *Learning in the workplace: Strategies for effective practice*. Sydney: Allen and Unwin.

Butler-Mader, C., Allen, J., & Campbell, J. (2006). Partnerships in action: What's in it for us? *International Journal of Pedagogies and Learning, 2*(1), 6–21.

Connell, R. W. (1985). *Teachers' work*. Sydney: Allen and Unwin.

Dulfer, N., Polesel, J., & Rice, S. (2012). *The experience of education: The impacts of high stakes testing on school students and their families. An educator's perspective*. Melbourne, Victoria, Australia: The Whitlam Institute.

Fransson, G., & Grannäs, J. (2013). Dilemmatic spaces in educational contexts—Towards a conceptual framework for dilemmas in teachers work. *Teachers and Teaching: Theory and Practice, 19,* 4–17.

Furlong, J. (2014). Chapter 11: Re-tooling the discipline of education. In *An anatomy of the discipline*. UK: Routledge.

Gorur, R. (2015) Producing calculable worlds: Education at a glance, *Discourse: Studies in the Cultural Politics of Education, 36*(4), 578–595.

Greany, T., & Higham, R. (2018). *Hierarchy, markets and networks: Analysing the 'self-improving school-led system' agenda in England and the implications for schools*. London: UCL Institute of Education Press.

Habermas, J. (1970). *Toward a rational society: Student protest*. Boston, MA: Beacon Press, Science and Politics.

Ingvarson, L., Reid, K., Buckley, S., Kleinhenz, E., Masters, G. N., & Rowley, G. (2014). *Best practice teacher education programs and Australia's own programs*. Canberra: Department of Education.

Jessop, B. (2000). The dynamics of partnership and governance failure. In G. Stoker (Ed.), *The new politics of local governance in Britain* (pp. 11–32), Basingstoke: Macmillan.

James, B. (1950). *The advancement of spencer button*. Sydney, New South Wales: Angus and Robertson.

Kemmis, S., Wilkinson, J., Edwards-Groves, C., Hardy, I., Grootenboer, P., & Bristol, C. (2014). *Changing practices, changing education*. Heidelberg: Springer.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

McLeod, J., Sobe, N., & Seddon, T. (2018). *Uneven space-times of education: Historical sociologies of concepts, methods and practices, 2018 World Yearbook of Education*. London: Routledge.

Mincu, M., & Davies, P. (2019). The governance of a school network and implications for initial teacher education. *Journal of Education Policy*. https://doi.org/10.1080/02680939.2019.1645360

Mulcahy, D. (2013). Performativity in practice: An actor-network account of professional teaching standards. In A. Tatnall (Ed.), *Social and professional applications of actor-network theory for technology development* (pp. 1–16). Hershey, PA: IGI Global.

Nuttall, J., Kostogriz, A., Jones, M., & Martin, J. (2017). *Teacher education policy and practice: Evidence of impact, impact of evidence*. Dordrecht: Springer.

OECD. (2005). *Teachers matter: Attracting, developing and retaining effective teachers*. Paris: OECD Publishing.

Ozga, J. (2011). Bureaucracy, post-bureaucracy and the role of knowledge. Lecture at the Final FP6 '*Knowledge and Policy' project conference*, September 2011, in Brussels.

Paine, L., Blömeke, S., & Aydarova, O. (2016). Teachers and teaching in the context of globalization. In D. Gitomer & C. Bell (Eds.), *Handbook of research on teaching* (5th ed., pp. 717–786). Washington, DC: American Educational Research Association.

Rizvi, F., & Lingard, B. (2010). *Globalizing education policy*. London, UK: Routledge.

Robertson, S. L. (2012). *Researching global education policy: Angles in/on/out*. Centre for Globalisation: Education and Societies, University of Bristol.

Sachs, J. (1997). Renewing teacher professionalism through innovative links. *Educational Action Research, 5*(3), 449–462.

Samena, A., Park, C., Bier, M. L., Horn, I., Campbell, S. S., Kazemi, E., et al. (2012). Designs for simultaneous renewal in university-public school partnerships: Hitting the' sweet spot'. *Teacher Education Quarterly, 39*(3), 127–141.

Sassen, S. (2000). Analytic borderlands: Economy and culture in the global city. In G. Bridge & S. Watson (Eds.), *A companion to the city* (pp. 168–180). Oxford: Blackwell.

Savage, G., & Lewis, S. (2018). The phantom national? Assembling national teaching standards in Australia's federal system. *Journal of Education Policy, 33,* 118–142.

Schleicher, A. (Ed.). (2012). *Preparing teachers and developing school leaders for the 21st century: Lessons from around the World*. OECD Publishing.

Soja, E. W. (1996). *Thirdspace: Journeys to Los Angeles and other real-and-imagined places*. Oxford: Blackwell Publishing.

Teacher Education Ministerial Advisory Group (TEMAG). (2014). *Action Now: Classroom ready teachers*. Department of Education. Australian Government. Retrieved December 02, 2019, from https://docs.education.gov.au/node/36783

Thompson, G., & Harbaugh, A. G. (2013). A preliminary analysis of teacher perceptions of the effects of NAPLAN on pedagogy and curriculum. *The Australian Educational Researcher, 40*(3), 299–314.

Verger, A., Fontdevila, C., & Zancajo, A. (2017). Multiple paths towards education privatization in a globalizing world: a cultural political economy review. *Journal of Education Policy, 32*(6), 757–787.

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