Theresa Bourke · Deborah Henderson · Rebecca Spooner-Lane · Simone White  *Editors*

# Reconstructing the Work of Teacher Educators

Finding Spaces in Policy Through Agentic Approaches—Insights from a Research Collective

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# Dedication

At a time of great uncertainty and change, we would like to dedicate this book to all teacher educators across the globe. Teacher educators are an increasingly diverse occupational group and whilst the focus of this volume has been largely on university-based teacher educators, we acknowledge the work and dedication of our school-based teacher educator colleagues who support so much of the teaching profession whilst also teaching their own school students. We acknowledge also our First Nation teacher educators who are supporting both novice and experienced teacher educators alike in understanding rich cultural history and knowledges. Working together across the different groups will be more important than ever as we continue to navigate new policy reform waves.

All four of us would also like to dedicate this book to our families who continue to support us and give us the inspiration to strive to make a positive contribution to teacher education and the teaching profession. We also want to acknowledge the invaluable support we've received from two colleagues during the book project. Dr. Peter Churchward provided thoughtful assistance for the book from its inception. We really appreciate Peter's dedication to our project and to all matters related to teacher education. Julie Nickerson guided us during the book's final phase to production. Julie's insightful editing and meticulous attention to detail has been crucial to finalising the manuscript. Thank you, dear colleagues.

Theresa Bourke
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# Foreword

This book began in lively debates and provocations of the field in the Teacher Education and Professional Learning (TEPL) Research Group in the Faculty of Education, Queensland University of Technology (QUT), Brisbane, Australia. As co-leaders of the research group, we were adamant that scholarship should not only represent research in the field of teacher education but also provoke and irritate accepted understandings and principles. Notable amongst these orthodoxies were the relationships between policy and teacher educators' practices in their courses, assessment and pedagogies.

At an initial writing retreat in the mountains south of Brisbane, we invited TEPL members to submit questions and conundrums to a panel with the intention of provoking debate and perspectives that spoke back to entrenched views. The conversations continued into monthly research group meetings and culminated in this TEPL-sponsored volume that is both informative and provocative. Whilst all current reforms are not covered in the book such as LANTITE, entry standards, or an emphasis on teaching phonics during the early years of schooling, the chapters range across vexed topics such as teaching performance assessment, the introduction of primary-level content specialisations and pre-service teacher digital capabilities. Underpinning all the chapters is recognition of the 'work' and commitment of teacher educators to their respective areas of expertise and their willingness to hold their ground against reductive and de-professionalising policy agendas. This TEPL book presents their efforts to 'find space' using agentic approaches to recontextualise policy in line with their own professional priorities and, in so doing, the book provides exemplars of new ways of thinking and agentic selves within the field of teacher education.

Thanks go to the members of the TEPL at QUT group who conceptualised the book; negotiated the proposal with Springer as the preferred publisher; and worked with contributors who extend across the world and bring a vast array of experiences and expertise to the discussion: Associate Professor Theresa Bourke, Associate Professor Deborah Henderson, Dr. Rebecca Spooner-Lane and Professor Simone

White. As co-leaders of the TEPL research group, we are proud of this initiative and are sure that the book will make a contribution to the field of teacher education and professional learning.

Margaret Kettle
Jo Lunn Brownlee
Deborah Henderson

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# Editors and Contributors

## About the Editors

**Theresa Bourke** is an Associate Professor at the Queensland University of Technology. She has held several leadership positions including Academic Programme Director, Course Coordinator and Academic Lead, Research. She teaches in several curriculum and discipline units, specifically in geography. Her research interests include professional standards, professionalism, accreditation processes, impact, primary specialisations, assessment in geographical education and teaching to, about and for diversity. She is currently the President Elect for the Australian Teacher Educators' Association (ATEA).

**Deborah Henderson** is an Associate Professor at the Queensland University of Technology where she lectures in history curriculum and in social education curriculum. Her interests include the development of historical thinking, intercultural understanding, developing global capability and values education in the curriculum together with transnational/international pre-service teacher education. Deborah's work as a teacher educator was recognised nationally by the Australian Learning and Teaching Council with an ALTC Teaching Citation for her contributions to student learning in 2009 and an ALTC Teaching Excellence Award in 2010. She is the Australasian Regional Editor for Discover Education (Springer).

**Rebecca Spooner-Lane** is a Senior Lecturer at the Queensland University of Technology. Rebecca is the Director of the Quality Teaching Performance Assessment (QTPA) for pre-service teacher education and three partner universities in Australia. In 2020 she was awarded the QUT Vice Chancellor's Excellence Award for her leadership of the QTPA. Rebecca prepares pre-service teachers for the QTPA and provides professional learning to teacher educators to assess the QTPA. She has a keen interest in the professional development and career progression of teachers from graduate to lead teacher. She has worked on a number of projects investigating mentoring, school

leadership and school improvement, and highly accomplished and lead teacher certification. Rebecca is currently investigating the impact of the QTPA on the classroom readiness of graduate teachers.

**Simone White** is an Adjunct Professor at the Queensland University of Technology and the Head of Education at Royal Melbourne Institute of Technology (RMIT). Simone's area of expertise is teacher education and rural education and her publications, research and teaching are all focussed on the key question of how to best prepare teachers and leaders for diverse communities (both local and global). Her current research areas focus on rural education, teacher education policy, teacher development, professional experience and building and maintaining university–school/community partnerships. Simone is a past President of the *Australian Teacher Education Association* (ATEA) and had a previous role as Vice President of the *Society for the Provision for Education in Rural Australia* (SPERA). Through her collective work, Simone aims to connect research, policy and practice in ways that bring teachers and school and university-based teacher educators together and break down traditional borders between academics, policymakers, communities and practitioners.

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# Part I
# Introduction

# Chapter 1
# Teacher Educators as Agents of Change: New Tools as Enablers

**Theresa Bourke, Deborah Henderson, Rebecca Spooner-Lane, and Simone White**

**Abstract**  This chapter explores the notion of teacher educators as agents of change against an education policy reform backdrop of greater scrutiny, standardisation, and accountability than ever before. The following twelve chapters of this volume, all written by teacher educators across various parts of the world, are discussed and analysed using Margaret Archer's perspective of critical realist social theory. This theory provided a useful framework for drawing the parts and chapters in this volume together; looking for the ways in which teacher educators have made sense of their personal, cultural, and structural contexts; and analysing the types of enablements and constraints that each social context offered them. The individual chapters and collective volume offer the wider teacher educator community illustrative ways in which teacher educators have 'found space in policy through agentic approaches' and taken action, even when social structures sought to normalise or restrain their practices. The analysis revealed a variety of ways teacher educators used their knowledge of policy, partnerships, and scholarly disposition to navigate through a highly regulated space. Such agentive practices provide a hopeful stance for facing the next waves of teacher education reform ahead.

**Keywords**  Teacher educators · Policy reform · Agency · Critical realist social theory · Enablements

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## 1.1   Introduction

With a global focus on the important role teachers play in a nation's social and economic well-being and productivity, teacher educators—those who prepare the teaching workforce—should be highly regarded and keenly sought out for their views on teacher education and the best ways to support young learners. Unfortunately, this does not appear to be the case, with teacher educators either largely marginalised, side-lined, silenced (Bourke, 2019; Zeichner, 2014; Zeichner & Bier, 2013), or heavily criticised by politicians. As noted in Chap. 7 in this volume, 'enemies of promise' and the 'blob' were terms used to describe education academics by the then UK Minister for Education, Gove (2013). The Australian Education Minister (Tudge, 2021), as cited in The Australian, June 22, 2021) expressed concern that 'prospective teachers are emerging from university education ill-prepared for the classroom'. While such strong critique has not necessarily occurred in all contexts, nevertheless the debates and reforms that have ensued about teacher education have tended to be conducted largely in the absence of teacher educators' perspectives and expertise.

Teacher educators now find themselves increasingly in an untenable position, charged with implementing the very reform policies they know to be often most problematic to the very young people they are reported to be supporting. This issue has become greater as policy borrowing continues to increase from country to country unabated with greater consequences for the most disadvantaged students, their families, and communities. How to disrupt this dire situation and reposition teacher educators as a powerful voice for the teaching profession is a key focus for this volume. How to support teacher educators to also become more agentive actors to ensure all students have maximum learning opportunities throughout their lives is another key purpose.

The following twelve chapters in this volume are all written by teacher educators who explore the challenges and opportunities brought about by various policy reforms set against the Global Education Reform Movement (GERM) as outlined by Sahlberg (2011) and the Global Education Measurement Industry (GEMI) as coined by Biesta (2015). Both of these terms are discussed further in this chapter. Teacher educators in this volume document, discuss, and critique various reform policies and outline the ways in which they worked to ensure positive learning outcomes for their graduates and the students they will teach. Sharing and analysing these stories, theories, practices, and approaches is one explicit strategy we (authors of this chapter and editors of this book) are using as teacher educators ourselves, keen to help both novice and experienced teacher educators alike take a step towards a more agentive profession. Before exploring the themes, it is important to further outline the reform backdrop from which teacher educators are currently operating.

## 1.2 Teacher Education Reforms and the Cycle of Rapid Change

For many decades now, education has been viewed as key to growing a nation's productivity. Globalisation has in turn led to increased collaboration and competition between countries keen to compare themselves through various global metrics such as, for example, the Organisation for Economic Co-operation and Development's (OECD's) Program for International Student Assessment (PISA). According to Paine (2019):

> the increased movement of people and ideas, heightened connections, and the spread and intensification of the links together are reshaping not only how we do education, but how we think about it. (p. 686)

The rapid sharing of knowledge internationally has resulted in both teacher education policy borrowing and lending (Steiner-Khamsi, 2010; Waldow, 2012; Wermke & Höstfält, 2014) and was coined the Global Education Reform Movement (GERM) by Sahlberg (2011). Moreover, the borrowing of policy initiatives from other countries (Wermke & Höstfält, 2014) further legitimises the argument for the required change.

Since the late twentieth century, a 'quality' teacher reform agenda has pervaded OECD countries including Australia, the USA, England, Ireland, and New Zealand, with the notion of increasing 'quality' teachers as a central policy for improving a nation's ability to compete in an international arena (Cochran-Smith et al., 2013). This focus has then resulted in the implementation of a number of new accountability reforms in initial teacher education (ITE) programs and the preparation of their teachers. With each educational reform review, the improvement of student outcomes is directly linked to the 'improvement of teachers via the improvement of teacher education' (Bates, 2004, p. 119).

Globally, organisations such as the World Bank and the OECD have further influenced the public's perception of the importance of the quality of education systems and their teachers (Cochran-Smith et al., 2013; Hanushek & Woessmann, 2007). The reporting of student achievement against PISA has only increased pressure on governments and policy makers to further respond to declining test scores, and the intensification continues unabated. For example, in the UK, Ofsted school inspections provide governments and policy makers with data about the performativity of their teachers and schooling system. Similarly in Australia, standardised testing of students in Years 3, 5, 7, and 9 using the National Assessment Program—Literacy and Numeracy (NAPLAN) has had a significant impact on the accountability of teacher education programs in preparing teachers with the knowledge and skills to improve student learning and achievement (Adie & Wyatt-Smith, 2018; Cochran-Smith et al., 2013; Tatto & Pippin, 2017). Biesta (2015) has coined this intense focus on testing, standardisation, and accountability as the Global Education Measurement Industry (GEMI).

In the Australian context, as an example, the Teacher Education Ministerial Advisory Group (TEMAG) led a major review of ITE programs following what was described as perceived public concern about the quality of its graduating teachers.

The review noted a lack of consistency and rigour among ITE institutions' assessment of pre-service teachers' (PSTs) 'classroom readiness' upon graduation (Alexander, 2018). Policy initiatives resulting from recommendations from the TEMAG report titled *Action Now: Classroom Ready Teachers* (TEMAG, 2014) focused on increasing regulatory and quality control mechanisms of ITE programs. The proposed reforms influenced every aspect of ITE—including selection for entry into programs, the structure of professional experience, primary teachers' specialised knowledge and practices, assessment of 'classroom readiness', and the requirement for programs to demonstrate impact on graduate capability and impact of graduates on the students they teach. Furthermore, the national implementation of a literacy and numeracy test as a mandatory condition of graduation was also implemented with the ITE reform agenda. Such reforms have placed greater pressure and workload on teacher educators charged with implementing these changes. Most recently, the Next Step: Report of the Quality of Initial Teacher Education Review (Australian Government, 2021) has reiterated the discourse around quality, calling for further reforms in the future.

With the accelerating education policy reforms globally, much has been written about the need for educators to be critical of neo-liberal agendas that prioritise accountability regimes, standardise high-stakes testing, and normalise assumptions that such practices are indicators of teacher efficacy and student learning outcomes in public education systems (Apple, 2013; Ball, 2008; Ravitch, 2016; Rizvi & Lingard, 2010; Thrupp, 2018). Such reforms have led to an 'impoverished understanding of educational accountability' (Reid, 2019, p. 39) with a deficit discourse which has the potential to de-professionalise educators by undermining their expertise and their agency (Bourke, 2019). It is against this backdrop that many of the authors of this volume are writing.

Few teacher educators need to be reminded of the ways in which the ideas and practices of neo-liberal policy prescription prompt disquiet and uncertainty on the one hand and the determination to make a difference on the other (Britzman, 2007). It is the latter that is of concern in this chapter and book. That is, emphasis is placed on *how* teacher educators are agentive in their work, and how, through collaboration with their peers and by forming partnerships, they can make principled choices to fine-tune their practice for the benefit of their learners, who in turn will be teachers in schools. Indeed, there is an increasing body of literature to indicate that educators are agentive and finding space to challenge the constraints of neo-liberal policy agendas. Before further exploring the ways in which teacher educators took an agentive stance, we unpack further the notion of agency and what it means in light of a teacher educator's standpoint.

## 1.3   Notions of Agency

Agency has been, and continues to be, a much-theorised construct. As the authors in this volume draw from different frameworks in their respective chapters, some early conceptions of agency and selected 'layers and lenses' (Loutzenhesier & Heer, 2017,

p. 330) employed in the literature to examine it are now briefly discussed. Conceptions of human agency can be traced back to the seventeenth- and eighteenth-century Enlightenment debates about what constitutes an individual's freedom and ability to make rational choices. At this time, long-established traditions were challenged by the work of the English philosopher and empiricist (Locke, 1978). Locke's emphasis on the capacity of human beings to shape the circumstances in which they live and derive knowledge from experience prompted social thinkers such as Adam Smith and John Stuart Mill, among others, to envisage agency in an individualist and calculative conception of action. This notion of agency was then explicitly linked to education in the work of Kant (1992) who viewed the latter as a process through which individuals develop their rational capacities and make independent judgements. Kant posited this process as the basis for agentic and self-directed action.

In recent times, the concept of agency has been utilised as a means of understanding how educators might interrogate policy and enact practice (Lasky, 2005; Leander & Osborne, 2008).

From a traditional sociological perspective of human action, the agency is construed as a personal attribute residing within the individual as a capacity to act upon. This view of agency as a property for action or inaction that is assumed to dwell within the individual has been critiqued from various standpoints. Davies (1990) problematises the notion that individuals are able to exercise agency at their will, arguing that agency may be 'discursively constructed as a positioning made available to some but not others' (Davies, 1990, p. 341) in particular contexts. Zembylas (2003) extends this critique of agency as a variable in social action. He refers to political and cultural contextual constraints to remind us that agency 'cannot be isolated from the dynamics of power from which it is constructed' (Zembylas, 2003, p. 221). Concomitantly, structural factors and individual psychological perspectives are emphasised by researchers keen to investigate how an educator's capacity to be agentive is mediated by the policy and administrative demands of the workplace (Chisholm et al., 2019; Eteläpelto et al., 2013; Hilferty, 2008).

Others broaden this view of agency to emphasise the multiple temporal and relational factors at play in particular settings under certain conditions and circumstances (Biesta & Tedder, 2006). This focus on how individuals act *by means of* their environment emphasises that agency results from 'the interplay of individual efforts, available resources and contextual and structural factors as they come together in particular and, in a sense, always unique situations' (Biesta & Tedder, 2007, p. 137). Referred to as an ecological perspective of agency (Priestley et al., 2015), this broader view of agency builds on the work of Emirbayer and Mische (1998) and their notion of agency as something an individual achieves rather than an internal attribute and/or something an individual has. When the agency is conceived as an achievement, it is possible to understand why an individual can be agentive in one context but not in another.

In brief, Emirbayer and Mische (1998) contend that agency should be understood in a three-dimensional way that encompasses influences from the past, orientations towards the future, and engagement with the present. Hence, the agency can be conceived as a:

temporally embedded process of social engagement, informed by the past (in its habitual aspect), oriented toward the future (as a capacity to imagine alternative possibilities) and 'acted out' in the present (as a capacity to contextualise past habits and future projects with the contingencies of the moment). (Emirbayer & Mische, 1998, p. 963)

Emirbayer and Mische (1998) refer to these three dimensions of agency as the iterational, the projective, and the practical-evaluative dimensions, respectively. Priestly et al.'s (2015) ecological model draws from these understandings of agency as 'phenomenon/doing' (Tao & Gao, 2017, p. 347) to emphasise that educators can work together in agentive ways. Put simply, the agency is concerned with repertoires for manoeuvre, or the possibilities for different forms of action available to educators, at particular points in time. This brief discussion of the literature on understanding agency is further contextualised in practice by the teacher educators who share their research in the chapters that follow.

The stories are shared and grouped together across four key parts, which are now briefly discussed.

## 1.4 Interrogating Policy and Enacting Practice: Identifying Agentic Themes

Just as noted by Lasky (2005) and Leander and Osbourne (2008) in Sect. 1.3, the agency has been viewed as a means of understanding how education might interrogate policy and enact practice. Drawing from this view, this volume interrogates how teacher educators took an agentive stance through increased scrutiny and accountability regimes and used a variety of strategies to do so. These strategies have been analysed both in terms of the common themes emerging across chapters and also the common tools to do so using critical realist social theory (Archer, 1995, 2000, 2003). The themes we uncovered are used to structure the book, and the tools are offered as a way to help provide specific examples. First, we discuss the key themes.

### 1.4.1 Mechanisms of Agentive Work

The remainder of this volume has been structured into four themes or parts (Parts II–V), each heading highlighting and reflecting the different mechanisms of agentive work uncovered across the collective triad (each part has three chapters). In Part II, aptly titled *Doing More Than Ticking Accountability Boxes—New Ways to Respond to Reforms in ITE*, the three chapters share the ways in which teacher educators worked both within standardised ITE reforms but also found ways to creatively enact policy for the benefit of their students and the profession.

The first two chapters by Bourke and Mills (Chap. 2) and Swars Auslander and Myers (Chap. 3), writing from Australia and the USA, respectively, are focused on the

policy imperative of developing specialisation/specialists in primary and elementary classrooms, respectively. Bourke and Mills report on a case study of policy enactment of primary specialisations in science, first presented as a problematic area in the TEMAG reforms and then outlined more specifically in Program Standard 4.4 of the Australian accreditation processes for ITE in 2015. The authors, drawing on British sociologist Stephen Ball's policy enactment approach, outline their work as policy actors at a large metropolitan university in Australia.

Specifically, Chap. 2 outlines the decision-making processes of the Academic Program Director (APD) and the Unit Coordinator (UC) as they operationalised the science primary specialisation policy into practice. In this highly regulated space, the work of these two policy actors showed how their reflexive decision-making opened a space for agentic ways of working. Despite being constrained by various factors such as the boundaries of accreditation stipulations, a surprising amount of agency was realised as interpretations moved from one policy actor to the next. The authors did not shy away from the accountability imposed by accreditation but rather in line with Cochran-Smith et al.'s (2018) and Zeichner's (2020) notions around democratic rather than regulatory accountability saw their work as 'characterised by intelligent professional responsibility and agency' and called for 'flexible tertiary education structures that enable innovative approaches to reform that go beyond "ticking accountability boxes".

Swars Auslander and Myers (Chap. 3) write in an associated field of research, this time against escalating calls by prominent mathematics education organisations in the USA, for advanced certification and preparation of specialist teachers in elementary mathematics. The chapter presents a meta-analysis of the 'recursive line of inquiry' that these teacher educators have committed to over the last 11 years to implement an effective preparation program focused on learner-centredness. As the authors state, 'This learner-centredness differs from the ways in which many elementary mathematics classrooms function in the USA'. Here, the authors are finding space in policies such as *No Child Left Behind* and its successor *Every Child Succeeds* which they claim have 'too often led to mathematics teaching and learning that is largely driven by increasing student achievement scores on standardised assessments'. Not only are these teacher educators developing teacher agency by their learner-centred instruction, but also, using both quantitative and mixed methods approaches, they have reflexively analysed their own practices as active agents to illuminate the effective parts of the program what might need improving. What these first two chapters reveal is how committed teacher educators can operate as reflexive professionals working to prepare 'highly effective' teachers with 'specialised content knowledge' to be the leaders of the future.

Finally, in Part II, Clifton and Jordan (Chap. 4), writing also against the Australian TEMAG backdrop, provide an interesting study into professional experience innovation and new practice when faced with tighter accountability measures. The authors discuss their concern that standardisation through accreditation reforms would lead to a lack of responsiveness from universities to best serve the diverse school contexts they work with. However, concomitantly, they also found that accreditation provided 'the impetus, permission, and the power to rethink [their] approach' to professional

experience. The chapter discusses how teacher educators found the spaces between and within accreditation requirements to innovate and design a new model of practice they coined the Coaching Approach to Professional Experience (CAPE) Model, a model 'based around shared responsibility, co-construction, and co-delivery'. They illustrate how the requirements of regulation provided the emphasis to question long-held approaches to professional experience, elevated the priority of professional experience and partnerships, and provided scope for student agency.

Part III of the volume is titled *Creating New Relationships and Powerful Teacher Education Partnerships: The Potential of 'Alliances'*. As the title alludes, the key mechanism identified that connected the agentive stories lies in the powerful use of networks and partnerships as a tool for positive change. The three chapters explore the ways in which teacher educators adopt a range of collaborative approaches to form relationships and partnerships to negotiate policy agendas and build teacher capacity. Drawing from a range of empirical studies and policy analysis, the chapters in this part traverse aspects of early childhood education, primary and secondary education, as well as the teacher education continuum from induction and in-service to continuing professional development.

Insights into transdisciplinary and transnational collaborations, as well as relationships between policy agencies, professional development agencies, and ITE institutes, are provided. The chapters emphasise the potential of collaborative ways of working in relationships with colleagues in other disciplines, sectors, organisations, and countries to proactively address competing policy agendas in Australia, Malaysia, England, and Ireland.

In the first chapter of Part III (Chap. 5), Gibson, Gunn, Evans, Keogh, and Gallegos reflect on how a transdisciplinary professional experience placement was achieved through a collaborative partnership between a peak Early Childhood Education and Care (ECEC) organisation and the Faculties of Education and Health in one urban Australian university. Noteworthy in this chapter is how the authors built on and extended their previous collaborations to agentively work together 'across discipline areas of Education and Health … to develop models of preparing undergraduate teachers and health professionals'. Their aim was to provide early childhood PSTs and health (dietetics) students with authentic experiences during their placement so they could learn to manage 'the increasingly complex health trajectories for young children' in their care.

Drawing from their research, the authors note that 'shared professional learnings were echoed again and again in the data, including developing skills to connect with children'. Furthermore, Gibson et al. contend that '[o]pportunities to work interprofessionally can not only enhance a student's competency development but can also disrupt the discipline silos and create new opportunities for transdisciplinary practice in early childhood teaching'. Their research suggests that such reframing of the professional experience component of university study enabled students and professionals from the fields of education and health to 'make sense of competing accreditation, regulation, and policy agendas' that continue to pervade early childhood teacher education (ECTE) in Australia.

Henderson, Tangen, Alwi, Alwi, and Abu Hassan Shaari, the authors of Chap. 6, also built on and extended an established partnership to agentively develop authentic learning opportunities for their PSTs. The authors illustrate how teacher educators from Australia and Malaysia purposively curated four iterations of Australian Government-funded outbound mobility programs (OMPs) in Kuala Lumpur through their cross-border collaboration. Mindful of the discourse on Australia–Asia engagement that 'positions education as an economic rather than a social good', the authors eschewed the usual practice of outsourcing the delivery of the OMP to an external provider. Instead, by working in partnership via an active engagement in flexible communication channels and dialogic reflections and learning, these teacher educators designed each (annual) program to develop PSTs' intercultural competence and prepare them to become interculturally competent and culturally responsive teachers. Their intended aim was 'to design an intensive experiential learning program that would foster intercultural understanding in pre-service teachers from both countries beyond the instrumentalism of the marketplace and steer them on a path of learning with and from others'.

To achieve this, the authors worked not only "with the grain" in terms of meeting the objectives and outcomes of government funding requirements, but also "against the grain" in that [they] were determined to shape the OMP to meet [their] shared purposes'. Following Biesta et al. (2015), Henderson et al. emphasise their shared beliefs—that intercultural understanding was most effectively achieved through experiential learning—shaped their decision-making about the design and delivery of the program between Australia and Malaysia. Their research findings indicate 'that having a deep belief in the importance of the program' was necessary to ensure its longevity and that 'beliefs play a role in the iterative dimension' of the teacher educators in this study achieving agency and securing the desired students learning outcomes.

The extent to which the delivery of the teacher education continuum across initial, induction, and in-service/continuing professional development (rather than the delivery of each pillar as a sole entity) is supported through policy and practice forms the focus of Chap. 7. Mindful of the 'rising tide of accountability in teacher education due to the influence of the European higher education space' and moves to make education systems 'more responsive to the requirements of industry and commerce and raise pupil achievement', authors MacPhail, Seleznyov, O'Donnell, and Czerniawski examine the relationship between policy agencies, professional development agencies, and ITE institutes in Ireland and England, respectively. Their aim is to consider if such relationships may or may not be central to the effective delivery of the teacher education across these contexts. Noting the 'new set of roles, relationships, and responsibilities for all stakeholders' in Irish teacher education and the 'drive for more "school-led" teacher education with a change in direction to more on-the-job "training"' in England, the authors raise considerations of 'how best to work with colleagues across the teacher education continuum to ensure that it represents a shared understanding'. They posit that despite the competing agendas of those involved, much can be gained across the different facets of teacher education by 'working with, and learning from, reflective stakeholders'. Drawing from Archer

(1996, pp. xxiv–xxv), they challenge the reader to reflexively consider the teacher education continuum in ways beyond what one is 'conditioned to do' but rather, 'conceive of doing … differently' via inter-relationships.

In Part IV of the volume, the three chapters focus on the theme of *Nurturing Trust in Heavily Regulated Environments: Assessment, Policy, and Their Impact on Teacher Education Programs.* A key topic for this group is assessment practices and the ways in which teacher educators navigated the emerging assessment trends of accountability, transparency, and standards that have shaped the current era of teacher education and teacher quality. The first chapter in this part by Spooner-Lane, Buchanan, Jordan, Broadley, and Wall (Chap. 8) examines ITE providers' requirement to assess all PSTs using a Teaching Performance Assessment (TPA) as a condition of graduation. The study illuminates how teacher educators and PSTs from four Australian universities grapple with the tensions of a mandated capstone assessment in the final semester of ITE programs including embedding the TPA across ITE programs, aligning the TPA to a set of professional teacher standards, and preparing PSTs to undertake the TPA during their final professional experience placement. One PST noted: 'So, there was so much pressure in that four weeks to be gathering enough evidence to cover not just three standards but all the sub-standards'. At the same time, the TPA afforded teacher educators and PSTs to engage in rich professional dialogues and a shared understanding of PSTs' teaching knowledge and practices at a graduate level: 'It gave us an opportunity to be together as a group, to think and talk through the TPA …'.

Willis and Cowie (Chap. 9) explore the agency of teacher educators in assessment education. Writing from both the Australian and New Zealand contexts, the authors use the term 'palimpsest' (a multi-layered text that is reinscribed over time) as a metaphor for understanding the 'layers of influence' on teacher educators' assessment and practices. They proposed that teacher educators who teach assessment 'need to understand the importance of their own assessment palimpsests with their residual cultural and societal messages that are accumulated over time, to recognise the spaces for continued agency'. Willis and Cowie draw upon Archer's four quadrants of agentic development (I, Me, We, and You) to illustrate how teacher educators engage with the 'multiple roles and identities as part of exercising agency within the context of assessment education'.

The third chapter in Part IV by Gallagher, Willis, and Spina (Chap. 10) establishes what teacher educators prioritise when developing the assessment capability of PSTs. An assessment regulatory backdrop was used to design a Delphi survey that enabled Australian teacher educators to rank statements about PSTs' assessment capabilities to arrive at a consensus of priorities. 'The Delphi method is an accessible methodology to promote the collective agency of teacher educators, as it enables diverse groups of teacher educators who are situated in tertiary education settings around Australia to rank, sort, and comment on their priorities and practices'. The process is outlined in detail in three phases as a model for other teacher educators to collectively gather expert perspectives on priority topics.

The final part (Part V) is titled *Developing an Agentive Professional Self? Supporting the Next Generation of Teachers.* In this final part, the three chapters

explore the notions of reflexivity as an agentive tool for both PSTs and for teacher educators to use.

In Chap. 11, Karnovsky and O'Brien illustratively write about the important work of supporting PSTs' emotional labour in the absence of clear regulatory guidelines that acknowledge this aspect of teachers' work. They note:

> Despite the centrality of emotions in teaching, learning emotional rules and norms of professional practice is *not* the subject of calculated direction and oversight by regulatory authorities and governments, as are most other aspects of their professional practice.

To remedy this situation, they describe themselves as acting as reflexive practice facilitators, using professional experience units to find the 'space for witnessing the ways pre-service teachers come to explore a constellation of feelings associated with learning to teach'. They both model and use reflexive practice themselves to combat what they describe as a 'profound dissatisfaction with the context of reform impacting on teacher education courses and schools generally in Australia'. The chapter draws on an empirical longitudinal study of PSTs as they sought to construct a professional emotional persona over the course of their graduate program at a large, metropolitan Australian university. The authors use a Foucauldian four-part schema to interpret the data. Throughout the chapter, drawings, pre-service reflections, and excerpts from discussions are provided to highlight the ways in which the authors supported the PSTs (and themselves) through the myriad of challenges PSTs face in learning to teach. A significant finding discussed in the chapter is that 'participants learn to accept that they must craft their emotional conduct through a range of mental and physical practices according to the norm of rational emotional control'.

Nykvist, Mukherjee, and Blundell (Chap. 12) also use reflexivity as a central tool to support PSTs. In this chapter, however, the tool is used on a completely different topic: learning with digital technologies. The authors write against a backdrop where they acknowledge the continually evolving nature of digital technologies and the concern that current knowledge and skills associated with rapidly changing and outdated technologies will not serve educators as they look towards new pedagogical approaches for connecting and engaging with students. It is with this concern in mind that the trio working together in a team-teaching approach use reflexivity to take agentic actions to improve ITE approaches to using digital pedagogies to enhance learning opportunities for all students. As they describe:

> While the specific focus of the subjects is to prepare PSTs to be teachers who embrace digital technologies as a tool to support learners and enhance learning, it is the informal reflexivity espoused within team teaching approaches that caters to new ways of engaging with the challenges associated with digital pedagogies.

Lunn Brownlee, Walker, L'Estrange, Ryan, Bourke, Rowan, and Johansson (Chap. 13) document their findings from an important Australian Research Council grant designed to address the issue of graduate teachers who do not feel well prepared to teach diverse groups of children in their classroom. They make the argument that to do so, teacher educators need to best prepare their students to understand diversity to teach for diversity. While the previous two chapters focus mostly on PSTs'

learning, in this final chapter, the gaze is on teacher educators' learning and teaching practices, with a focus on what the authors describe as 'epistemic agency'. As they explain:

> The central idea is that teacher judgement lies at the heart of teacher agency in pedagogical decision making … examining teacher educators' epistemic aims and teaching processes for achieving such aims. Such teacher judgements imply a type of agency which we refer to in this chapter as epistemic agency.

They further make the argument that such agency involves participation in the construction of knowledge in the community. They draw from the work of Elgin (2013) who argued that 'Epistemic agents should think of themselves as, and act as, legislating members of a realm of epistemic ends: they make the rules, devise the methods, and set the standards that bind them' (p. 135). To explore teacher educators' epistemic cognition in the context of teaching diversity, the authors describe how they conducted a social innovation laboratory, also known as a social lab. A key highlight of this chapter is that they apply the theory to teacher educators as an occupational group and describe their findings eliciting teacher educators' understanding of epistemic agency documenting the ways they taught for diversity. This is a powerful chapter concluding the volume that directly documents teacher educators' contributions to knowledge construction as epistemic agents.

While agency has been theorised in various ways as outlined earlier and the structure of the book offers a way to explore agentive practice, to further understand the ways in which teacher educators actually managed competing tensions and complexities in their work and escalating regulatory environments, we draw upon (Archer's, 1995, 2007) perspective of critical realist social theory to provide a framework for drawing the parts and chapters in this volume together.

## 1.5 Critical Realist Social Theory

Archer was concerned with *how* agents respond and act. Archer (2003) emphasised that individuals make sense of the contexts they inhabit through the sorts of internal conversations, or self-talk, they have about their social world. Importantly, the types of constraints and enablements that social contexts offer agents are mediated through these forms of self-talk. Such reflexivity, defined as 'the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their (social) contexts and vice versa' (Archer, 2007, p. 4), influences the sorts of decisions and practices which individuals undertake in their everyday lives. In this way, Archer (2012) argues that individuals have agency and take action even when social structures seek to normalise or restrain their practices. Furthermore, Archer (1995, 2007) suggests that the key to understanding action lies in exploring the interchange and relationship between individuals and those social structures within which they operate.

Archer argues that social structures and contexts are always transformable but at the same time are constrained as they take shape from and are formed by individuals (agents). She refers to this as analytical dualism where structure and agency are separate rather than conflated; in other words, she argues for their complementarity rather than their counteraction (Ryan & Bourke, 2013). For Archer (2007), the interplay and interconnection between individuals (teacher educators) and social structures (accountability and policy, for example) are crucial to understand courses of action produced by subjects through reflexive deliberation. In this way, individuals are active agents who mediate their subjective concerns (values, priorities, knowledge, and capabilities) and their objective circumstances (for example, standardisation, accountability, etc.) to act in certain ways. While agential powers and actions are conditioned by social structures, these structures are not considered to be 'forces' (Archer, 1995, p. 209) but rather as reasons for acting.

These actions can be transformative (morphogenetic)—they transform social structures or cultural systems within which they operate—or they can be reproductive (morphostatic) as they maintain structural and cultural norms. If the agent accepts their extant circumstances and acts as if there is nothing they can do about them, they are, at best, 'passive beings to whom things happen' (Archer, 2000, p. 3). But, if they can conceive of a way of doing things differently, they become active agents. Not only does (Archer, 2012) contend that agents weigh up their personal concerns alongside structural and cultural norms, but she also argues that each of these influences is always emerging in relation to the others in either enabling and/or constraining ways.

### 1.5.1  Understanding Agentive Tools: Personal, Cultural, and Structural

Archer suggests three distinct emergent properties that contribute to making decisions about how to act. These are personal, cultural, and structural emergent properties. Personal emergent properties (PEPs) in the context of this book relate to personal knowledge, expertise, or values and identities related to the work of teacher educators. Cultural emergent properties (CEPs) are prevailing beliefs, ideologies, and expectations of education systems or stakeholders; for example, how teacher educators position themselves as a professional organisation. Structural emergent properties (SEPs) are systems, practices, resources, or policies such as accountability regimes or professional standards documents. In these emerging conditions, these properties influence each other in enabling and/or constraining ways. Archer's emergent properties are used as a novel approach to analyse the chapters in this book and provide details about what personal, cultural, and structural conditions enable or constrain the agency of teacher educators' work.

We used this framework to analyse the various actions of the teacher educators against their social context. Table 1.1 is a summary of the meta-analysis outlining

**Table 1.1** Enablements and constraints on teacher educator agency

| Emergent properties | Enablements | Constraints |
|---|---|---|
| Personal emergent properties | Knowledge<br>Tracing identity over time | Compliance |
| Cultural emergent properties | Professional<br>cultures/collaboration | Lack of professional<br>culture/collaboration |
| Structural emergent properties | Staffing<br>Regulation<br>Funding<br>Time<br>Course Design (space) | Staffing<br>Regulation<br>Funding<br>Time<br>Inflexible systems for<br>course design |

the enablements and constraints that were evident across the chapters. These are discussed further in relation to Parts II–V in this volume.

As shown in Table 1.1, there were two personal emergent properties (PEPs) that were viewed as enabling (knowledge and tracing identity over time) and one constraint (compliance). While some teacher educators saw the very policies that they had to comply with and implement as constraints on their agency, enablements were spoken about much more frequently and focused on the teacher educators in this volume adopting a scholarly disposition/identity, using research-informed practices as an agentic tool.

#### 1.5.1.1 Adopting a Scholarly Disposition/Identity: Knowledge as an Agentic Tool

The meta-analysis of the chapters in this volume coded according to Archer's emergent properties revealed that the most dominant personal emergent property (PEP) as an enabling tool for teacher educators was knowledge itself. In this section, we present examples from various chapters to demonstrate teacher educators using knowledge of research, knowledge of their disciplines and areas of expertise, and their understandings of theoretical tools to help them navigate through the challenging accountability and standardisation regimes and situations. As co-editors, we noted the ways in which teacher educators were 'scholarly', or as Bourke and Mills (Chap. 2) describe, using a 'researcherly disposition' to their advantage.

By researcher disposition or stance, Bourke and Mills, following Tack and Vanderlinde (2014), were referring to the 'habit of engaging with research as both a consumer and producer—to improve practice and contribute to the knowledge base on teacher education'. Not only did the Unit Coordinator in the policy enactment study in Chap. 2 research the academic literature on primary specialisations, but he also used his knowledge of the discipline of science to select what might be most useful to teach his PSTs:

> I used a body of literature about conceptual change and looking at the misconceptions that students might have and how teachers could target those … I knew that they couldn't have knowledge of absolutely everything but the real sticking points where students think the wrong thing … there's been research on that. So, I made them choose one of those topics which [are] most misconstrued.

Similarly, in Chap. 3, we see Swars Auslander and Myers reflexively analysing their own practices 'grounded in the research on mathematics teacher education … with [their] specific context and students in mind'. They argue:

> As professionals, it is fundamental that teachers have the ability to shape their practices in ways that draw upon existing research and analyses of their own practices.

In these chapters, these teacher educators' research and disciplinary knowledge, science in Chap. 2 and mathematics in Chap. 3, were enablers for teaching their PSTs effectively.

Like Bourke and Mills, in Chap. 6, Henderson et al. also adopted a producer/consumer stance to knowledge, this time to inform an outbound mobility program (OMP) between Australia and Malaysia. As noted by the authors:

> We have found in our own research that guided reflections help pre-service teachers [not only] gain in cultural understanding of others, but also of themselves.

In this chapter, with reference to their empirical work over four years, the authors drew from their individual and collective cultural knowledge and histories (PEP) to reflect on how they responded to regulatory policy agendas in ways to agentively shape their OMP and purposively meet their own specific and collaborative goals.

Collective construction of knowledge featured as an enabling PEP in other chapters also. Three examples are Gibson et al. (Chap. 5), Spooner-Lane et al. (Chap. 8), and Gallagher et al. (Chap. 10). In the first example, this decade-long alliance used the space between the disciplines of education and health to develop a synergistic transdisciplinary professional experience model. Using a conceptual framework of transdisciplinarity to develop transdisciplinary skills as one of the dietetics students commented, the 'benefits of this project include gaining knowledge that is not yet known'. The second example was a much more recent collaboration between four universities, where teacher educators 'took responsibility for preparing PSTs for the TPA by reframing the assessment as a significant professional learning activity for consolidating teaching knowledge, beliefs, and practices and for reflecting on student impact'. These teacher educators collectively co-constructed knowledge so that their PSTs could be assessed as classroom-ready. In the third study, Gallagher et al. outline in detail the Delphi method as an enabling strategy to build knowledge through the systematic 'collecting and collating' of 'expert opinions'. Although this chapter centred on Australian teacher educators' priorities when teaching assessment to PSTs, this study revealed that the method could be used for other topics to 'generate new knowledge on complex issues that do not lend themselves to precise analytical techniques'. These instances of knowledge construction as enabling PEPs are closely linked to the enabling CEP of professional collaborations (discussed later).

Across the chapters in this book, there are further examples where teacher educators engage with knowledge/research using various theorists and theoretical frameworks to inform their work. Again, this is seen as an enabling PEP. These theoretical lenses include Third Space Theory (Chap. 4), Archer (Chaps. 7 and 9), Foucault (Chap. 11), Grounded Theory (Chap. 12), and the *A*ims, *I*deals, and *R*eliable (coined as the AIR framework) for epistemic cognition (Chap. 13).

Clifton and Jordan in Chap. 4 use Third Space Theory as a socio-spatial tool following theorists such as Bhabha (1994) and Soja (1996) to challenge age-old binaries such as the theory/practice divide between schools and universities in the professional experience space. Using the work of Zeichner (2010, p. 89), they note:

> This work in creating hybrid spaces in teacher education where academic and practitioner knowledge and knowledge that exists in communities come together in new less hierarchical ways in the service of teaching learning represents a paradigm shift in the epistemology of teacher education programs.

As Zeichner's quote reveals and Clifton and Jordan demonstrate, the triad of PSTs, teacher mentors, and university liaisons, built shared knowledge (PEP) in an environment of 'trust and reciprocity' where theory and practice were better connected.

While an Archerian approach was used across two chapters, Chap. 7 is the one more focused on the PEP of knowledge. The other (Chap. 9) is more related to the PEP of identity and will be discussed later. In Chap. 7, MacPhail et al. use Archer's notions of enablements and constraints to explore the Irish and English policy contexts to see which agendas aided or hindered the enactment of a teacher education continuum. Once again shared knowledge (PEP) was important in this space, the authors stating that 'the likelihood of a genuine, shared teacher education continuum is heightened by working with, and learning from, reflective stakeholders'. Like the chapters by Gibson et al., Spooner-Lane et al., and Gallagher et al., the enabling PEP of knowledge is closely linked to professional learning communities working collaboratively (CEP).

Foucault's theory around technologies of self-formation is the knowledge frame used by Karnovsky and O'Brien in Chap. 11 to open a space for PSTs to construct a more authentic teacher professional emotional persona. Borrowing Phelan's term of 'anti-educational forces' in relation to standardisation, performativity, and accountability, the authors of this chapter provide both 'conceptual and theoretical tools by which teacher educators may allow space for pre-service teachers to think "otherwise" about emotional norms in the profession'.

In Chap. 12, grounded theory was the approach used by Nykvist et al. to devise a method for teaching digital technologies innovatively. In this study, the authors' reflexive practice over eight years of teaching and research produced new pedagogical knowledge (PEP) to develop a Creative Inquiry (CI) approach for using digital technologies. CI 'encompasses both the notion of *inquiry* and *creativity* as it foregrounds the creative aspects of inquiry and knowledge building'. By using CI, PSTs

were able to connect theory and research with real-world digital technology practices, enabling them to 'embrace change', be 'adaptable', and be 'flexible'. Nykvist et al. noted:

> For educators to feel confident about teaching in new ways, it is imperative that teacher educators equip PSTs with the knowledge and skills to be able to respond to the changing needs of students.

In today's climate of uncertainty and greater reliance on technologies in a COVID world, digital technology pedagogy underpinned by knowledge from research is more important than ever.

Finally, in Chap. 13, Lunn Brownlee et al. used epistemic cognition drawing on the AIR framework from Chinn et al. (2014). In this framework, *A*-Aims, *I*-Ideals, and *R*-Reliable epistemic processes were used to examine teacher educators' views on diversity for teaching their PSTs. Using work from Elgin (2013), these authors asserted that teacher educators should actively participate in 'the construction of knowledge' as 'epistemic agents'. Such construction of knowledge should not rely on 'experiential knowledge and narrow views of the concept of diversity' or the simple inculcation of knowledge 'espoused in standards documents'. Rather what is needed and is the true enabling PEP about knowledge is 'deep meaning making … [about] the role of equity and social justice in teaching diverse groups of children'. The authors called for further research 'about teacher educators' familiarity with literature, or sources of knowledge, that could reasonably be associated with a "deep understanding" of the complex issue of diversity, and the specialist literature associated with each one of the many diversity referents that impact upon educational and life pathways'.

The other PEP present that enabled agency was where teacher educators' and PSTs' identities (Chap. 9 Willis and Cowie) were traced over time. Like MacPhail et al., Willis and Cowie use aspects of Archer for their theoretical framing, this time focusing on assessment knowledge and reflexivity. In this chapter, Archer's four quadrants of agentic identity development and the metaphor of a palimpsest are seen as an enabling PEP. A palimpsest is a manuscript that is 're-used, written over' but shows 'residual traces of transformations and erasures over time'. The palimpsests in this study from an Australian teacher educator and one from New Zealand demonstrate how their identities as assessment actors have been shaped through time 'with inscriptions, erasures, and rewriting all leaving traces that inform action'. The authors maintained that while 'new assessment policies can be seen to be *making up a different kind of teacher educator*', identities do not form in this way; traces from the past are retained so teacher educators author their own identities and agency.

In summary, the two personal emergent properties, knowledge and identities, demonstrate that teacher educators can speak authoritatively with legitimate knowledge that is more than what is prescribed by the contours of the current political or practice landscape. Knowledge and tracing teacher educator identities over time were enabling PEPs.

The next section outlines the cultural emergent properties (CEPs) that were seen as enabling and constraining for the teacher educators in this book. What was notable about the CEPs was regardless of whether they were seen as enabling or constraining, there was one dominant theme—professional cultures/collaboration. We have aptly titled the next section *Networks, Alliances, and Partnerships*, in line with this CEP.

### 1.5.1.2 Networks, Alliances, and Partnerships

While two of the chapters in the volume reported a lack of networks, alliances, and partnerships (Chaps. 3 and 7) in their endeavours in teacher education, in most other chapters, there was one dominant enabling CEP for teacher educator agency, professional cultures and collaborations, albeit such cultures/collaborations taking on different forms. Some examples of this (Chaps. 5, 8, and 10) have been discussed in Sect. 1.5.1.1 in relation to groups of teacher educators coming together to form new knowledge as an enabling PEP. Here, we elaborate on these examples and provide other examples of various stakeholders in teacher education working together for the benefit of all involved.

Bourke and Mills (Chap. 2) expressed the advantages of working with learning designers to make online course material engaging: 'We worked together really well so the learning designers basically made all of our ideas come to life online that was just incredible the way that they did that'. Here, we see not only teacher educators working together but also the Academic Program Director (APD) 'peopling policy' with what the authors termed policy 'transactors'. These are the people behind the scenes who support the work of academics.

Clifton and Jordan (Chap. 4) referred to partnerships where academics and practitioners came together in hybrid spaces with a shared vision, responsibility, and obligation to prepare the future generation of teachers, noting: 'over a series of think tank days, the vision, courseware, and assessment were developed between university teacher educators, teachers, school leaders, and industry (curriculum authorities and the Department of Education)'. In this space, they co-constructed knowledge and mentored each other and their PSTs while creating employment and professional learning opportunities.

Similarly, in the early childhood professional experience space, Gibson et al. (Chap. 5) collaborated to develop a model of transdisciplinary professional experience placement incorporating a co-located education/health approach. Their endeavours to realise 'new opportunities for pre-service teachers to be prepared to work in new ways' provided new understandings as to 'how teacher educators, students, and professionals from the fields of education and health can make sense of competing regulatory agendas and maximise their joint professional expertise'.

In their chapter, Henderson et al. (Chap. 6) reflected on the morphogenetic effect of their collaborative, transnational partnership to develop Australian and Malaysian PSTs' intercultural competence and prepare them to be culturally responsive teachers:

> what distinguished this OMP to other such programs was that rather than involving commercial providers to organise and run the program, we devised, curated and refined each year of program through our reflections and discussions.

Accordingly, the authors adopted 'an agentive, interventionist approach to positioning OMPs in pre-service teacher education as a cross-border collaborative work of Australian and Malaysian teacher educators'.

In Spooner-Lane et al.'s study (Chap. 8), teacher educators commented that having time to come together developed their agency and professionalism in effectively preparing their students to be classroom-ready.

> It gave us an opportunity to be together as a group, to think and talk through the TPA, and then our role as assessors. It was helpful in allowing us to raise issues, anything methodological or design issues; we were free to do that, and that was really helpful. It was a free-flowing discussion, there was information that was shared with us, but there was also opportunity for us to ask questions, give our thoughts.

Willis and Cowie (Chap. 9) refer to teacher educators as a collective with shared language around assessment, noting that they 'do not make assessment education decisions based on each new policy alone, but draw from layers of experiences'. Willis and Cowie assert that for teacher educators to advocate for informed policy, and also make informed decisions about what pre-service teachers must learn, we need to find ways to efficiently and effectively collaborate in robust evidence creation.

Gallagher et al. (Chap. 10) echo this sentiment where experts collaborated through various stages of a Delphi study to produce new knowledge about PST assessment capabilities.

Nykvist et al.'s study (Chap. 12) revealed multiple layers of collaboration involving team teaching, mentoring, coaching, and role modelling while PSTs learned by collaborating with peers and staff and then reflecting on their practices. The authors contend that: 'PSTs need to understand the role of digital technologies and the impact of the learning environment, while also working together to collaboratively solve problems'. Finally, the design of Lunn Brownlee et al.'s study (Chap. 13) incorporated a social lab approach. The authors note: 'The belief behind this process is that through connection and collaboration, new ideas, prototypes, and perspectives can emerge, increasing the capacity to address highly complex challenges in innovative ways'. This approach showed a collaborative community of diverse stakeholders coming together to solve one of the most pressing problems in education, namely 'that graduates believe they are challenged when it comes to supporting children from diverse cultural, ability, linguistic, and socio-economic backgrounds'.

In summary, many of the chapters across the volume demonstrated research-informed teacher educators working as a scholarly community through various networks, alliances, and partnerships. Regardless of whether these were with policy transactors, practitioners, health experts, or national or international colleagues, such professional collaboration promoting a strong professional culture was a dominant CEP for promoting teacher educator agency.

The next section outlines the structural emergent properties (SEPs) evident across the volume. While there were dominant enablements in both the personal

and cultural emergent conditions evident in the chapters, when it came to SEPs, what was noteworthy was that the same structures were seen as both enabling and constraining for teacher educators' agency. Indeed, for the most part, the SEPs were seen as constraining. However, in line with the theme of the book related to teacher educator agency, here, we purposively discuss the SEPs that were seen as enablements. The enabling factors included staffing, regulation (policy), funding, time, and course design. We speak to these themes in the next section—*Going Against the Grain*—using structural factors as enablements for teacher educator agency.

### 1.5.1.3 Going Against the Grain: Using Structural Factors as Enablements for Teacher Educator Agency

While we acknowledge that time, funding, and external regulatory pressures are very real in teacher education and were the impetus for putting this volume together in the first place, there were examples across the chapters where the SEPs were seen as enabling. Bourke and Mills (Chap. 2) saw the SEP of staffing as an enablement. Despite having no funding or workload allocation to implement an external regulatory agenda, the fact that they had eager staff who were willing to innovate to bring the primary specialisation to life was positive. They noted:

> I think the staff … were a huge enablement. There was a group of people – there was a literacy person and numeracy person and the science person – putting the modules together and coming up with something that's … comparable across the three … They had autonomy to do what they wanted – their knowledge of their subject areas and how to teach their subject areas and what highly effective practice looks like in their subject areas were definitely enablements. And the subsequent materials that they have put together are definitely enablements for the primary specialisation people.

In this example, we see teacher educators without the necessary structural supports in place to help them, with the best intentions of going above and beyond for the future generation of teachers in their care.

Similarly, the team-teaching approach advocated for by Nykvist et al. (Chap. 12) was portrayed as an enablement where two staff members co-taught and role modelled the use of digital technologies first-hand. Once again, lack of resourcing at multiple levels was mentioned but, in the following quote, we can really see the enabling PEP (knowledge), collaboration (CEP), and staff supporting each other (SEP) coming together as strong enablements for PST learning:

> When collaborative learning and team teaching come together with creative inquiry, they form a powerful alliance which enhances the student learning experience. It is within this context that educators feel supported by each other, and the collective knowledge of multiple educators can enhance the learning experience for the students.

There was only one instance of regulation (policy) that was seen as enabling. This was evident in Chap. 4 by Clifton and Jordan where changes in accreditation guidelines in Australia forced teacher educators to re-envisage professional experience units at their universities, opening new possibilities for different ways of working.

> Despite fears that professional experience programs would lose distinctiveness and would become like Benaud's suits, we, as leaders and teacher educators within the ITE program, soon realised that the accreditation process could provide us with the impetus, permission, and the power to rethink our approach.

The events spelled out in Chap. 4 go against the grain of the story in other chapters. Perhaps this was because Clifton and Jordan received funding for the designated position of coach as part of their CAPE model. These coaches, referred to as 'boundary spanners', worked in the third space and created a bridge between universities and schools. Funds were used for release time for coaches to mentor PSTs. Funding in this instance combined with time was seen as enablements but for most of the studies where time or funding emerged as SEPs, they were constraints.

In relation to course design as an SEP, many studies reported this as an enablement. Spooner-Lane et al. (Chap. 8) maintained that their teaching performance assessment in Australia informed program design. The TPA showed teacher educators 'where the preparation of PSTs could be further enhanced'. The authors in Chap. 10, Gallagher et al.'s study, hoped their Delphi methodology would support teacher educators to implement effective assessment practices across a course progression. Similarly, in the USA, the Swars Auslander and Myers Maths program (Chap. 3) incorporating mentoring sessions formed a capstone unit in the master's degree. Clifton's and Jordan's (Chap. 4) professional experience model required goal setting, so the program was customised for individual students. Additionally, the course was designed to be taught in both schools and on-campus using hybrid educators. Nykvist et al.'s study (Chap. 12) revealed an SEP of space, in some ways related to course design broadly. In this study, these authors showed how an agile, flexible space that could be reconfigured easily for different learning activities enabled learning and developed a sense of agency in PSTs.

To conclude, it was evident that knowledge as a PEP and professional collaborations/cultures as a CEP were dominant emergent properties across the chapters for enabling teacher educator agency. However, it became obvious that the main barriers to the agency were structural. In the light of these findings from an analysis of the emergent properties across this volume, we make several assertions in conclusion.

## 1.6 Conclusion

This volume highlights the many strategies and approaches that teacher educators used agentively to best support the teaching profession within the given global policy imperatives. As authors, we noted that a scholarly disposition and use of key theories and theorists emerged as key elements that the teacher educators across a number of different contexts were able to draw from in addressing practical challenges and situations. This is a finding that is particularly heartening to our discipline and works to agentively strengthen the profession.

We know that the discipline of teacher education and teacher educators are often marginalised (Labaree, 2008; Robinson, 2017). As Furlong (1996) notes:

> This is an area – or field henceforth – of the broad discipline of education which has struggled for legitimacy and been frequently measured against other more 'traditional' academic disciplines. This has resulted in divisive and sometimes contradictory discourses and practices, perhaps not least perhaps because its knowledge base is the 'endemic uncertainty' of professional knowledge. (p. 154)

What this volume illustrates, however, is that it is the very complex interplay of theory and practice that is so very unique for our teacher education discipline research set against the backdrop of changing policy imperatives in both education, schooling, and teacher education. Embracing our complexity and acknowledging that our field spans multiple contexts can become our strength.

The chapters across this volume all reveal dedicated teacher educators as active agents. In line with Archer's view on agency, they do not just accept their circumstances as 'passive beings to whom things happen' (Archer, 2000, p. 3). Rather, they go against the grain, not only using their scholarly dispositions, identities, and research, but also using their networks, forming alliances, and partnering with multiple stakeholders across disciplines for the effective preparation of their PSTs. Thus, while we acknowledge that teacher education continues to be subject to policy borrowing and those multiple influences prompted by the Global Education Measurement Industry (GEMI; Biesta, 2015) and the Global Education Reform Movement (GERM; Salhberg, 2011)—much of which have very little to do with scholarly approaches to knowledge and to education—we argue that the imposition of new accountability reforms has not resulted in any withdrawal by teacher educators from responding agentively.

Rather, the reverse is the case. In a very real sense, every chapter of this research collective demonstrates this point. By providing insights into what teacher educators can achieve by working collaboratively and agentively in various ways across a range of contexts, this volume enables readers to make comparisons with their own experiences. It is our hope that our readers—our fellow teacher educators and education colleagues—reflect on the volume's research findings, insights, and issues raised to think about their own work and take heart in mobilising, with their colleagues, their scholarly disposition to find space in policy through agentic approaches.

# References

Adie, L., & Wyatt-Smith, C. (2018). Research-informed conceptualization and design principles of teacher performance assessments: Wrestling with system and site validity. In C. Wyatt-Smith & L. Adie (Eds.), *Innovation and accountability in teacher education: Setting directions for new cultures in teacher education* (pp. 115–132). Springer. https://doi.org/10.1007/978-981-13-2026-2_8

Alexander, C. (2018). Conceptions of readiness in initial teacher education: Quality, impact, standards and evidence in policy directives. In C. Wyatt-Smith & L. Adie (Eds.), *Innovation and accountability in teacher education: Setting directions for new cultures in teacher education* (pp. 97–113). Springer. https://doi.org/10.1007/978-981-13-2026-2_7

Apple, M. (2013). The politics of official knowledge: Does a national curriculum make sense? *Teachers College Record, 95*(2), 222–241.

Archer, M. (1995). *Realist social theory: The morphogenetic approach.* Cambridge University Press.

Archer, M. (1996). *Culture and agency* (Revised ed.). Cambridge University Press.

Archer, M. (2000). *Being human: The problem of agency.* Cambridge University Press.

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

Archer, M. (2007). *Making our way through the world: Human reflexivity and social mobility.* Cambridge University Press.

Archer, M. (2012). The reflexive imperative in late modernity. Cambridge University Press–M.U.A.

Australian Government. (2021). *Next steps: Report of the quality initial teacher education review.* Australian Government.

Ball, S. (2008). *The education debate.* Policy Press.

Bates, R. (2004). Regulation and autonomy in teacher education: Government, community or democracy? *Journal of Education for Teaching: International Research and Pedagogy, 3*(2), 117–130. https://doi.org/10.1080/0260747042000229744

Bhabha, H. (1994). *The location of culture.* Routledge.

Biesta, G. J. J. (2015). Resisting the seduction of the global education measurement industry: Notes on the social psychology of PISA. *Ethics and Education, 10*(3), 348–360. https://doi.org/10.1080/17449642.2015.1106030

Biesta, G. J. J., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching, 21*(6), 624–640. https://doi.org/10.1080/13540602.2015.1044325

Biesta, G. J. J., & Tedder, M. (2006). *How is agency possible? Towards an ecological understanding of agency-as-achievement. Working paper 5.* The Learning Lives Project.

Biesta, G. J. J., & Tedder, M. (2007). Agency and learning in the lifecourse: Towards an ecological perspective. *Studies in the Education of Adults, 39*(2), 132–149.

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). Springer.

Britzman, D. P. (2007). Teacher education as uneven development: Toward a psychologyof uncertainty. *International Journal of Leadership in Education, 10*(1), 1–12.

Chinn, C. A., Rinehart, R. W., & Buckland, L. A. (2014). Epistemic cognition and evaluating information: Applying the AIR model of epistemic cognition. In D. Rapp & J. Braasch (Eds.), *Processing inaccurate information: Theoretical and applied perspectives from cognitive science and the educational sciences* (pp. 425–453). MIT Press.

Chisholm, J., Alford, J., Halliday, L. M., & Cox, F. M. (2019). Teacher agency in English language arts teaching: A scoping review of the literature. *English Teaching: Practice and Critique, 18*(2), 124–152. https://doi.org/10.1108/ETPC-05-2019-0080

Cochran-Smith, M., Carney, M. C., Keefe, E. S., Burton, S., Chang, W., Fernández, B., Miller, A. F., Sánchez, J. G., & Baker, M. (2018). *Reclaiming accountability in teacher education.* Teachers College Press.

Cochran-Smith, M., Piazza, P., & Power, C. (2013). The politics of accountability: Assessing teacher education in the United States. *The Educational Forum, 77*(1), 6–27. https://doi.org/10.1080/00131725.2013.739015

Davies, B. (1990). Agency as a form of discursive practice. A classroom scene observed. *British Journal of Sociology of Education, 11*(3), 341–361.

Elgin, C. (2013). Epistemic agency. *Theory and Research in Education, 11*(2), 135–152. https://doi.org/10.1177/1477878513485173

Emirbayer, M., & Mische, A. (1998). What is agency? *American Journal of Sociology, 103*(4), 962–1023.

Eteläpelto, A., Vähäsantanen, K., Hökkä, P., & Paloniemi, S. (2013). What is agency? Conceptualizing professional agency at work. *Educational Research Review, 10*(1), 45–65.

Furlong, J. (1996). Do student teachers need higher education? In J. Furlong & R. Smith (Eds.), *The role of higher education in initial teacher education* (pp. 150–165). Kogan Page.

Gove, M. (2013). I refuse to surrender to the Marxist teachers hell-bent on destroying our schools: Education Secretary berates 'the new enemies of promise' for opposing his plans. *The Daily Mail*. http://www.dailymail.co.uk/debate/article-2298146/I-refuse-surrender-Marxist-teachers-hell-bent-destroying-schools-Education-Secretary-berates-new-enemies-promise-opposing-plans.html

Hanushek, E., & Woessmann, L. (2007). *Education quality and economic growth*. The World Bank.

Hilferty, F. (2008). Theorising teacher professionalism as an enacted discourse ofpower. *British Journal of Sociology of Education, 29*(2), 161–173.

Kant, I. (1992[1784]). An answer to the question: What is enlightenment? In P. Waugh (Ed.), *Postmodernism: A reader* (pp. 89–95). Edward Arnold.

Labaree, D. (2008). An uneasy relationship: The history of teacher education in the university. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring issues in changing contexts* (pp. 290–306). Routledge and the Association of Teacher Educators.

Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education, 21*, 899–916.

Leander, K. M., & Osborne, M. D. (2008). Complex positioning: Teachers as agents of curricular and pedagogical reform. *Journal of Curriculum Studies, 40*(1), 23–46.

Locke, J. (1978[1689]). *Two treatises of government*. E. P. Dutton.

Loutzenhesier, L., & Heer, K. (2017). Unsettling habitual ways of teacher education through 'post theories' of teacher agency. In D. Clandinin & J. Husu (Eds.), *The SAGE handbook of research in teacher education* (pp. 317–332). SAGE.

Paine, L. W. (2019). Missing voices and possible dialogues: Problems and possibilities for teacher education. *Teachers and Teaching, 25*(6), 684–702. https://doi.org/10.1080/13540602.2019.1643712

Priestley, M., Biesta, G. J. J., & Robinson, S. (2015). Teacher agency: What is it and why does it matter? In J. Evers & R. Kneyber (Eds.), *Flip the system: Changing education from the ground up* (pp. 134–148). Routledge.

Ravitch, D. (2016). *The death and life of the great American schooling system: How testing and choice are undermining education* (2nd ed.). Basic Books.

Reid, A. (2019). *Changing Australian education: How policy is taking us backwards and what can be done about it*. Allen & Unwin.

Rizvi, F., & Lingard, B. (2010). *Globalizing education policy*. Routledge.

Robinson, W. (2017). Teacher education: A historical overview. In D. J. Clandinin & J. Husu (Eds.), *The SAGE handbook of research on teacher education* (pp. 49–67). SAGE.

Ryan, M. E., & Bourke, T. (2013). The teacher as reflexive professional: Making visible the excluded discourse in teacher standards. *Discourse: Studies in the Cultural Politics of Education*, *34*(3), 411–423. https://doi.org/10.1080/01596306.2012.717193

Sahlberg, P. (2011). The fourth way of Finland. *Journal of Educational Change, 12*(2), 173–185. https://doi.org/10.1007/s10833-011-9157-y

Soja, E. W. (1996). *Thirdspace: Journeys to Los Angeles and other real and imagined places*. Blackwell.

Steiner-Khamsi, G. (2010). The politics and economics of comparison. *Comparative Education Review*, *54*(3), 323–342

Tack, H., & Vanderlinde, R. (2014). Teacher educators' professional development: Towards a typology of teacher educators' researcherly disposition. *British Journal of Educational Studies, 62*(3), 297–315.

Tao, J., & Gao, X. (2017). Teacher agency and identity commitment in curricular reform. *Teaching and Teacher Education, 63*(1), 346–355.

Tatto, M. T., & Pippin, J. (2017). The quest for quality and the rise of accountability systems in teacher education. In D. J. Clandinin & J. Husu (Eds.), *The SAGE handbook of research on teacher education* (pp. 68–89). SAGE.

Teacher Education Ministerial Advisory Group. (2014). *Action now: Classroom ready teachers.* Teacher Education Ministerial Advisory Group.

Thrupp, M. (2018). *The search for better educational standards: A cautionary tale.* Springer.

Tudge, A. (2021). Recruit, train teachers better for higher scores. *The Australian.*

Waldow, F. (2012). Standardisation and legitimacy. Two central concepts in research on educational borrowing and lending. In G. Steiner-Khamsi & F. Waldow (Eds.), *World yearbook of education 2012: Policy borrowing and lending in education* (pp. 411–427). Routledge.

Wermke, W., & Höstfält, G. (2014). Silent and explicit policy borrowing of international policy discourses. The case of the Swedish teacher education reforms of 2001 and 2011. *Education Inquiry, 5*(4), 445–460.

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.

Zeichner, K. (2014). The struggle for the soul of teaching and teacher education in the USA. *Journal of Education for Teaching, 40*(5), 551–568. https://doi.org/10.1080/02607476.2014.956544

Zeichner, K. (2020). Preparing teachers as democratic professionals. *Action in Teacher Education, 42*(1), 38–48.

Zeichner, K., & Bier, M. (2013). The turn toward practice and clinical experiences in US teacher education. *Beitrage Zur Lehrerbildung/swiss Journal of Teacher Education, 30*(2), 153–170.

Zembylas, M. (2003). Emotions and teacher identity: A poststructural perspective. *Teachers and Teaching: Theory and Practice, 9*(3), 213–238.

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# Part II
# Doing More Than Ticking Accountability Boxes—New Ways to Respond to Reforms in ITE

# Chapter 2
# How Teacher Educators Do Policy: Enacting Primary Specialisations

**Theresa Bourke and Reece Mills**

**Abstract** In 2015, the Australian Institute for Teaching and School Leadership (AITSL) introduced the Accreditation of initial teacher education programs in Australia: Standards and procedures and the Guidelines for the accreditation of initial teacher education programs in Australia. These documents (updated in 2018) stipulated that to gain course accreditation, Initial Teacher Education (ITE) institutions had to incorporate specialisations for primary (K–6) pre-service teachers. This encompassed having knowledge and skills for delivery of the Australian primary curriculum and a specialisation in a priority learning area such as maths, literacy or science. In this study, we adopt a self-study approach using reflexive accounts, policy enactment, and theorisations around policy actors to outline how two teacher educators at a large metropolitan university in Australia navigated the interpretive, material and discursive facets of operationalising a science primary specialisation into practice. In this highly regulated space, the work of these two policy actors showed that despite being constrained by various factors such as the boundaries of accreditation, space for agentic ways of working opened up as policy interpretations moved from one actor to the next. Recommendations for how teacher educators 'do policy' are suggested.

**Keywords** Policy enactment · Science · Primary specialisation · Agency

## 2.1 Introduction and Context

To introduce this study and outline the context, we follow the typology offered by Braun et al. (2011). Differences in educational establishments—in this case, universities—can be classified as external, situated, material and professional (Braun et al., 2011). The external context is described first to highlight the policy backdrop

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before the situated (location, history, intake), material (staffing, qualifications) and professional (values, ethos) are outlined together to describe the specific site for the study.

### 2.1.1  External Context—Policy Backdrop

Initial Teacher Education (ITE) in Australia has undergone a major overhaul within the last ten years, with a ramping up of accreditation processes in the name of enhancing quality in the teaching profession. One area that has received increasing attention is primary education and the introduction of specialisations. The first mention of primary specialisations occurred in the Teacher Education Ministerial Advisory Group's (TEMAG) report *Action now: Classroom ready teachers* (TEMAG 2015), with Recommendation 18 stating that: 'Higher education providers equip all primary pre-service teachers with at least one subject specialisation, prioritising science, mathematics, or a language' (p. 26). Reasons given for this addition included primary teachers' lack of content knowledge and confidence in teaching subjects (such as science) due to an overcrowded curriculum. This perceived decline in quality instruction in the formative years was blamed for decreasing student engagement and falling numbers in the senior phase (Years 11 and 12) of schooling for science (Bourke et al., 2020).

This recommendation from TEMAG was translated into Program Standard 4.4 in the accreditation guidelines of 2015 (AITSL, 2015; updated 2018), where it became mandated that as well as preparing primary pre-service teachers in the eight key learning areas that make up the Australian Curriculum (AC), graduates must also have a specialisation assessed in three domains: content knowledge, pedagogical content knowledge and highly effective classroom practice. According to the Australian Government's response to TEMAG:

> primary teachers with a subject specialisation will complement the teachers they work with by sharing their knowledge and skills. This does not mean primary teachers will teach only in their area of specialisation, but rather their expertise will be available within the school to assist other teachers with the knowledge and skills to teach the subject effectively (Department of Education and Training, 2015, p. 8).

Following this, AITSL (2015) clarified that 'these graduates are identified as distinct from specialist teachers who fulfil specialist roles' (p. 3). It was thought that the addition of graduates with a specialisation would improve outcomes for students, including better engagement and enrolments in targeted subjects, such as science, especially in the senior years (Years 11 and 12; Bourke et al., 2020).

### 2.1.2 Situated, Professional and Material Context—The University

The location for this study was a large, metropolitan university in one state in Australia. The university was first established in 1989 from a merger between several predecessors, including Technical Colleges, Kindergarten Training Colleges, Teachers' Colleges and Colleges of Advanced Education (Kyle et al., 1999). Known as a modern university for the 'Real World', the university has more than 40,000 students and offers 400 courses and research programs. The first courses for the enactment of the primary specialisations national initiative were the 2018 Masters of Teaching (MTeach) Primary and MTeach Early Childhood, both postgraduate ITE courses. Enrolments in the two courses totalled 350 students. The participants for this study were the Academic Program Director (APD) in charge of course renewal and accreditation processes, and the Unit Coordinator (UC) for the MTeach primary school science unit. Both participants had been classroom teachers with 16 and 4 years' experience respectively in schools before qualifying with doctorates to become teacher educators.

The science primary specialisation was housed within the MTeach primary science unit, which comprised foundational content, curricular and pedagogical knowledge as well as additional online modules for those students electing the specialisation. The online modules were designed using an action research cycle as follows:

(1) *Content knowledge*—Learn in depth about a chosen science concept.
(2) *Review*—Reflect upon your previous experiences learning science and how they have shaped your thinking about a science primary specialisation.
(3) *Identify*—Review literature to identify a challenge/opportunity in early childhood or primary science education.
(4) *Plan*—Plan a professional learning presentation that addresses your identified challenge/opportunity.
(5) *Enact*—Enact your presentation on your professional experience placement for in-service teachers.
(6) *Evaluate*—Consider evidence of the impact of your professional learning experience.
(7) *Reflect*—Reflect upon your experience completing the modules and your current thinking about a science primary specialisation.

The modules aimed primarily at developing advanced content and pedagogical knowledge, culminating in a presentation about a challenge/opportunity facing primary science education and a research-informed pedagogical solution. Assessable work was completed by students during each module.

The chapter that follows first summarises the academic literature on specialists and instructional coaches to describe the differences between these models and the proposed primary specialisation. Then, the theoretical framework is overviewed. Specifically, we outline the interpretive, material and discursive aspects of the policy enactment approach following Ball et al. (2012), which is used to frame the themes

found in the reflexive accounts of the APD and UC. Then, using (Ball et al.,'s 2012) typology on policy actors, we discuss how the two teacher educator participants adopted different roles and agentic approaches to imagine the primary specialisation into practice. In doing so, we answer the overarching research question for the study: *What agency was afforded (or not) to policy actors enacting primary specialisations in science?* For this study, we define agency as the active contribution teacher educators make to shaping their work for the overall quality of education (Priestley, 2011). Our understanding follows Biesta et al. (2015) who argue that agency is informed by personal and professional experiences and influenced by cultural, material and structural resources. Our interests lie in how agency is achieved through ecological conditions and circumstances, here how teacher educator agency is understood as an emergent phenomenon of actor-situation transaction across facets of policy enactment work (Ball et al., 2012; Biesta & Tedder, 2006). Finally, we make recommendations for how to do policy work agentively in teacher education.

## 2.2 Literature Review

Reviewing the academic literature around 'specialism' in primary teaching is a complex task as various nomenclatures are often used interchangeably. A systematic review conducted by this chapter's authors delineated three categories: (1) generalist teachers with a specialisation; (2) instructional coaches; and (3) specialist teachers (Mills et al., 2020). These categories are briefly described here.

The most common approach used in primary settings is a generalist classroom teacher who has additional depth of knowledge, skills and experience in a particular subject area such as science (Herbert et al., 2017; Markworth et al., 2016). Often, primary teachers collaborate within or across year/grade levels, adopting a team or co-teaching approach. These teachers are afforded release time to undertake professional learning activities (e.g., Herbert et al., 2017). However, it is more likely that the second category, instructional coaches, conduct professional development.

Rather than adopting a co-teaching approach, instructional coaches take on the role of the expert and work alongside teachers in a process of joint inquiry (Mudzimiri et al., 2014). They deliver professional development on planning, teaching and reflection on practice for improvements in student learning. They lead curriculum development and resourcing (Campbell & Griffin, 2017; Gibbons et al., 2017; Hopkins et al., 2017) in a co-learning model rather than team-teaching.

The final category defined in the academic literature is specialist teachers. These teachers are generalists who identify a specialism, sometimes in a specific subject but also for groups of children, such as those with individual learning needs. Sometimes the duties outlined for this category overlap with definitions for instructional coaches. As the current authors pointed out in their systematic review (Mills et al., 2020), definitions of 'specialism' in education vary from one context to the next with schools often using a hybrid approach which blurs lines between responsibilities. Regardless, the roles outlined in these three categories are usually for experienced teachers who

have received professional learning in their school environments or have undertaken postgraduate education.

As already mentioned, primary specialisation teachers are identified as distinct from specialists. They are not experienced teachers but because of the expertise gained from additional study at university, they are expected to assist other teachers with the knowledge and skills to teach a subject such as science effectively. Therefore, teachers with a science primary specialisation were completely new to this university and display differences from what has been reported in the national and global academic literature.

## 2.3 Theoretical Framework

To study policy enactments properly three facets must be investigated, namely, the 'interpretive', 'material' and 'discursive' (Ball et al., 2012). The interpretive facet of policy enactment describes how policies are read and understood by those involved in the policy process—referred to as policy actors. This facet involves the two processes of interpretation and translation. Interpretation is an initial sense-making of the language in a policy document, whereas translation refers to making policy into materials, practices, concepts and procedures. As policy moves between actors, interpretations and translations morph (Spillane, 2004) as actors bring their creativity to turn policy into actions or practical ideas. The policy actors in this study (i.e., the APD and UC), also the current authors, each had specific roles to play in how they interpreted and translated the science primary specialisation.

The second material facet describes how contextual factors influence policy. While central policymaking has good intentions, it often does not take into consideration context such as people/staffing, resources, budget and so on. In this study, the material facet details what influenced the policy actors implementing primary specialisations in a university curriculum, specifically what enabled and/or constrained their decisions.

The third discursive facet has two components. The first describes how the policy is thought about and spoken about by the APD and UC, and the second relates to how these teacher educators were discursively positioned during the enactment process. Policy is enacted through the amalgam of these three facets.

## 2.4 Methods

### 2.4.1 Data Collection—Reflexive Accounts

This study used aspects of Self-Study of Teacher Educator Practice (S-STEP) (Brandenburg & McDonough, 2019) as a methodology. This entailed a systematic inquiry

into two teacher educators' practices to reflect on their conceptualisations, teaching and research about primary science specialisations that impacted on their own and their students' learning. In line with this methodology, the research was qualitative, self-initiated and focused on understanding and improvement.

Reflexive accounts written by the researcher participants constituted the main sources of data. Whilst reflexive accounts are often used in teacher education as an important means of collecting data about what pre-service teachers think, according to Phelps (2005), they are equally useful for teacher educators to research their own work and learn about themselves. Additionally, Goetz and LeCompte (1984) maintain that data from reflexive accounts constitute what occurs during implementation of any program change and the participants' perceptions of these occurrences. In effect, through reflection, we became aware of our thoughts, positions and feelings in relation to this new policy direction and associated enactment processes.

The enactment of the science primary specialisation took place over a year (2017–2018) as the university was going through reaccreditation. During this time, we collaborated with other colleagues (referred to as 'others' in the Discussion [Sect. 2.6]) but were the only two with sustained involvement in the science primary specialisation. At the end of the process, we both audio-recorded reflections on our views around primary specialisations and the factors we took into consideration during implementation, including what enabled and constrained our decisions. The audio-recordings were transcribed verbatim for analysis.

### 2.4.2   Data Analysis

Our reflexive accounts were analysed through two coding cycles. For coding cycle one, the transcripts were inductively analysed using (Braun & Clarke's, 2006) approach to thematic analysis. This was undertaken by a Research Assistant (RA) external to the study using NVivo to organise the codes. The RA familiarised herself with the data by reading and re-reading the transcripts and then assigning segments of text an initial code that was representative of its meaning. The initial codes were then member checked with the two participant researchers. This prompted further discussion, allowing us to refine the initial codes into themes until agreement was reached.

For the second coding cycle, the themes were categorised by the interpretive, material or discursive facets of the policy enactment approach. Finally, we used (Ball et al.,'s 2012) theorisations on policy actors to identify our roles and agentic ways of working (or not) in enacting the primary science specialisation.

### 2.4.3 Trustworthiness

As both researchers/participants/policy actors within this study, it was important to adopt a reflexive stance, owning up to Lather (2004) and exploring and disclosing any biases (Sanguinetti, 2000). To enhance credibility, our backgrounds and positioning in the research were outlined in Sect. 2.1.2. While there is no such thing as value free or objective research, we kept an open frame of reference as much as possible and used an assistant from outside the research to keep check on our own subjective view of the world in relation to the data (Lather, 2004). The findings are supported by quotes (thick description; Geertz, 1973) from the reflexive accounts to describe our perspectives and the processes we experienced. We also provided an extensive and careful description of the place and context in which the investigation was conducted.

## 2.5 Findings

In this section, we outline the themes identified in the first coding cycle, framed by the three facets of policy enactment (second coding cycle). This is summarised in Table 2.1 before each theme is elaborated to explicate the lived experiences of both the APD and UC, the policy actors in this study. For the discursive facet, the positioning of the actors in policy work is also commented upon.

### 2.5.1 Interpretive Findings

Findings for the interpretive facet focus on how the (science) primary specialisation policy was read and understood by the policy actors. For clarity and in line with the two processes included in this facet, there are two broad themes: interpretation (sensemaking) and translation (materials, practices, concepts and/or procedures). What becomes clear is that the policy actors had similar yet divergent ways of interpreting and translating the primary specialisation policy, each with a specific role to play.

**Table 2.1** Summary of the findings from the two coding cycles

| Interpretive | Material | Discursive |
|---|---|---|
| **Interpretation** | **Constraints** | **Discourses** |
| • Defining the specialisation | • Policy/accreditation | • Excitement |
| • Defining 'additional' | • Tracking and grading systems | • Concern |
| **Translation** | • Time | **Discursive positioning** |
| • Content | **Enablements** | • Active |
| • Design | • Staffing | • Passive |
| • Assessment | • Research | |

#### 2.5.1.1 Interpretation—Sense-Making

For clarity, the first theme of interpretation is divided into two subthemes: (1) defining the specialisation; and (2) defining what 'additional' means. In this sense-making process, both actors' definitions of the specialisation were framed by the policy criteria. This is epitomised by the APD when reflecting on what the specialisation encompassed: 'so they need to have enhanced content knowledge, enhanced pedagogical content knowledge and they need to be able to enact that in practice'. The UC not only stated that the specialisation was 'to develop their content knowledge, pedagogical content knowledge and their teaching practice specifically all related to science' but also alluded to the roles that these teachers would have to fulfil:

> I had to know what a specialisation was so the policy defined that for us and a teacher with a specialisation was still a generalist teacher.

When viewed in the light of the academic literature and policy definition around teachers with specialisms, this comment from the UC shows the dichotomy presented in defining teachers with a specialisation as being simultaneously generalists.

In further defining teachers with a specialisation, the APD appeared to be interested in a broad notion about the usefulness or purpose of science in terms of lived experiences for students, outcomes and employability as specifically referring to females in science-related jobs:

> … is this whole policy direction going to be useful for teachers in schools … to improve students' learning outcomes … I mean that they actually are interested in science, that they're going to apply science to their lives.
>
> Employability … I did have in the back of my mind as well coming from a female perspective – would this actually encourage more girls to go into science so looking at that kind of gender thing.

On the other hand, the UC was more focused on what content/skills would be necessary for his pre-service teachers to qualify as teachers with a specialisation:

> … the need for … more highly specialised pedagogical knowledge … every graduate should be able to do inquiry in science but what can a teacher with a specialisation do? Do they know about more complex pedagogies …? There was the idea of content knowledge and I knew that that would have to be greater. And classroom practice was the other criteria. But the thing that we noticed that was missing was leadership, so we don't cover any leadership … these graduates will have to graduate into the field and work with other people and share their knowledge with other people.

This quote from the UC reveals that his vision for primary teachers with a science specialisation was as leaders in schools, professionally developing other teachers. Once again, this blurs the lines of responsibilities, as according to the academic literature, this role aligns with that of an instructional coach.

The second subtheme within interpretation focused on how 'additional' was defined in policy. Making sense of this word caused confusion for both participants. The APD revealed her confusion using a rhetorical question—'What exactly does that phrase that they use … additional; what does it actually mean'? The UC

admitted, 'we struggled with … the idea of the policy's definition of additional learning'. Both agreed that 'additional' had to offer something 'on top of', 'extra' or 'greater', with the following quote from the UC showing their deliberations about their interpretations:

> We thought that additional meant … time-wise … they had to do something on top … it couldn't just be in science – they do something extra, on top of, above, additional … So, we spoke about maybe it sits in units but there wasn't any space …

These sentiments of 'additional' materialised for the APD as a mapping of the science primary specialisation across the entire course. Although still unsure about her interpretation of the word additional—'I interpreted that [additional] at a course level … maybe it's not, maybe it's content level'—the following statement reveals justifications for her interpretations:

> … you need to have content knowledge and pedagogical content knowledge and you need to have highly effective practice. So that was why I didn't think it sat within one unit – that's why to me it needed to be mapped across the course.

Therefore, the policy actors, although diverging at some points and interpreting specialisations in broad and narrow ways, eventually decided that the way forward was to look at specialisations through a whole of course design, delivered through a modular approach linked to science curriculum and professional experience units. In this way, they believed they accomplished their interpretation of 'additional' for preparing their pre-service teachers with a specialisation.

### 2.5.1.2 Translation—Materials, Practices, Concepts and/or Procedures

For the second theme of translation in the interpretive facet of policy enactment, it becomes clear that the APD's role was procedural and most of the translation in terms of materials, practices and concepts were in the realm of the UC. The APD outlined her main activities:

> We had to have meeting after meeting with all the staff that were involved in the specialisations, with learning designers, with people who do … the back end, the mechanics of the courses … I had many meetings with the unit co-ordinators about how they were conceptualising what it would look like … how they were presenting it on their blackboard sites, making sure that the assessments could tick the box of content … you could see well that's pedagogical content knowledge and then making sure that it was on the assessment task sheets and the unit outlines. So, mine wasn't so much about what was going on in the classroom, mine was that the administrative side of it was covered.

The APD made it clear 'that wasn't me at my level—that was probably more the unit coordinators'. Here, she is referring to specific content, structure/design and assessment choices. She pointed out modules designed by the local regulatory authority which the UC used as a springboard for his translation of the policy into practice:

> We realised that the content in those modules wouldn't be additional (again that word) to what we do already … so, we refined those topics into seven modules. The first module is content knowledge … And so, what they do in the first one [is] they look at their science content knowledge and they develop an infographic and a scientific explanation on an area that they've done … in-depth research into.

During this translation phase, the UC had to deliberate on many factors including content, structure/design and assessment. In terms of content, the UC was focused on what discipline knowledge was going to be most useful for his pre-service teachers:

> Content knowledge is always generally a bit of an issue in science and I'm not surprised because they've just got to be across so much that's in the Australian Curriculum … I used a body of literature about conceptual change and looking at the misconceptions that students might have and how teachers could target those … I knew that they couldn't have knowledge of absolutely everything but the real sticking points where students think the wrong thing … there's been research on that. So, I made them choose one of those topics which [are] most misconstrued.

From this statement, the UC adopted a researcherly disposition. Researcherly disposition or stance refers to the habit of engaging with research as both a consumer and producer—to improve practice and contribute to the knowledge base on teacher education (Tack & Vanderlinde, 2014). Here, the UC based content on theories of conceptual change and misconceptions from science education research. Referring to these as 'real sticking points', his aim was to target topics that would be most beneficial for enhancing his pre-service teachers' content knowledge, the first domain for primary specialisations. The UC further displayed a researcherly stance in designing modules that would follow an action research cycle:

> our design of the modules … is an action research cycle so that's the identify, review, plan, enact, evaluate, reflect … all about … pedagogy basically. So, in identify they're identifying a problem or a challenge or an opportunity in primary science. And then they're doing … a brief literature review about that where they do an annotated bibliography to show that they understand the problem. Then they plan a small professional learning experience … only 10 to 20 minutes … a presentation or … learning opportunity for in-service teachers. This is what the literature says about it and here's a really innovative way that you could approach [the chosen topic] … they evaluate that by asking whoever is there for feedback … and then they finally … reflect on that whole experience.

This statement shows that the UC was developing his pre-service teachers' research and pedagogical skills but also their capacities to be leaders in the field:

> … leadership that develops their pedagogy so that's kind of what they're honing in on in that professional learning as a specific complex pedagogical approach that they could use to teach.

In the UC's eyes, this represented enhanced pedagogical practice, thus fulfilling domain two.

In terms of structure/design, the UC visualised how his pre-service teachers would complete the modules:

> So, they just log in and they do them completely at their own pace, independently over a semester … if it's online modules, fine, what does that look like? Do they sit on blackboard,

are they just going to click on a module on blackboard? Do we use some other software that [institution] subscribes to? And in the end, we … used Articulate Rise which is part of the Articulate 360 … package.

Based on the researcherly disposition he adopted, enhanced content and pedagogical knowledge with a leadership component had been satisfactorily incorporated into online modules assembled using the Articulate Rise package. It was envisioned that they would complete the modules independently as a course requirement. However, the UC recognised that the third domain namely, highly effective practice, would have to be assessed as part of a Teaching Performance Assessment (TPA) whilst on Professional Experience (PEx). A TPA is a capstone assessment that was introduced as part of the 2015 accreditation guidelines alongside primary specialisations.

> I remember working really hard to integrate it [specialisation] with PEx and the TPA. So, we had this grid with all the modules down the side and it showed how each of them related to content knowledge or pedagogy or their PEx or TPA. Everybody does their TPA in their specialisation area. So, they've got to collect data about student learning in science and their teacher planning in science.

Therefore, the UC integrated all the components for the effective preparation of primary science specialisation teachers. Moreover, the UC equally wanted to ensure that supervising teachers in schools knew how to assess the science primary specialisation:

> Do teachers know what we're asking them to assess … how is that going to work? They've … got a … sheet … which tells them what the specialisations are; these are some characteristics of a pre-service teacher with a specialisation. These are the areas you should be developing – you tick them off.

In summary, the UC was the main translator. He ensured that the criteria underpinning the policy were fulfilled. His chosen method was action research based on concepts in science that were often misconstrued. Assessments included instruments such as annotated bibliographies, infographics and professional experience reports.

### 2.5.2   Material Findings

The policy actors indicated several material influences on the enactment of the primary science specialisation, specifically what constrained and enabled their actions in their context. Although many constraining themes were evident in the policy actors' responses including policy/accreditation processes, tracking and grading systems and time, there were two themes, staffing and research, which enabled an agentic approach for the enactment of the science primary specialisation. Constraints are elaborated first.

### 2.5.2.1  Policy Documents and Accreditation

In reference to policy documents and accreditation, both policy actors alluded to the constraints that regulatory authorities have on university courses. For example, the APD commented on the 'accreditation process [as] highly regulatory' and the UC referred to the 'rules' and having 'no autonomy over the structure of our courses' which he saw as 'a huge barrier'. However, it was clear that the APD was much more influenced by policy and accreditation than the UC as illustrated in the following:

> The thing that was most important in my head was that I needed to get the courses accredited. So the policy documents were extremely important to me and led to certain subjects or disciplines becoming a specialisation and science was one foregrounded in the policy documents.

Frequently the APD repeated 'I had to get the course accredited', referencing 'guidelines documents' and a 'stimulus paper' to help inform her decisions. She explained that it was 'better going with the direction, the policy [was] steering you in because you're more likely to get it accredited'. She recalled:

> They [the regulatory authority] really liked our modular approach, but I think it probably took me three or four versions of the primary specialisation to eventually get the tick of approval. So, the motivation kind of became what I needed to get this accredited.

However, even though the regulatory authority liked the modular approach, tracking and grading proved difficult.

### 2.5.2.2  Tracking and Grading

This constraint stemmed from the initial interpretation of the word 'additional' as outlined earlier. The APD explained that in going with the 'innovative modular approach', tracking assessment across the course was difficult. Tracking is keeping an electronic account of the grades given for assessment pieces related to the primary science specialisation across the course.

> We initially had these online modules sitting inside the curriculum units but … we couldn't do [that] because the … systems couldn't … track students. There was no way of knowing whether that student had successfully completed the specialisation or not and we need that information for them to be able to graduate.

As well as tracking pre-service teachers, grading assignments was also an issue. Here, the APD is referring to needing science tutors to assess work effectively:

> If you're going to do a science specialisation you can't have the unit co-ordinator in charge of professional experience marking it because they mightn't be a science person – you actually need a science person to look at it.

On reflection, the APD admitted that she had not thought about this in enough detail—'I went with the ideal way of what this could look like through a course … without probably realising that the systems couldn't cope with that'. However, as

explained by the UC, 'we've … been able to split it up into zero credit point units and that was the only way that the … systems could track them'. The influences of external authorities and inefficiencies of internal systems were, therefore, seen as constraining by both policy actors.

### 2.5.2.3   Time

Another factor that was a constraint was time. Time for the APD focused on 'time to actually get people together to discuss what the problems might be', the 'timeline' for accreditation processes and 'time to set [the] delivery model up properly'. The UC highlighted similar issues in his reflections around time:

> I remember at the initial meeting with the APD and we … said when do you need these ideas for the modules by and she said yesterday because it just happens quickly. So we didn't have the luxury of … doing this in twelve months, let's do a scan of the literature, let's find out what works, let's do lots of consultation … something just had to happen because it was needed for the accreditation documents.

Additionally, the UC was looking at time from his own perspective in terms of workload, noting 'there's not a lot of support for this … I don't get any workload hours'. Therefore, the materiality of the context had effects on both policy actors. Once again there were similar and divergent viewpoints on what influenced their work with agreement that certain macro-level conditions constrained their practices. However, despite these constraints, two enabling factors were identified in the participants' responses: staffing and research.

### 2.5.2.4   Staffing

The APD was grateful stating that 'we had the right staff with the right expertise who would be able to deliver the primary specialisation well'. In reference to primary specialisations in general, she said:

> I think the staff … were a huge enablement. There was a group of people – there was a literacy person and numeracy person and the science person – putting the modules together and coming up with something that's … comparable across the three … They had autonomy to do what they wanted – their knowledge of their subject areas and how to teach their subject areas and what highly effective practice looks like in their subject areas were definitely enablements. And the subsequent materials that they have put together are definitely enablements for the primary specialisation people.

From this statement, she continually referred to staff as enablements in terms of their knowledge, expertise and the teaching materials that they produced. For the UC, rather than looking at staffing across the specialisations, he was focused on collaboratively working with Learning Designers (LDs). LDs are employed to support academic staff to produce high-quality online teaching materials:

We worked together really well so the learning designers basically made all of our ideas come to life online that was just incredible the way that they did that.

In effect, for both the APD and UC, having quality staff in either teaching or support roles brought the science primary specialisation to life. Allocating posts of responsibility and allocating resources is what (Ball et al., 2012) refer to as peopling policy.

### 2.5.2.5 Research

Both policy actors mentioned research as something that influenced their enactment of specialisations, specifically research that focused on models of practice:

We did have a brief look at what was happening in other places so primary specialisation – it's not called that but there are different forms of it, so we did have a brief look at the research. (APD)

The APD and I did a bit of a literature review. I had scanned the literature, but I soon realised that this is totally different from what other people do which is to prepare a specialist teacher by doing post graduate study. So, I tried to have a look at that scholarly literature as well. (UC)

As can be seen in both their statements, there was not much in the academic literature around teachers with a specialisation. However, as academics, this paucity of literature opened research opportunities, what (Ball et al., 2012) refer to as policy careers. For the UC, research was further enabling in his decision-making about what body of science education literature to include:

I went to the literature and I know that there's areas that both children and teachers struggle with in science, so we just chose those. We ended up with … a suite of twelve topics and they just honed in on one.

Therefore, once again similarities and differences can be seen for what enabled the APD and UC in their work. Both were interested in the macro-level conditions of staffing and academic research, but the UC was additionally invested in the microenvironment of the science classroom.

## 2.5.3 Discursive Findings

The two themes in the discursive facet that focused on how the policy actors thought and talked about primary specialisations were excitement and concern. These are discussed first before the policy actors' discursive positioning is illuminated.

The first theme of excitement was confined to the UC. Regarding the primary science specialisation, this policy actor used up-beat terms such as 'positive' and 'excited'. The UC's enthusiasm for the specialisation was threefold. The first reason centred on him as a science specialist: 'I was pretty excited about doing it … because

it was in my area'. The second reason focused on his identity as a research academic: 'I started thinking about research' and 'that idea of a research project has snowballed into what we're currently working on'. The last reason centred around his students: 'if pre-service teachers are forced to think more deeply about science and how to teach science, I thought that's a good thing'.

The second theme of concern was voiced by both the APD and UC, albeit from different perspectives. For the APD, her concern centred on her identity as a social scientist and the marginalisation of her own subject. As she was heavily involved in selecting the learning areas for the specialisation and steered towards the subjects foregrounded in policy, she described herself as in a 'dilemma':

> … the policy documents were basically saying literacy, numeracy, science and I was really aware that the social sciences were being left out. So, I did have a bit of a dilemma going on between … my own personal feelings and … what the policy documents were saying.

The UC's concern was from a completely different perspective. Although his initial thoughts around specialisations were excitement, after implementing them, he became worried about the novice/expert binary and the hours allocated to become a teacher with a specialisation:

> I'm concerned that they can have a specialisation by completing an online module that's got you know how many hours – it's about one per online module so seven hours and you've got a specialisation in science. So, there are lots of pieces of the puzzle that don't really fit when I think back but I wasn't concerned at the time.

On reflection, the UC described this situation as 'hugely problematic'. In particular, he was referring to the zero credit point units as the only way they could fit the specialisations into the course. He lamented that science includes 'biology, chemistry, earth and space science and physics from Prep to Year 6. I think about how I make a pre-service teacher an expert across all that knowledge; it's not possible'. He refers back to the policy document:

> The policy defines a teacher with a specialisation as someone who can share their expertise with others so that's got a leadership dimension to it and so they're going to be graduating as beginning teachers but also with a specialisation which doesn't make sense.

He added that 'pre-service teachers didn't want to do it, they were petrified' and 'they freak out about it', revealing that his students were equally concerned about the prospect of professionally developing experienced teachers. In relation to pre-service teacher education courses and the science primary specialisation modules, content on teacher development or adult learning was not included.

The second aspect of this facet is the discursive positioning of the policy actors. Whilst the participants are referred to as policy actors, they are also policy subjects. The APD's reference to being in a 'dilemma' showed how she had to suspend judgement and put her ethical discomforts to one side. Under the intense pressure to 'get the course accredited', she thought it 'better going with the direction, the policy [was] steering you in because you're more likely to get it accredited'. What this shows is that

the APD was positioned as a passive policy subject, enacting and enforcing government priorities. Compliance was key with little or no space for this actor/subject to interpret the primary specialisations differently.

However, discursive positioning for the UC was different. This policy actor or active policy subject was able to bring judgement, originality and 'excitement' to enacting science primary specialisations using an agentic approach. His motivation was intrinsic because of his personal interest in science. Nevertheless, this actor also acknowledged tensions showing that policy actors can easily move between subject positions. Overall, however, as the policy moved to the UC, he was able to bring his creativity and agency to the enactment much more so than the APD.

The next section elaborates on this line of argument by classifying the roles of the APD, UC and others according to Ball et al.'s (2012) typology of eight types of policy actors involved in making meaning of and constructing responses to policy through the processes of interpretation and translation. As mentioned earlier, others were those involved in primary specialisations but not directly in the interpretations and translations.

## 2.6   Discussion

As can be seen in Table 2.2, both participants are classified as policy receivers, agents of enacting the policy, and translators, albeit fulfilling different roles within this category. According to Ball et al. (2012), interpretation is about strategy, and translation is about tactics, but sometimes the processes overlap. From the findings, the APD's role was concerned with strategy, specifically administrative duties ensuring all that was conceptualised adhered to accreditation requirements. For the UC, translation was different. His role was tactical, translating the policy into contextualised practices. Ball maintains that translators' work encompasses both compliance and invention (Ball et al., 2012). Here, compliance was very much in the realm of the APD and the UC was focused on invention.

**Table 2.2** Classification of policy actors using (Ball et al., 2012) typology

| Policy actor | Academic program director | Unit coordinator | Others |
|---|---|---|---|
| Receivers | X | X | |
| Translators | X | X | |
| Transactors | X | | X |
| Narrators | X | | |
| Entrepreneurs | X | | |
| Enthusiasts | | X | |
| Outsiders | | | X |
| Critics | | | X |

The actors also fulfilled other policy roles. For the APD, positions included transactor, narrator, and entrepreneur. Transactors often operate in low trust, high accountability/surveillance environments. In this study, the APD was responsible for completion of all accreditation requirements and making sure that guidelines were adhered to, therefore her accountability was high. As narrator, the APD explained the primary specialisation policy to colleagues, a crucial aspect of the interpretation process. This actor decided what had to be done (Ball et al., 2012) taking into consideration enabling and constraining factors. The APD recruited the support needed (i.e., peopling policy) putting together a small working group of staff who would oversee the science, maths/numeracy and English/literacy specialisations. Often, narrators need to convince staff of the worth of a project; however, here it was taken-for-granted as primary specialisations were mandated for implementation in 2019 as part of accreditation requirements. In some ways, narrators are also seen as entrepreneurs as they are forceful agents of change. They bring their creativity to the process; they have energy and commit as they hold things together and move the agenda forward. In this study, the APD was responsible for making changes associated with primary specialisations happen, albeit within the limits of a regulatory agenda.

In relation to transactors, the APD was not the only one who fulfilled this role. Rather, there are also other types of transactors in policy enactment who are usually not in the mainstream processes of interpretation and translation. These actors are usually 'back-stage', ensuring that operations are in place for successful enactment of policy. In this study, these transactors included Learning Designers, the Curriculum and Accreditation Team, and Student Business Services. Sometimes these transactors need to find a budget for enactment. However, universities did not receive any additional funding for primary specialisations.

The UC's policy position was different, namely enthusiast. As an enthusiast, the UC formed part of the critical mass for change. Ball et al. (2012) refer to these actors as policy models or paragons as they 'speak' the policy into practice. In this study, the UC could be referred to as the paragon as he paved the way with an action research model that others could follow. He planned and produced teaching and assessment materials, actively inducting and making the policy meaningful and doable for his pre-service teachers.

Lastly, not all significant policy actors in the policy process are within universities. Here, national and state regulatory authorities who introduced the policy also played a part. These external bodies are referred to as outsiders. The other policy position not mentioned in this study was critic. Often, critics are organisations such as unions.

In summary, both policy actors along with others internal and external to the university fulfilled many roles within the policy enactment process. Some policy positions were overlapping, and some were divergent. These roles combined to make policy happen, with each role being afforded a different level of agency in the policy enactment process.

## 2.7   Conclusion and Recommendations

In answering the overarching research question for this study: *What agency was afforded (or not) to policy actors enacting primary specialisations in science?*, it becomes clear that the UC was afforded much more agency than the APD. Translation, where the innovative work happens, was mainly the realm of the science UC with the development of a suite of research-informed online modules through which pre-service teachers plan and implement a brief teacher professional learning experience to bolster their science content, pedagogical knowledge and practice through professional experiences. Examining the materiality of this policy context exposed constraints and enablements to the enactment of the primary science specialisation. However, in this highly regulated space, the UC's researcherly disposition and close collaboration with Learning Designers showed that despite being constrained by accreditation, administrative systems and time, space for agentic ways of working opened up as interpretations morphed and translations refracted as the policy moved from the APD to the UC. Discursively, the APD, although fulfilling many roles including receiver, translator, transactor, narrator and entrepreneur, was positioned as a passive agent in a compliance environment. On the other hand, the UC, as the key translator and enthusiast, was excited by this policy direction and positioned as an active agent. He had agency to produce innovative teaching and assessment practices and a research agenda for the betterment of his pre-service teachers.

We now reconstruct the findings from our reflective accounts into recommendations for speaking back to policy and responding to curriculum reform. The policy enactment approach has been widely documented for K–12 school environments (Ball et al., 2012), but less so in the tertiary sector. Our recommendations for policy enactment in ITE follow, organised according to the interpretive, material and discursive facets of this approach.

***Interpretive***

1.  Formulate: shared interpretations of policy intent for all actors through initial sense-making.
2.  Consult: with stakeholders in the policy agenda.
3.  Translate: from a researcherly disposition where translators are afforded autonomy.

***Material***

4.  Enable: time for policy work.
5.  Mobilise resources: by peopling policy, including teacher educators, learning designers and 'others' as a collaborative and knowledgeable community of practice.
6.  Produce: highly effective resources to stimulate student engagement and interest.

***Discursive***

7.  Position: policy actors as active agents.

8. Generate: enthusiasm towards change for improvements in learning and teaching.

By enacting these recommendations, we outline how teacher educators and possibly universities more broadly can 'do policy' agentively. While acknowledging that accountability is important in ITE, we recommend democratic rather than regulatory accountability (Cochran-Smith et al., 2018; Zeichner, 2020) wherein professionals' work is characterised by intelligent professional responsibility and agency. Furthermore, we call for more flexible tertiary education structures that enable innovative approaches to reform that go beyond 'ticking accountability boxes'. Continued research is needed as these teachers with a specialisation move into schools and classrooms with a remit to affect student engagement, motivation and achievement outcomes.

# References

Australian Institute for Teaching and School Leadership. (2015). *Accreditation of initial teacher education programs in Australia: Standards and procedures*. http://www.aitsl.edu.au/docs/default-source/initial-teacher-education-resources/accreditation-of-ite-programs-in-australia.pdf

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

Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching, 21*(6), 624–640. https://doi.org/10.1080/13540602.2015.1044325

Biesta, G. J. J., & Tedder, M. (2006). *How is agency possible? Towards an ecological understanding of agency-as-achievement (Working Paper 5)*. The Learning Lives Project.

Bourke, T., Mills, R., & Siostrom, E. (2020). Origins of primary specialisation in Australian education policy: What's the problem represented to be? *Australian Educational Researcher, 47*, 725–740. https://doi.org/10.1007/s13384-019-00370-y

Brandenburg, R., & McDonough, S. (2019). *Ethics, self-study research methodology and teacher education*. Springer.

Braun, A., Ball, S. J., Maguire, M., & Hoskins, K. (2011). Taking context seriously: Towards explaining policy enactments in the secondary school. *Discourse: Studies in the Cultural Politics of Education, 32*(4), 585–596. https://doi.org/10.1080/01596306.2011.601555

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Campbell, P., & Griffin, M. (2017). Reflections on the promise and complexity of mathematics coaching. *Journal of Mathematical Behavior, 46*, 163–176.

Cochran-Smith, M., Carney, M. C., Keefe, E. S., Burton, S., Chang, W., Fernandez, M. B., Miller, A. F., Sanchez, J. G., & Baker, M. (2018). *Reclaiming accountability in teacher education*. Teachers College Press.

Department of Education and Training. (2015). *Teacher Education Ministerial Advisory Group—Action now: Classroom ready teachers—Australian Government response*. Australian Government.

Geertz, C. (1973). *The interpretation of cultures: Selected essays*. Basic Books.

Gibbons, L. K., Kazemi, E., & Lewis, R. M. (2017). Developing collective capacity to improve mathematics instruction: Coaching as a lever for school-wide improvement. *Journal of Mathematical Behavior, 46*, 231–250. https://doi.org/10.1016/j.jmathb.2016.12.002

Goetz, J. P., & LeCompte, M. D. (1984). *Ethnography and qualitative design in educational research*. Academic.

Herbert, S., Xu, L., & Kelly, L. (2017). The changing roles of science specialists during a capacity building program for primary school science. *Australian Journal of Teacher Education*, *42*(3). https://doi.org/10.14221/ajte.2017v42n3.1

Hopkins, M., Ozimek, D., & Sweet, T. (2017). Mathematics coaching and instructional reform: Individual and collective change. *Journal of Mathematical Behavior, 46*, 215–230.

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

Lather, P. (2004). Critical enquiry in qualitative research: Feminist and post-structural perspectives, science after truth. In K. de Marrais & S. Lapan (Eds.), *Foundations for research: Methods of inquiry in education and the social services* (pp. 203–216). Lawrence Erlbaum Associates.

Markworth, K., Brobst, J., Ohana, C., & Parker, R. (2016). Elementary content specialization: Models, affordances, and constraints. *International Journal of STEM Education, 3*, 1–19. https://doi.org/10.1186/s40594-016-0049-9

Mills, R., Bourke, T., & Siostrom, E. (2020). Complexity and contradiction: Disciplinary expert teachers in primary science and mathematics education. *Teaching and Teacher Education*, *89*. https://doi.org/10.1016/j.tate.2019.103010.

Mudzimiri, R., Burroughs, E., Luebeck, J., Sutton, J., & Yopp, D. (2014). A look inside mathematics coaching: Roles, content, and dynamics. *Education Policy Analysis Archives*, *22*, 1–32. https://doi.org/10.14507/epaa.v22n53.2014

Phelps, R. (2005). The potential of reflective journals in studying complexity 'in action'. *Complicity. An International Journal of Complexity and Education*, *2*, 37–54.

Priestley, M. (2011). Whatever happened to curriculum theory? Critical realism and curriculum change. *Pedagogy, Culture and Society, 19*, 221–237.

Sanguinetti, J. (2000). An adventure in 'postmodern' action research: Performativity, professionalism and power. In J. Garrick & C. Rhodes (Eds.), *Research and knowledge at work: Perspectives, case-studies and innovative strategies* (pp. 232–249). Routledge.

Spillane, J. P. (2004). *Standards deviation: How schools misunderstand education policy*. Harvard University Press.

Tack, H., & Vanderlinde, R. (2014). Teacher educators' professional development: Towards a typology of teacher educators' researcherly disposition. *British Journal of Educational Studies, 62*(3), 297–315.

Teacher Education Ministerial Advisory Group. (2014). *Action now: Classroom ready teachers*. Teacher Education Ministerial Advisory Group. https://www.aitsl.edu.au/tools-resources/resource/action-now-classroom-ready-teachers

Zeichner, K. (2020). Preparing teachers as democratic professionals. *Action in Teacher Education, 42*(1), 38–48.

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# Chapter 3
# Keep Inquiring: A Collective Examination of Elementary Mathematics Specialist Preparation

**Susan Swars Auslander and Kayla Myers**

**Abstract**  This chapter discusses the escalating call for and preparation of specialists in elementary mathematics, linked to increasing needs and policy in the USA. The recent unified position of several prominent mathematics education organisations in the USA contends that every elementary school has access to specialists and that advanced specialist certification be offered via rigorous preparation programs. Nineteen states have established routes for licensure, certification, or endorsement of specialists, with nine others in the process of developing pathways. This chapter presents one university's program intended to develop these specialists and their agency in fostering learner-centred mathematics classroom environments, specifically perspectives and literature related to Elementary Mathematics Specialists (EMSs), a rich description of the EMS preparation program, and the line of inquiry over time on the program. Findings focus on three inquiries, including those in *Journal of Mathematics Teacher Education* (2018), *Journal of Teacher Education* (2020), and *Journal of Mathematics Teacher Education* (2021). Outcomes investigated included participants' specialised content knowledge for teaching mathematics, mathematical beliefs, and instructional practices in classrooms, as well as their views on program experiences. The program aimed to develop specialists as highly effective and equitable teachers and teacher leaders who are refining their own sense of agency while advocating for changes in mathematics education within the complexity of school contexts.

**Keywords**  Elementary mathematics specialists · Mathematics teacher education · Instructional practices

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## 3.1   Introduction

Teacher effectiveness has ascended to the top of education policy agendas in many countries (Darling-Hammond, 2017). One growing strategy for improving teacher effectiveness is the preparation of subject area specialists at the elementary level, with initiatives occurring in countries such as Australia, the United Kingdom, and the USA (Mills et al., 2020). This increasing practice is not without issues; for example, some efforts focus on developing prospective rather than practicing teachers, such as in Australia, thus, positioning these new teachers as both novice and expert. Further, a systematic review of the literature (Mills et al., 2020) revealed the nomenclature used to describe subject area specialists and their ways of working are highly varied and contextual, adding a layer of complexity and also difficulty when interpreting research. In the USA, there has been an emphasis across the past decade on subject area specialists at the elementary school level who focus on mathematics, called Elementary Mathematics Specialists (EMSs) (Association of Mathematics Teacher Educators [AMTE], 2013a).

As is the case in many countries, in the USA, elementary teachers are most often prepared as generalists during initial certification, meaning they study all core subjects in the elementary curriculum to qualify for positions requiring all-encompassing teaching. This all-purpose preparation has led to a mass of elementary teachers needing improved content knowledge and instructional practices for effectively teaching the increased rigour of mathematics included in recent reform initiatives, such as the widely adopted Common Core State Standards for Mathematics (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). Consequently, within the past decade, many in the field of mathematics education have become proponents of EMSs, who are generally considered to be teachers, teacher leaders, or coaches with the expertise to support effective elementary mathematics instruction and student learning (AMTE, 2013a).

The recent joint position of several prominent mathematics education organisations, such as AMTE and the National Council of Teachers of Mathematics (NCTM), contends that every elementary school in the USA has access to an EMS and that advanced specialist certification be offered via rigorous preparation programs (AMTE, 2013b). Currently, 19 states and the District of Columbia have established routes for EMS licensure, certification, or endorsement, with nine other states in the process of developing pathways (Elementary Mathematics Specialist & Teacher Leaders Project, 2020).

Our university is located in a state that provides a pathway for a K-5 Mathematics Endorsement (K-5 ME). Notably, this endorsement route was first provided by the state for those who are undergraduate students studying to become elementary teachers. However, in recognition of the mismatches between the aims of the K-5 ME and prospective teachers as completers, the state revised the endorsement to require established teacher certification and at least 1 year of teaching experience. Effective in 2010, completers of the K-5 ME receive an annual stipend from the state

of \$1,000 for 5 years, as long as certain criteria are met (e.g., currently teaching elementary mathematics). After 5 years, receipt of the stipend is also dependent upon the satisfaction of student 'achievement criteria' established by the state Office of Student Achievement (see Georgia House Bill 280, 2009). This stipend anticipates that completers of the endorsement continue as classroom teachers; however, the endorsement is also intended to prepare teachers for school-level leadership in elementary mathematics. The K-5 ME can be offered in a wide variety of circumstances, such as a stand-alone post-certification experience or embedded in graduate degree programs.

First offered at our university in 2010, the K-5 ME program aims to prepare practicing elementary teachers who have a specific interest in mathematics to become EMSs. Our roles as mathematics teacher educators and commitment to this program are deep and dynamic: a midcareer faculty member teaching in, studying, and coordinating the program since its inception; and a program completer whose experiences eventually included doctoral work analysing the program's field practicum component and a recent appointment as Program Director for a related K-5 ME project. Our backgrounds include years of teaching elementary mathematics to children and preparing prospective elementary teachers to teach mathematics and now working closely to facilitate reforms in this K-5 ME program preparing and supporting practicing elementary teachers to become EMSs. We are guided by this depth of experience.

From the inception of the K-5 ME program, we have created and implemented the program's goals and experiences grounded in the research on mathematics teacher education and with our specific context and students in mind. Central to our vision of effective mathematics instruction in elementary classrooms is the placing of children's thinking and learning at the centre of classroom activity and instructional decision-making. This learner-centredness differs from the ways in which many elementary mathematics classrooms function in the USA. Federal policies—such as the *No Child Left Behind Act* and its successor, the *Every Student Succeeds Act*—have too often led to mathematics teaching and learning that is largely driven by increasing student achievement scores on standardised assessments. Teachers are adhering to top-down requirements of prescribed curricula and instructional delivery, inflexible pacing guidelines for concepts, and instruction that is teacher-centred and focused on bits of information and skills on the assessments (Bartell et al., 2019). Within such an environment, teachers lack voice and agency, and children's socio-emotional needs are often secondary. We, as teacher educators, are speaking back to these policies by providing K-5 ME program experiences aimed at developing competencies needed for teacher agency in fostering learner-centred mathematics classroom environments.

When broadly considering the role of agency in our work as teacher educators, in addition to offering carefully constructed program experiences that develop teacher agency in learner-centred instruction, over time we have recursively studied the program's elements in a variety of ways to determine their efficaciousness in developing agentic EMSs. The findings illuminate both aspects of effectiveness and those needing improvement. We use this chapter as an opportunity to examine our own deep connections and continued dedication to our program, speaking back to our

many program experiences and inquiries, in order to draw further attention to those elements of effectiveness, those aspects that need improvement, and discuss future directions under such light. This chapter is organised as follows: (a) perspectives and literature related to EMSs, (b) description of our EMS preparation program, (c) inquiry on our EMS preparation program, and (d) conclusions.

## 3.2   Perspectives and Related Literature

### 3.2.1   EMSs: Roles and Preparation

Increasing research shows EMSs and the roles and responsibilities they fulfil make an impact in schools. Studies have investigated EMSs' interactions with teachers, preparation experiences, and knowledge needs, as well as their influences on teachers' instructional practices and student achievement, with results showing positive effects of these professionals on teacher development and student learning (Brosnan & Erchick, 2010; Campbell & Malkus, 2011, 2014; Chval et al., 2010; Gerretson et al., 2008; Harbour et al., 2018; Harrington et al., 2017; Kessel, 2009; Kutaka et al., 2017; McGatha et al., 2015; McGee et al., 2013; Mudzimiri et al., 2014; Yopp et al., 2019). The specific roles and responsibilities of EMSs vary and are dependent upon the contextual needs and plans of schools, school systems, and states (McGatha et al., 2015). At the classroom level, they may provide enrichment or remediation instruction for small groups of students, or they may teach mathematics to all students in a grade (AMTE, 2013a; Webel et al., 2017). At the school or district level, they may primarily work as coaches of other teachers, helping them improve instruction through providing professional development in a variety of ways, such as modelling lessons, providing resources, sharing feedback on lessons, engaging teachers in thoughtful reflection, and facilitating professional learning communities (AMTE, 2013a; Campbell & Griffin, 2017; Campbell et al., 2014; McGatha et al., 2015). At the state level, they may support the development of standards, curricula, and assessments, along with serving on committees influencing mathematics education policies and practices (AMTE, 2013a).

The preparation of EMSs has been guided by AMTE's (2013a) *Standards for Elementary Mathematics Specialists: A Reference for Teacher Credentialing and Degree Programs*, which recommends the following program areas: (a) content knowledge for teaching, including well-developed understanding of grades K-8 mathematics and specialised content knowledge; (b) pedagogical knowledge for teaching, including learners and learning, teaching, and curriculum and assessment; and (c) leadership knowledge and skills. Another recommendation is a supervised mathematics teaching field practicum. However, when considering states offering pathways for advanced specialist certification, there are notable differences in programs related to duration, the number of course hours, course emphases, field

practicum experiences, and delivery (Elementary Mathematics Specialist & Teacher Leaders Project, 2020; Spangler & Ovrick, 2017).

This variability provides a warrant for the study of EMS preparation programs. Related studies have largely examined participants' changes in content knowledge, attitudes, beliefs, and perceptions of the program, with positive changes evident for attitudes and beliefs and some mixed findings related to content knowledge (Campbell & Malkus, 2014; Harrington et al., 2017; Kutaka et al., 2017; Nickerson, 2010); there has been less inquiry on the implementation of instructional practices. There has been a call for more emphasis on programs' field practicum experiences, where participants' classroom enactment of learned pedagogical practices is expected to take place (Spangler & Ovrick, 2017).

### 3.2.2  Developing Teacher Agency in Learner-Centred Instruction

Teacher agency has been defined as 'the willingness and capacity to act according to professional values, beliefs, goals, and knowledge in the different contexts and situations that teachers face in their work' (Toom et al., 2015, p. 616). Teacher agency is constructed in context and can change as teachers move among situations, dilemmas, and uncertainties inherent in their work. When considering the development of agentic EMSs for learner-centredness, rigorous EMS preparation programs should focus on the in-depth and multi-dimensional development of pedagogical knowledge for teaching (AMTE, 2013a), including expertise in using effective and equitable instructional practices. These practices (NCTM, 2014) facilitate *standards-based learning environments* (SBLEs) and involve using instructional tasks with high levels of cognitive demand that support students' reasoning and problem-solving, along with facilitating productive discussions that elicit student ideas, attend and respond to student thinking as it unfolds during a lesson, and use that thinking to guide instructional decisions. Implementation of this learner-centred approach leans heavily on developed teacher agency.

Teachers should facilitate SBLEs, where students solve complex problems using their own solution strategies; describe their strategies and reasoning for solving problems, while engaging in debate about the strategies' relative merits; and make conjectures and generalisations about mathematical ideas within the context of their learning. Teachers should orchestrate mathematical discussions rooted in student thinking, be careful to ask purposeful questions that advance and assess students' reasoning and sense-making, and use students' statements to build shared mathematical understandings for the class. In SBLEs, multiple perspectives are valued and encouraged, and lessons develop well-connected conceptual understandings of mathematics (Carpenter et al., 2015; Empson & Levi, 2011; Moscardini, 2014; NCTM, 2014). Professional learning experiences that develop competencies needed for teacher agency in using such an instructional approach are paramount, given the

many contextual barriers teachers navigate in elementary school contexts. Pressures associated with increasing student scores on standardised assessments and covering standards in inflexible ways can serve as particularly strong constraints on teacher agency for learner-centredness (Rich, 2021).

Agency has also been considered as identity in action, and developing teachers' identity is related to how they see themselves as a doer of mathematics and additionally how they take up their role as a mathematics teacher of children (NCTM, 2020). Powerful vehicles for supporting teachers' mathematics identity and agency are through meaningful, sustained professional learning experiences (NCTM, 2020) and communities of support such as teacher networks (Bartell et al., 2019). Mathematics professional learning opportunities that deepen teachers' knowledge of mathematics they teach, strengthen their use of content-focused pedagogical strategies, and engage teachers in reflection on and analysis of practice, especially understanding children's mathematical thinking and development, are critical for teachers as agents for learner-centred instruction (Felton & Koestler, 2015; NCTM, 2020).

Accordingly, EMS preparation programs should endeavour to develop content knowledge for teaching and productive beliefs (AMTE, 2013a), guiding teachers in their cultivation of identity and agency. Teachers require a deep and broad knowledge of mathematics to be effective in their teaching (Hill, 2010), including *specialised content knowledge* (SCK) characterised as 'mathematical knowledge needed to perform the recurrent tasks of teaching mathematics to students' (Ball et al., 2008, p. 399). The SCK for teaching mathematics includes teachers' abilities to (a) analyse and interpret students' mathematical thinking and ideas, (b) use multiple representations of mathematical concepts, and (c) define terms in mathematically correct and accessible ways (Hill, 2010; Thames & Ball, 2010). This depth of understanding equips EMSs to navigate children's mathematical thinking during instruction, including misconceptions, and the continuous decision-making processes required for responsiveness to this thinking.

Additionally, teacher beliefs shape classroom instruction. Though some argue the teacher beliefs–practice link is less causal and more dynamic (Leatham, 2006; Schoenfeld, 2015; Skott, 2015a, 2015b) with the impact of beliefs moulded by other mental constructs (e.g., knowledge) and modified by contextual constraints, over time a body of research has revealed a relationship between teachers' mathematical beliefs and teaching by showing that beliefs influence teacher thinking and behaviours, including instructional decision-making and use of curriculum materials (Buehl & Fives, 2009; Clark & Peterson, 1986; Clark et al., 2014; Philipp, 2007; Raymond, 1997; Romberg & Carpenter, 1986; Thompson, 1992; Wilson & Cooney, 2002). Two important teacher beliefs constructs include pedagogical beliefs (i.e., beliefs about teaching and learning) and teaching efficacy beliefs (i.e., beliefs about capabilities to teach effectively and influence student learning). Development of these beliefs in productive ways supports teachers as agentic.

When considering professional learning experiences, several emphases have been identified that promote elementary teacher mathematical learning and change. These include studying children's thinking via video and text, using reform-oriented curricula and cognitively demanding tasks, emphasising problem-solving and other

mathematical practices, examining case studies via video and text, and connecting learning to classrooms (AMTE, 2017; Conference Board of the Mathematical Sciences, 2012; Hart et al., 2016; Lannin & Chval, 2013; Philipp, 2008; Philipp et al., 2007; Sowder, 2007). For example, it has been posited that instead of trying to interest elementary teachers in mathematics for the sake of mathematics itself, teacher learning should provide connections to children's thinking, in which teachers are fundamentally concerned. The professional development materials for Cognitively Guided Instruction (CGI; Carpenter et al., 2015) provide this emphasis. Seminal in mathematics education, CGI has been used, refined, and studied for over two decades as an approach to teaching and learning mathematics focusing on teachers using knowledge of children's mathematical thinking to make instructional decisions. It includes research-based knowledge about children's mathematical thinking and well-defined taxonomies of problem types and children's strategies for mathematical operations. The CGI materials include video clips, cases, and descriptions of teachers, children, and classroom pedagogy in a CGI text. The use of CGI in university courses and professional development shows positive influences on elementary teacher development in mathematics, generally contributing to productive changes in beliefs, implementation of more cognitively based instructional practices, and the promotion of more inclusive pedagogical practices (Cady et al., 2006; Fennema et al., 1996; Moscardini, 2014; Myers et al., 2020, 2021; Steele, 2001; Swars et al., 2009; Vacc & Bright, 1999).

## 3.3  Our K-5 ME Program

Our K-5 ME program is situated in a large, urban university in the south-eastern USA; the program's students are elementary teachers in nearby urban and suburban elementary schools. Key goals for students in the program are pedagogical shifts toward alignment with a learner-centred SBLE; development of deep and broad knowledge of elementary mathematics, including SCK; changes toward more productive mathematical dispositions (e.g., increased mathematics teaching efficacy beliefs); and development of knowledge of mathematics education research, standards, curricula, organisational networks, and resources. These goals allow us to maintain an underlying focus on developing their sense of teacher agency as well as our own agency as teacher educators to remain committed to learner-centred approaches.

Almost all students complete the K-5 ME program embedded in an M.Ed. in Elementary Education program. The 2-semester K-5 ME program includes four 3-semester-hour mathematics content courses integrating pedagogy plus one 3-semester-hour field practicum course providing an authentic residency. The content courses include Number and Operation, Algebra and Rational Number (both offered Fall semester), Data Analysis and Probability, and Geometry and Measurement (both offered Spring semester). Each course is 7 weeks, meeting 1 evening per week for 5.5 h. The courses are taught by mathematics educators who are tenured faculty in the Early Childhood and Elementary Education Department. Master's degree courses

are also completed at varying times, including those that focus on critical issues in mathematics education and other areas, mathematics curriculum, and learning theory for adult and young learners, along with a culminating capstone experience where students create a mathematics professional development module to be implemented with peers at their schools. The sum of this preparation is intended to develop EMSs who are highly effective and equitable mathematics teachers and ready to assume a variety of leadership roles in mathematics education. Previous completers of the program have assumed specialised teaching roles such as teaching mathematics to all students in a grade level or providing remediation or enrichment mathematics instruction to small groups of students, as well as taken on various leadership roles in schools and school systems, such as mathematics coach, curriculum specialist, and grade level chair or team lead.

When considering the K-5 ME program goal of pedagogical shifts toward alignment with a learner-centred SBLE, the program's experiences aim to cultivate high-leverage mathematics teaching capabilities (AMTE, 2017; NCTM, 2014), including (a) selection and implementation of instructional tasks with high levels of cognitive demand (i.e., worthwhile mathematical tasks); (b) use of multiple representations; (c) use of tools; (d) promotion of problem-solving and reasoning, dialogic discourse, explanation and justification, and connections and applications typical of SBLEs; and (e) use of children's thinking and understandings to guide instruction. There is an emphasis on instruction that promotes equitable, full access to opportunities to learn mathematics, including responsiveness to children's backgrounds, experiences, and knowledge, such as English Language Learners (ELLs) and populations historically marginalised in mathematics. Experimenting with implementing a SBLE is supported throughout the program.

Within the program, we aim to provide experiences grounded in the research on elementary teacher mathematical learning and change as a means of developing competencies needed for teacher agency in fostering learner-centred environments. Learning during course sessions occurs through (a) active engagement in and analysis of the mathematics in the elementary curriculum, (b) study of children's thinking and learning via video clips and written teaching cases, (c) examination of examples of classroom practice via video clips and written teaching cases, and (d) scrutiny of the research base in elementary mathematics education and of critical issues related to equity and access. Generally, about half of each session focuses on engagement in and analysis of elementary mathematics through cognitively demanding tasks and the other half focuses on related study of children's thinking and classroom practice via video clips, written teaching cases, and other assigned readings. Additionally, students present and discuss research focused on elementary mathematics education, along with presenting cognitively demanding tasks using rehearsal. Engaging students for a 5.5 h class session can be challenging, so there is intentional sequencing of specific types of learning activities, such as in-class presentations and sustained group work toward the end of class.

In addition to assigned readings of various articles largely focusing on social justice and mathematics education, culturally responsive pedagogy, and mathematics instruction for ELLs, course texts include the *Developing Mathematical Ideas* (DMI)

series (Schifter et al., 2008); the CGI Trilogy *Children's Mathematics: Cognitively Guided Instruction* (Carpenter et al., 2015); *Extending Children's Mathematics: Fractions and Decimals* (Empson & Levi, 2011); *Thinking Mathematically: Integrating Arithmetic and Algebra in Elementary School* (Carpenter et al., 2003); and *Five Practices for Orchestrating Productive Mathematics Discussions* (Smith & Stein, 2018). Students also engage in careful analysis of the state's mathematics standards that are largely grounded in the Common Core State Standards for Mathematics, including the content standards for the elementary grades and associated trajectories and the Standards for Mathematical Practice, as well as the Standards for Teaching Mathematics in *Principles to Actions* (NCTM, 2014).

Key assignments include six clinical-style interviews of children's understandings of mathematical concepts with analyses, with three focusing on numbers and operations and grounded in *Children's Mathematics: Cognitively Guided Instruction*, two emphasising equality and relational thinking and drawn from *Thinking Mathematically: Integrating Arithmetic and Algebra in Elementary School*, and one focusing on geometry and measurement, using *DMI* readings as a guide. An additional assignment includes the selection, adaptation, or generation and analyses of worthwhile mathematical tasks spanning K-5 concepts (10 per course with a minimum of two dually focusing on social justice and mathematics, 40 total), using the Task Analysis Guide from *Five Practices for Orchestrating Productive Mathematics Discussions* to analyse cognitive demand of tasks. Students also complete an in-depth data design, collection, and analysis project grounded in DMI readings. They also prepare written syntheses and oral presentations of research on elementary mathematics education (one per course, four total).

As an example, to develop the high-leverage teaching capability of using children's thinking and understandings to guide instruction, the study of children's thinking is threaded across the program. During the Number and Operation course, the students are immersed in CGI, including the accompanying text and video clips. They engage in careful study of CGI frameworks for problem types and children's solution strategies and conduct three clinical-style interviews of children's understandings of these concepts, with subsequent analysis to determine instructional steps. The students also learn about the implementation of CGI-based lessons, where children are expected to interpret the meaning of a story problem, develop their own solutions, represent their thinking in writing, construct arguments and critique one another's reasoning, and debate the merits of different solution strategies. Planning for this lesson includes teachers formulating goals for children's learning, determining relevant tools and materials, and anticipating children's solution strategies for specific problems. This type of lesson uses a three-part structure consisting of the launch (i.e., posing the number story), student work time, and whole group discourse. Specifically, the discourse portion involves teachers closely attending to children's mathematical ideas and learning goals, sequencing children's presentations of their solutions from least-sophisticated to most-sophisticated while providing careful representations for the entire class, and prompting children to ask questions, consider validity, and discuss similarities and differences of strategies. After the implementation of a CGI-based

lesson, teachers assess and analyse children's individual work samples using a multi-dimensional analytic rubric in order to plan instructional steps. The students are provided this CGI-based lesson as an instructional model for facilitating SBLEs; they view, analyse, and discuss videos of lessons using this structure. This model is not typically conducive to traditional instructional methods, and students must navigate these teaching practices within conflicting normative assumptions in schools, exercising agency in their implementation.

The students also complete a 3-semester-hour field practicum course during the second semester that provides an authentic residency enacting the synthesis of content knowledge and learner-centred pedagogy emphasised in the program. Learning outcomes include that students (1) demonstrate the knowledge, skills, and dispositions emphasised during courses by implementing effective and equitable classroom instructional practices; (2) apply feedback to their classroom instruction; and (3) practice reflective thinking in their classroom instruction. During this course, they are expected to evidence implementation of SBLEs, along with providing supporting documentation of this enactment. Assignments include the creation of a portfolio demonstrating proficiency in teaching elementary mathematics that includes an analysis of the impact on diverse learners, the use of formative and summative assessment data for differentiation, and evidence of technology integration. This expertise is documented across grade levels through a minimum of 10 enacted lesson plans, aligned with the concepts of the four content courses and requiring detailed reflections on the mathematics teaching and learning with contextual analyses. Additionally, a university supervisor observes two of these lessons, prompting further reflection and providing support, feedback, and evaluation using an observational protocol (i.e., SLBE Observation Protocol; Tarr et al., 2008). The student and supervisor consider the extent to which classroom practices foster a SBLE by attending specific classroom events that should be present in a SBLE. Ultimately, students produce a portfolio that incorporates these elements: enacted lessons with detailed reflections; observations of effective implementation of SBLE; and evidence of student learning, technology integration, and equitable instruction with diverse learners.

## 3.4   Our Inquiries

The extant literature offers somewhat limited but increasing research on EMS preparation, and there has been a call for 'developing a knowledge base for the preparation of EMSs', including how 'elements of an EMS program are necessary for productive outcomes' (Reys et al., 2017, p. 231). This need for research focused on components of EMS preparation programs is evident, as there is 'agreement about the competencies that an EMS program should promote … but not consensus about what it takes to promote those competencies'. Further, when considering preparation programs, there is substantive variability related to experiences and these programs' differences, along with their influences on students' development, warrant careful scrutiny.

We have engaged in a number of studies on our K-5 ME program with the aim of determining the efficaciousness of the program we created and implemented, with these findings informing both the program's experiences and the broader field. This section provides a description of our recursive line of inquiry over time on the program, specifically focusing on findings published in the *Journal of Mathematics Teacher Education* (Swars et al., 2018), *Journal of Teacher Education* (Myers et al., 2020), and *Journal of Mathematics Teacher Education* (Myers et al., 2021). Presented are general findings and conclusions of the studies; the full articles provide specific details related to methodology and results. Overall, we have studied how the program's experiences aimed at developing competencies needed for teacher agency in fostering learner-centred mathematics classroom environments have influenced participants, including their SCK, with quantitative data collected via the Learning Mathematics for Teaching Instrument (LMT; Hill et al., 2004); mathematical beliefs, specifically pedagogical and teaching efficacy beliefs, with quantitative data gathered using the Mathematics Beliefs Instrument (Peterson et al., 1989, as modified by the CGI Project) and Mathematics Teaching Efficacy Beliefs Instrument (Enochs et al., 2000); mathematics classroom instructional practices, with quantitative data collected through the SBLE Observation Protocol (Tarr et al., 2008); and views on their learning experiences.

Our first inquiry on the K-5 ME program used a mixed method design to examine changes in participants' (N = 32) mathematical beliefs, SCK, and mathematics classroom instructional practices (Swars et al., 2018). Data were collected across the two semesters of the program via the two belief surveys, the LMT and SBLE Observation Protocol, and through individual interviews of six of the participants. The quantitative findings show some changes in beliefs can be made relatively quickly, while other shifts in beliefs take more time and continued support. For example, pedagogical belief scores had significant increases across the program, with these beliefs becoming more cognitively aligned largely during the first half of the program. In addition, teaching efficacy belief scores evidenced significant increases across the program, with these beliefs in their capabilities to teach mathematics effectively and influence student learning mostly changing during the second half of the program.

These findings suggest that though the participants appear to wholeheartedly embrace the cognitively oriented pedagogy from the start of the program, more time was needed to develop confidence in teaching from this perspective. In addition, when it comes to SCK, there were significant increases in LMT scores across the program, showing the program's experiences had the intended effect of developing this knowledge. Interestingly, the results of correlation analyses for pedagogical beliefs, teaching efficacy beliefs, SCK, and instructional practices at the end of the program show only one significant relationship: participants with a strong sense of efficaciousness toward teaching mathematics had pedagogical beliefs with greater cognitive orientation. Notably, none of the other outcome measures evidenced significant relationships with one another.

Additional findings from this study, specifically the SBLE Observation Protocol data, indicated that the participants were implementing their learning in the program in substantial ways, with the classroom events of students explaining their responses

or solutions strategies as most evident, and providing students opportunities to make conjectures about their mathematical ideas as least apparent. The interview data revealed that at the end of the program all described effective mathematics instruction as learner-centred and inquiry-based, reflecting the pedagogical models emphasised in the program, including (a) posing a worthwhile mathematical task, (b) circulating around the classroom as children work in order to learn what the children are thinking and to question them about their work, and (c) orchestrating discourse among children as they explain their thinking and solutions to the task. They felt more confident implementing this instruction, professing a strong sense of mathematics teaching efficacy and confidence in their knowledge of elementary mathematics, linked to their experiences in the program. They also described shifts toward advocacy for these newly learned practices with others and away from the enculturation of traditional instruction. The interview data also provided insights into potential obstacles for participants' agency in enacting learner-centred instruction, drawing our attention to the need for providing them with more tools for the pedagogical practices emphasised in the program. The realities of school administrators' expectations and mandated curricula, among others, were hurdles that participants faced on a daily basis that challenged their new understandings and beliefs. As researchers, we refocused on the need for preparing them to be more agentic in their implementation in classrooms and schools so that they could not only implement but advocate for these practices.

Building upon this initial study, we next sought to conduct focused inquiry on participants' classroom implementation. So, using mixed methods, we explored the mathematics pedagogical practices of participants (N = 13) in the K-5 ME program (Myers et al., 2020). These participants were a special case at one urban, high-needs charter school, and data were collected largely during the field practicum course and via individual interviews, written reflections in the professional portfolio on enacted teaching practices, two observations of classroom instructional practices (SBLE Observation Protocol), and a researcher-created 36-item CGI Teacher Knowledge Assessment. The findings showed the participants were connecting their learning during program courses with instructional practices in their classrooms, as 85% were implementing SBLEs at a high level (using a scale of low, medium, and high). As in our first study, the classroom event of providing students opportunities to make conjectures about mathematical ideas emerged as a relative struggle, while the classroom event of multiple perspectives and strategies being encouraged and valued was the most apparent. This valuing of multiple perspectives and strategies was particularly apparent during participants' implementation of CGI-based lessons, which were prevalent in both observations and portfolio data. The focus on CGI prompted our analysis of the CGI Teacher Knowledge Assessment data, which evidenced a statistically significant increase across the Number and Operation course. Interview data also highlighted participants' desire for further support in continuing to increase their knowledge and understanding of CGI as an instructional framework.

In this study's interview and reflection data, the participants described pedagogical shifts across the program, providing insights into these changes, along with how particular program components contributed, with the emergent themes of *scepticism,*

*trying it on, shifters,* and *need more support.* Participants began the program in a place of *scepticism*, challenging this new way of teaching and learning mathematics, with resistance that came from doubt and uncertainty. It was not until participants *tried it on*, by putting pieces into practice and experimenting in the classroom, that they began to see things differently. This move to the classroom was often credited to immersion in CGI and CGI-based lessons, along with implementation assignments during the field practicum course, which served as *shifters* or impetuses for change in pedagogical practices. Ultimately, though, the data show they *need more support* in their classroom enactment of SBLEs. Their changes were challenging and significant in scale, and the feedback and support needed to maintain these new practices were acknowledged. This story of initial resistance, experimentation, and shifting perspectives speaks to the ways these participants were exercising teacher agency as they learned. Namely, the 13 participants were teachers at one elementary school, a charter school with an administration that had sought out this endorsement program for their teachers, thus, creating a space conducive for such experiments and shifts. This special environment and context gave teachers the opportunity to implement learner-centred instruction with agency and support; it gave us as researchers and instructors the opportunity to analyse with our own teacher educator agency the state of the K-5 ME program and consider needed changes.

The findings of this second study, specifically related to the need for more support during the field practicum course and classroom enactment of new instructional practices, prompted us to add mentoring sessions during this course and to continue the study of classroom implementation. Our third study was a case study that involved more in-depth inquiry on participants' (N = 9) mathematics pedagogical practices during the program, focusing on the field practicum course with added mentoring sessions (Myers et al., 2021). Qualitative and quantitative data were collected via individual interviews, professional portfolios, and observations of classroom instructional practices (SBLE Observation Protocol). Upon completion of the program, all participants were implementing instructional practices learned about in the program in substantial ways, with 100% doing so at a high level. An in-depth analysis of lessons in the professional portfolio showed that 28% were CGI-based lessons, 73% of instructional tasks were at the highest level of cognitive demand (i.e., doing mathematics), and 53% of planned teacher questions were higher level questions that extended beyond gathering information (NCTM, 2014).

In this study, the analysis of the interview data showed participants were honing their skills for orchestrating effective *discourse* in their enactment of SBLEs and the *questions* they were asking, which was viewed as positively impacting children's mathematical thinking. This new enactment and preparation program coursework *rigorously developed* all three aspects of becoming an EMS (mathematical content knowledge, pedagogical knowledge, and leadership knowledge and skills), for both themselves as teachers (and teacher leaders) as well as their children as learners of mathematics. Participants spoke about the field practicum course, including the added mentoring sessions, as providing valuable support and guidance during pedagogical shifts, namely through the extra, *non-evaluative feedback* they received (and

gave) that encouraged critical self-reflection and built their confidence as mathematics teachers, and the feelings of timeliness, *comfort, and collaboration*. These were important pieces in preparing them to share their learning and shifting pedagogical practices with their fellow students and colleagues at their school sites. Lastly, prevalent in the interview data were the participants' *feelings of preparedness* upon program completion, for both teaching mathematics and taking on leadership roles.

As teacher educators and researchers, these inquiries build on each other and thus reshape and revise our program, just as our students are building their own understandings of how children learn mathematics, thus, reshaping and revising their teaching practices. It is in these continued inquiries and analyses that we all practice teacher agency, navigating program coursework and implementation.

## 3.5   Conclusion

As teacher educators, we are practicing our own agency by aiming to prepare students to navigate the normative assumptions in educational institutions through developing their competencies to teach with children at the centre. We strive to develop a greater sense of teacher agency by expanding our students' visions of the role of a mathematics teacher and providing them during program experiences with the capabilities and tools to make informed decisions about how mathematics should be taught. During this time of standardisation, prescription, and teacher-centred mathematics instruction, the agency should be a critical component of the profession of teaching. As professionals, it is fundamental that teachers have the ability to shape their practices in ways that draw upon existing research and analyses of their own practices.

Across our inquiries on the K-5 ME program, the findings collectively suggest that this program is preparing teachers to become EMSs who are highly effective mathematics teachers, specifically in their observed classroom instructional practices and reported pedagogical beliefs. When considering their agentic enactment of learner-centred instruction, students are enacting SBLEs at a high level, which is evidenced by classroom observations as well as professional portfolios. This agentic behaviour is evident within their own contextual conditions (i.e., classrooms), and the interview data provide descriptions of their decision-making and reasoning that led to the behaviour, reflecting their own internal locus of control (Toom et al., 2015). Students are reporting shifts in pedagogical beliefs, attributing those shifts to features of the program's learning experiences and their efforts with classroom implementation. Our conclusions indicate that the elements of the content courses and field practicum course in this K-5 ME program are effectively developing EMSs, as students are demonstrating pedagogical shifts toward enactment of SBLEs; evidencing development of SCK; reporting more productive mathematical dispositions, including beliefs; and engaging in learning experiences and assignments that develop knowledge of mathematics education research, standards, curricula, organisations, and resources.

However, in these successes, we find areas to improve upon and refocus in order to best support the development of EMSs so that their learnings are even more meaningful and sustainable. Our own continuous examinations of program experiences have shaped our thinking about how we might be more intentional and systematic about developing and supporting teachers' sense of agency in learner-centredness.

One limitation and struggle we continue to navigate is the length of the K-5 ME program. Students engage in rigorous course and field practicum experiences, which are made all the more demanding by their duration of only 1 year. Our struggle to prepare students in such a short amount of time means they often complete the program with desires for additional support and guidance, and as researchers we have our own desires for more longitudinal data, to follow the trajectory of those students who intend to advocate for their newly learned instructional practices. The reported shifts in pedagogical beliefs and observed enactment of SBLEs ignite a curiosity in us to find out how those beliefs and practices play out for EMSs after program completion and across the subsequent years as an educator, with potential shifts into specialised teaching and leadership roles.

We are strong believers in the elements of learning experiences in this K-5 ME program aimed at developing teacher agency in learner-centred mathematics classroom environments, in the need for EMSs and the roles they fulfil in elementary schools, and in the call for more research focused on their preparation. And yet, as agentic, responsible, and ethical researchers and teacher educators, we must always be reflexive and reflective. Those reflexive practices have culminated in a reimagining of this K-5 ME program that builds in more time for content and field practicum course experiences and more support for classroom implementation to deeply develop SCK, productive dispositions, and classroom pedagogical practices as well as sustainability beyond the length of the endorsement program. We have just begun a project, funded by the National Science Foundation Noyce program, to implement the K-5 ME program with those needed changes. Our 5-year project, with embedded inquiry, will allow us to follow the trajectory of 27 elementary teachers in one urban, high-need school district as they engage in the K-5 ME program for 2 years, followed by implementation, advocacy, and leadership for 3 years after program completion. We will provide continuous, intentional support for them in their own specialised teaching and leadership aspirations and hope to learn much more about their teacher agency in learner-centredness and sustainability of increased SCK and shifts in productive beliefs and instructional practices.

# References

Association of Mathematics Teacher Educators. (2013a). *Standards for elementary mathematics specialists: A reference for teacher credentialing and degree programs.* AMTE.

Association of Mathematics Teacher Educators. (2013b). *The role of Elementary Mathematics Specialists in the teaching and learning of mathematics.* https://amte.net/group/resources/12-13/position-role-elementary-mathematics-specialists-teaching-and-learning-mathematics

Association of Mathematics Teacher Educators. (2017). *Standards for preparing teachers of mathematics.* https://amte.net/standards

Ball, D. L., Hoover Thames, M., & Phelps, G. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education, 59*, 389–407.

Bartell, T., Cho, C., Drake, C., Petchauer, E., & Richmond, G. (2019). Teacher agency and resilience in the age of neoliberalism. *Journal of Teacher Education, 70*, 302–305.

Brosnan, P., & Erchick, D. (2010). Mathematics coaching and its impact on student achievement. In P. Brosnan, D. B. Erchick, & L. Flevares (Eds.), *Proceedings of the 32nd annual meeting of the North American chapter of the international group for the psychology of mathematics education* (Vol. VI, pp. 1362–1370). The Ohio State University.

Buehl, M. M., & Fives, H. (2009). Exploring teachers' beliefs about teaching knowledge: Where does it come from? Does it change? *Journal of Experimental Education, 77*, 367–407.

Cady, J. A., Meier, S. L., & Lubinski, C. A. (2006). Developing mathematics teachers: The transition from preservice to experienced teacher. *Journal of Educational Research, 99*, 295–305.

Campbell, P., Ellington, A., Haver, W., & Inge, V. (2014). *The Elementary Mathematics Specialist's handbook.* NCTM.

Campbell, P., & Griffin, M. (2017). Reflections on the promise and complexity of mathematics coaching. *Journal of Mathematical Behavior, 46*, 163–176.

Campbell, P., & Malkus, H. (2011). The impact of elementary mathematics coaches on student achievement. *The Elementary School Journal, 111*(3), 430–454.

Campbell, P., & Malkus, H. (2014). The mathematical knowledge and beliefs of elementary mathematics specialist-coaches. *ZDM, 46*, 213–225.

Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (2015). *Children's mathematics: Cognitively guided instruction* (2nd ed.). Heinemann.

Carpenter, T. P., Franke, M. L., & Levi, L. (2003). *Thinking mathematically: Integrating arithmetic and algebra in elementary school.* Heinemann.

Chval, K. B., Arbaugh, F., Lannin, J. K., Van Garderen, D., Cummings, L., Estapa, A. T., & Huey, M. E. (2010). The transition from experienced teacher to mathematics coach: Establishing a new identity. *The Elementary School Journal, 111*(1), 191–216.

Clark, C. M., & Peterson, P. L. (1986). Teachers' thought processes. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 255–296). Macmillan.

Clark, L. M., DePiper, J. N., Frank, T. J., Nishio, M., Campbell, P. F., Smith, T. M., Griffin, M. J., Rust, A. H., Conant, D. L., & Choi, Y. (2014). Teacher characteristics associated with mathematics teachers' beliefs and awareness of their students' mathematical dispositions. *Journal for Research in Mathematics Education, 45*(2), 246–284.

Conference Board of the Mathematical Sciences. (2012). *The mathematical education of teachers* II. American Mathematical Society.

Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education, 40*, 291–309.

Elementary Mathematics Specialist and Teacher Leaders Project. (2020). *Mathematics Specialist Certification (by State).* http://www.mathspecialists.org

Empson, S. B., & Levi, L. (2011). *Extending children's mathematics: Fractions and decimals.* Heinemann and the National Council of Teachers of Mathematics.

Enochs, L., Smith, P., & Huinker, D. (2000). Establishing factorial validity of the mathematics teaching efficacy beliefs instrument. *School Science and Mathematics, 100*, 194–202.

Felton, M. D., & Koestler, C. (2015). "Math is all around us and … we can use it to help us": Teacher agency in mathematics through critical reflection. *The New Educator, 11*, 260–276.

Fennema, E., Carpenter, T. P., Franke, M. L., Levi, L., Jacobs, V. R., & Empson, S. B. (1996). A longitudinal study of learning to use children's thinking in mathematics instruction. *Journal for Research in Mathematics Education, 27*, 403–434.

Gerretson, H., Bosnick, J., & Schofield, K. (2008). A case for content specialists as the elementary classroom teacher. *The Teacher Educator, 43*, 302–314.

Harbour, K. E., Adelson, J. L., Pittard, C. M., & Karp, K. S. (2018). Examining the relationships among mathematics coaches and specialists, student achievement, and disability status: A multi-level analysis using national assessment of educational progress data. *Elementary School Journal, 118*(4), 654–679.

Harrington, R., Burton, L., & Beaver, C. (2017). Answering the call by developing an online elementary mathematics specialist program. *Journal of Mathematical Behavior, 46*, 303–312.

Hart, L. C., Oesterle, S., Swars Auslander, S., & Kajander, A. (Eds.) (2016). *The mathematics preparation of elementary teachers: Issues and strategies for content courses.* Information Age.

Hill, H. C. (2010). The nature and predictors of elementary teachers' mathematical knowledge for teaching. *Journal for Research in Mathematics Education, 41*, 513–545.

Hill, H. C., Schilling, S. G., & Ball, D. L. (2004). *Developing measures of teachers' content knowledge for teaching.* University of Michigan.

Kessel, C. (Ed.). (2009). *Teaching teachers mathematics: Research, ideas, projects, evaluation.* http://www.msri.org/calendar/attachments/workshops/430/TTM_EdSeries3MSRI.pdf

Kutaka, T., Smith, W., Albano, A., Edwards, C., Ren, L., Beattie, H., Lewis, W., Heaton, R., & Stroup, W. (2017). Connecting teacher professional development and student mathematics achievement: A 4-year study of an Elementary Mathematics Specialist program. *Journal of Teacher Education, 68*(2), 140–154.

Lannin, J., & Chval, K. (2013). Challenge beginning teacher beliefs. *Teaching Children Mathematics, 19*(8), 508–515.

Leatham, K. L. (2006). Viewing mathematics teachers' beliefs as sensible systems. *Journal of Mathematics Teacher Education, 9*, 91–102.

McGatha, M. B., Davis, R., & Stokes, A. (2015). The impacts of mathematics coaching on teachers and students. In M. Fish (Ed.), *NCTM research briefs* (pp. 1–4). NCTM.

McGee, J. R., Polly, D., & Wang, C. (2013). Guiding teachers in the use of a standards-based mathematics curriculum: Teacher perceptions and subsequent instructional practices after an intensive professional development program. *School Science and Mathematics, 113*, 16–28.

Mills, R., Bourke, T., & Siostrom, E. (2020). Complexity and contradiction: Disciplinary expert teachers in primary science and mathematics education. *Teaching and Teacher Education*, *89*. https://doi.org/10.1016/j.tate.2019.103010.

Moscardini, L. (2014). Developing equitable elementary mathematics classrooms through teachers learning about children's mathematical thinking: Cognitively guided instruction as an inclusive pedagogy. *Teaching and Teacher Education, 43*, 69–79.

Mudzimiri, R., Burroughs, E. A., Luebeck, J., Sutton, J., & Yopp, D. (2014). A look inside mathematics coaching: Roles, content, and dynamics. *Education Policy Analysis Archives*, *22*(53). https://doi.org/10.14507/epaa.v22n53.2014

Myers, K., Swars Auslander, S., Smith, S. Z., & Smith, M. E. (2021). Prospective elementary mathematics specialists' developing instructional practices: Support and mentorship during an authentic residency. *Journal of Mathematics Teacher Education, 24*, 309–330.

Myers, K., Swars Auslander, S., Smith, S. Z., Smith, M. E., & Fuentes, D. S. (2020). Developing the pedagogical capabilities of Elementary Mathematics Specialists during a K-5 Mathematics Endorsement program. *Journal of Teacher Education, 71*, 261–274.

National Council of Teachers of Mathematics. (2014). *Principles to actions: Ensuring mathematical success for all*. Author.

National Council of Teachers of Mathematics. (2020). *Catalyzing change in early childhood and elementary mathematics: Initializing critical conversations.* Author.

National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards for Mathematics.* Authors.

Nickerson, S. (2010). Preparing experienced elementary teachers as mathematics specialists. *Investigations in Mathematics Learning, 2*(2), 51–68.

Peterson, P. L., Fennema, E., Carpenter, T. P., & Loef, M. (1989). Teachers' pedagogical content beliefs in mathematics. *Cognition and Instruction, 6*, 1–40.

Philipp, R. A. (2007). Mathematics teachers' beliefs and affect. In F. K. Lester (Ed.), *Second handbook on mathematics teaching and learning* (pp. 1099–1109). Information Age.

Philipp, R. A. (2008). Motivating prospective elementary school teachers to learn mathematics by focusing upon children's mathematical thinking. *Issues in Teacher Education, 17*(2), 7–26.

Philipp, R. A., Ambrose, R., Lamb, L. L., Sowder, J. T., Schappelle, B. P., Sowder, L., Thanheiser, E., & Chauvot, J. (2007). Effects of early field experiences on the mathematical content knowledge and beliefs of prospective elementary school teachers: An experimental study. *Journal for Research in Mathematics Education, 38*, 438–476.

Raymond, A. M. (1997). Inconsistency between a beginning elementary school teacher's mathematics beliefs and teaching practice. *Journal for Research in Mathematics Education, 28*, 550–576.

Reys, B., Webel, C., & de Araujo, Z. (2017). Elementary mathematics specialist preparation: What's next? What's needed? In M. McGatha & N. Riegelman (Eds.), *Elementary mathematics specialists* (pp. 221–234). Association of Mathematics Teacher Educators.

Rich, K. M. (2021). Examining agency as teachers use mathematics curriculum resources: How professional contexts may support or inhibit student-centered instruction. *Teaching and Teacher Education*, *98*. https://doi.org/10.1016/j.tate.2020.103249.

Romberg, T., & Carpenter, T. (1986). Research on teaching and learning mathematics: Two disciplines of scientific inquiry. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 850–873). Macmillan.

Schifter, D., Bastable, V., & Russell, S. J. (2008). *Developing mathematical ideas: Casebooks.* Dale Seymour/Pearson Education.

Schoenfeld, A. H. (2015). What counts, when? Reflection on beliefs, affect, attitude, orientations, habits of mind, grain size, time scale, context, theory, and method. In B. Pepin & B. Roesken-Winter (Eds.), *From beliefs to dynamic affect systems in mathematics education* (pp. 395–404). Springer International.

Skott, J. (2015a). The promises, problems, and prospects of research on teachers beliefs. In H. Fives & M. G. Gill (Eds.), *International handbook of research on teacher beliefs* (pp. 13–30). Routledge.

Skott, J. (2015b). Towards a participatory approach to 'beliefs' in mathematics education. In B. Pepin & B. Roesken-Winter (Eds.), *From beliefs to dynamic affect systems in mathematics education* (pp. 3–23). Springer International.

Smith, M. S., & Stein, M. K. (2018). *Five practices for orchestrating productive mathematics discussions* (2nd ed.). National Council of Teachers of Mathematics.

Sowder, J. T. (2007). The mathematical education and development of teachers. In F. K. Lester (Ed.), *Second handbook of research on mathematics teaching and learning* (pp. 157–223). Information Age.

Spangler, D. A., & Ovrick, R. L. B. (2017). Models for mathematics specialist program development and delivery. In M. McGatha & N. Rigelman (Eds.), *Elementary mathematics specialists* (pp. 41–52). Association of Mathematics Teacher Educators.

Swars, S. L., Smith, S. Z., Smith, M. E., Carothers, J., & Myers, K. (2018). The preparation experiences of Elementary Mathematics Specialists: Examining influences on beliefs, content knowledge, and teaching practices. *Journal of Mathematics Teacher Education, 21*(2), 123–145.

Swars, S. L., Smith, S. Z., Smith, M. E., & Hart, L. C. (2009). A longitudinal study of effects of a developmental teacher preparation program on elementary prospective teachers' mathematics beliefs. *Journal of Mathematics Teacher Education, 12*, 47–66.

Steele, D. F. (2001). The interfacing of preservice and inservice experiences of reform-based teaching: A longitudinal study. *Journal of Mathematics Teacher Education, 4*, 139–172.

Tarr, J. E., Reys, R. E., Reys, B. J., Chavez, O., Shih, J., & Osterlind, S. J. (2008). The impact of middle grades mathematics curricula and the classroom learning environment on student achievement. *Journal for Research in Mathematics Education, 39*, 247–280.

Thames, M. H., & Ball, D. L. (2010). What mathematical knowledge does teaching require? Knowing mathematics in and for teaching. *Teaching Children Mathematics, 17*, 220–225.

Thompson, A. G. (1992). Teachers' beliefs and conceptions: A synthesis of the research. In D. A. Grouws (Ed.), *Handbook of research on mathematics teaching and learning* (pp. 127–146). National Council of Teachers of Mathematics.

Toom, A., Pyhalto, K., & Rust, F. O. (2015). Teachers professional agency in contradictory times. *Teachers and Teaching: Theory and Practice, 21*, 615–623.

Vacc, N. N., & Bright, G. W. (1999). Elementary pre-service teachers' changing beliefs and instructional use of children's mathematics thinking. *Journal for Research in Mathematics Education, 30*, 89–110.

Wilson, M., & Cooney, T. (2002). Mathematics teacher change and development: The role of beliefs. In G. Leder, E. Pehkonen, & G. Toerner (Eds.), *Beliefs: A hidden variable in mathematics education?* (pp. 127–148). Kluwer Academic Press.

Webel, C., Conner, K., Sheffel, C., Tarr, J., & Austin, C. (2017). Elementary mathematics specialists in "departmentalized" teaching assignments: Affordances and constraints. *The Journal of Mathematical Behavior, 46*, 196–214.

Yopp, D. A., Burroughs, E. A., Sutton, J. T., & Greenwood, M. C. (2019). Variations in coaching knowledge and practice that explain elementary and middle school mathematics teacher change. *Journal of Mathematics Teacher Education, 22*(1), 5–36.

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# Chapter 4
# Beyond Cream, Off-White, and Beige: Finding Slippages in Accreditation for Innovation in Professional Experience

**Jennifer Clifton and Kathy Jordan**

**Abstract**  Developed in 2011 by the Australian Institute for Teaching and School Leadership (AITSL), the Accreditation Standards and Procedures outline the accreditation requirements for Initial Teacher Education (ITE) programs. The professional experience features prominently within these requirements, specifically mandating conditions around assessment, the number of days of professional experience, and using practising teachers in program design and supervision arrangements. While introducing these standards and procedures raised concerns about standardisation within professional experience, it also provided a climate for opportunities. This chapter discusses how teacher educators found slippages in, between, and within accreditation requirements to innovate through the design of the Coaching Approach to Professional Experience (CAPE) Model. This chapter details how regulation requirements, supported by Third Space theory, provided the impetus to question long-held approaches to professional experience, elevated the priority of professional experience and partnerships, and provided scope for pre-service teacher agency.

**Keywords**  Accreditation teacher education · Professional experience · Third space

## 4.1  Introduction

Almost a decade ago, the lead author sat in a cross-institutional meeting where the Australian Institute for Teaching and School Leadership (AITSL) outlined the new accreditation requirements for Initial Teacher Education (ITE) providers. The accreditation requirements first developed in 2011 presented a significant shift in accountability and governance within ITE. During the meeting, a colleague noted

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that all 'ITE programs would look like Richie Benaud suits—cream, bone, white, off-white, and beige' given the prescriptive nature of the requirements. While there was laughter at the Twelfth Man reference about an Australian sporting commentator's outfit, there was then an uncomfortable silence in the room with the realisation of this possibility, especially in the space of professional experience. There was a concern around the possibility that varied, and alternate approaches to professional experience could be jeopardised.

Accreditation is commonly referred to as a quality assurance process, in which standards are met, and the program is then accredited by the appropriate agency (Bourke, 2019; Bourke et al., 2016). National accreditation of ITE emerged as one of the 12 recommendations made by the *Top of the Class* report (House of Representatives Standing Committee on Education & Vocational Training, 2007) following its review of teacher education (Bourke, 2019). Recommendation three argued that national accreditation would provide 'greater consistency and rigour, facilitate the portability of teaching qualifications and significantly reduce the duplication of effort' (p. xxiii). This recommendation was enacted, with Teaching Australia established to lead a nationally consistent program accreditation system. In 2009, Teaching Australia became the Australian Institute for Teaching and School Leadership (AITSL) (Bahr & Mellor, 2016). At the time of this publication, AITSL is a public company with the Federal Minister for Education as its only member. Its objective is to deliver on the government reform agenda (Fitzgerald & Knipe, 2016).

Within academic literature and public debate, there are arguments in favour and against national accreditation. Some researchers have argued that accreditation has the potential to enable transparency and comparability across providers providing opportunities for self-analysis, innovative practice, and reform (Bourke, 2019). Fertig (2007), writing about international schools' accreditation, suggests that accreditation may lead to greater self-examination and growth in critical reflective practice, collaboration, and sharing of experience. Others argue on the contrary that accreditation can be a top-down process, it focuses on bureaucratic obligations and compliance to standards rather than excellence, and is not cost-effective nor value-adding (Bourke, 2019). Collins (2015) further suggests that compliance with standards is often assumed to result in improvement. As such, 'accreditation becomes process dominated and tending towards what can be documented as high quality rather than quality itself' (Collins, 2015, p. 142).

This chapter does not seek to argue the pros and cons of the national accreditation of ITE, but rather to explore how the accreditation process stimulated a rethink in the way in which professional experience was conceptualised at RMIT University. Professional experience (also called field experience, placement, and practicum) is the part of an ITE program where pre-service teachers practice their teaching under the guidance and support of a practising teacher. At RMIT University, the professional experience was designed like other universities, with blocks of time allocated across the semester and the placement of pre-service teachers based on administrative and geographic convenience.

Despite fears that professional experience programs would lose distinctiveness and would become like Benaud's suits, we, as leaders and teacher educators within

the ITE program, soon realised that the accreditation process could provide us with the impetus, permission, and the power to rethink our approach. This chapter reports on efforts to design and implement an alternate professional experience model, one based around shared responsibility, co-construction and co-delivery, collaborative approaches to supervising teacher/mentor professional development, and the inclusion of pre-service teacher goals. This chapter outlines the accreditation landscape and professional experience specifically by discussing three themes: connecting theory and practice in ITE programs, partnerships between providers and schools, and the scope of professional experience accreditation in Australia. Supporting the innovations made in the name of accreditation was the theoretical lens of the Third Space theory (Klein et al., 2013; Soja, 1996; Zeichner, 2010). This theory provided a useful conceptual lens to frame pre-service teacher agency and to work across/within the spaces of higher education and schools. This chapter then provides an illustrative example of how accreditation was the motivation for innovation within the professional experience.

## 4.2 National Accreditation of Initial Teacher Education Programs

National accreditation was agreed to by states and territories in 2011, implemented in 2013, and updated in 2015 and again in 2018. Before 2010, some states, namely New South Wales, Queensland, and Victoria, had introduced professional teaching standards (Bourke, 2019). Currently, the state and territory regulatory authorities accredit programs (for example, the Victorian Institute of Teaching in Victoria) using the nationally agreed standards and procedures (AITSL, 2019). The accreditation process has two stages. Stage 1 applies to new programs and has a focus on developing a plan for demonstrating impact. Stage 2 applies to existing programs, in which ITE providers demonstrate program impact. Accreditation has three integrated elements: the Graduate Teacher Standards (that describe the knowledge, skills, and attributes of graduating teachers), program standards that ensure these standards can be achieved, and national accreditation processes (AITSL, 2019; Bourke, 2019; Bourke et al., 2016).

In 2014, the Teacher Education Ministerial Advisory Group (TEMAG) was formed to provide further advice on 'how teacher education programmes could be improved to better prepare new teachers with the practical skills needed for the classroom' (TEMAG, 2014, p. 3). The TEMAG final report, *Action Now: Classroom Ready Teachers*, released later that year, recommended reform in six key areas, which included professional experience.

Professional experience is highly valued by policymakers, principals, teachers, and researchers alike, with some arguing that it is the most important or most useful component in programs (Zeichner, 2010). The *Top of the Class* report (2007) contended that practicum is 'a critically important part of teacher education courses'

(p. xxv). These views were echoed in the recent TEMAG review (2014), which commented that 'professional experience placements are crucial to the development of new teachers' (p. 15).

Yet the professional experience is also the subject of considerable criticism. The *Top of the Class* report (2007) commented that:

> The problems with practicum have been outlined in nearly every report addressing Teacher Education in the last decade. The fact that these problems have still drawn so much attention to this inquiry indicates the need for major reform in this area. (p. 73)

One of the most common criticisms is that professional experience is not well connected to coursework (House of Representatives Standing Committee on Education & Vocational Training, 2007; TEMAG, 2014). This lack of connection is seen as both a literal and a figurative one. Literal in the sense that programs have two separate components (a theoretical component at the university and a practical component in schools) and figuratively, in the sense that university-based learning and school-based learning are pitted as binaries (Forgasz et al., 2018). The report by TEMAG (2014) argued that 'integrated delivery of initial teacher education' (p. vii) was the most significant action to be pursued in improving teacher education. There is widespread agreement in the literature that this separation of theory and practice is highly problematic, calling for greater connection commonplace (Darling-Hammond, 2006; Zeichner, 2010).

Often school–university partnerships between providers and schools are pitched as the means to resolve the perceived disconnect (White et al., 2018). The *Top of the Class* report (2007) argues that many of the issues relating to professional experience stemmed from a lack of shared responsibility between providers, schools, and systems and called for 'the establishment of strong authentic partnerships between all parties' (p. 75). The TEMAG (2014) report similarly argued that 'structured and mutually beneficial partnerships' (TEMAG, 2014, p. 10) were vital to ensuring the connection of theory and practice.

Both the *Top of the Class* (2007) and TEMAG (2014) reports have had a significant influence on the shape of the national accreditation of ITE in Australia. The *Top of the Class* report (2007) supported the continued development of national accreditation, made suggestions regarding improving the professional experience, and championed partnerships to connect theory and practice better and improve the quality of programs. The TEMAG report (2014) led to further reforms in professional experience, including mandating formal written partnerships and greater emphasis on assessment, including clarity in expectations and roles, provision of tools and guidelines, and formal assessment of the Graduate Teacher Standards.

National accreditation requirements for professional experience are documented in Program Standard 5 (AITSL, 2019). There are five elements: (1) partnership arrangements; (2) professional experience components (covering the number of placement days, settings, and supervision requirements); (3) communication strategies between stakeholders; (4) assessment of professional experience (support for assessment, what is to be assessed, and at-risk processes); and (5) professional learning opportunities for supervising teachers and ensuring ITE staff have recent

teaching experience. There have been some shifts in this standard from the initial 2011 documentation, including a move from 'partnerships' to 'professional experience', an added emphasis on the formal written nature of partnership agreements, and a more rigorous approach to the assessment of pre-service teacher performance against the Graduate Teacher Standards (AITSL, 2019).

Despite the potential constraints that accreditation requirements could pose in addressing the issues identified in these reports, academics have agency in determining the design, development, and delivery of programs. Drawing on Archer's (2003) concept of social realism, those designing professional experience programs can strategically discover ways around the issue and define a second-best outcome by being 'deliberate about how to get the most out of propitious circumstances' or by adopting 'a more ambitious goal' (p. 6). Thus, according to Archer's (2003) argument, there are slippages or spaces to manoeuvre and create innovations, if done strategically and deliberately, even within regulatory mandates. Thus, we adopted the Third Space theory drawing from the work of Moje et al. (2004) to set a new, more ambitious goal for professional experience, bridge or navigate across these two spaces of learning of university and school, and create a newly transformed space (Taylor et al., 2014; Zeichner, 2010). This new model became known as the Coaching Approach to Professional Experience (CAPE) model.

## 4.3 The Innovation: The Coaching Approach to Professional Experience Model

When AITSL was developing the standards and procedures for national accreditation of ITE programs, the School of Education at RMIT University was concluding its state accreditation cycle and was beginning to think about re-developing its suite of programs. At this time, the professional experience was structured in traditional block placements, and there were a few formal partnership arrangements with schools. There were no formal program level links between coursework and placement, little interest in placement by teacher education staff, and a highly casualised workforce. To meet the national standards and procedures, we had to rethink the design and delivery of professional experience programs in the Bachelor of Education Program.

### 4.3.1 The Context

The Bachelor of Education program is one of the initial teacher education programs delivered within the School of Education and covers several streams (Primary, Disability Studies, and Early Childhood Education). The program has around 800 pre-service teachers across the four-year degree. A systematic focus on professional experience was developed for each year level, and this informed the other

courses studied synchronously. The CAPE model was delivered in the second year of the Bachelor of Education and embedded in the course *Professional Experience: Connected Classrooms,* which focused on lesson sequencing and ICT in practice. The CAPE model was designed to foster partnerships between schools, universities, and government and develop pre-service teacher skills and knowledge through goal-based coaching cycles. The course was delivered to 200–250 pre-service teachers for each of the five years of the program accreditation cycle, beginning in 2014.

The teaching and learning aspect of this course began at the university, where over several weeks, pre-service teachers audited their current knowledge and skills against the Australian Professional Standards for Teachers (APST). Based on these audits, they developed individual goals, which shaped their practicum experience. During their 20-day placement, pre-service teachers were placed in one of 15 partnership schools in small groups (6–18 pre-service teachers). School-based coaches were primarily practising teachers in these partnership schools. They were released from their regular teaching duties to facilitate the on-site workshops and support pre-service teachers' goal development. Teacher mentors, who hosted pre-service teachers in their classrooms, were also encouraged to set a mentoring goal. The school-based coach, in turn, supported teacher mentors by providing skills and strategies to address this mentoring goal.

For RMIT University, this was a significant departure from the previous models of professional experience, which was primarily based on factors such as the geographic location of pre-service teachers, administrative convenience, and availability of teacher mentors. This new model, to align with accreditation requirements and our Third Space theory principles, had differences, as seen in Table 4.1.

## 4.4   Third Space Theory

Third Space theory is used to explore and understand the spaces 'in between' two or more discourses, conceptualisations, or binaries (Bhabha, 1994). Soja (1996) explains this through a triad where Firstspace refers to material spaces, whereas Secondspace encompasses mental spaces (Danaher et al., 2003). Thirdspace then becomes a space where 'everything comes together' (Soja, 1996, p. 56) by bringing together Firstspace and Secondspace, but also by extending beyond these spaces to intermesh the binaries that characterise the spaces. Third Space theory is used as a methodology in a variety of disciplines and for different purposes. Within educational contexts, Moje et al. (2004) used the Third Space theory to examine the in-between everyday literacies (home, community, and peer group) with the literacies used within a schooling context. Their influential paper summarised the three main ways that theorists have conceptualised Third Space: as a bridge; navigational space; and a transformative space of cultural, social, and epistemological change.

Third Space theory provides a framework to challenge binaries that have typically populated teacher education, including university/school, theory/practice, and teacher educator/school-based practitioner (see, for example, Gaffey & Dobbins,

**Table 4.1**  Differences between traditional professional experience model and cape model

| Previous approach to professional experience | CAPE model |
|---|---|
| • Compartmentalised (theory done at university; practice done in schools) | • A collaborative approach to the development of core-curriculum content<br>• The curriculum is taught 'on-site' with authentic observations and just-in-time reflection support |
| • A tendency for 'one size fits all' design, irrespective of school context | • Learning experiences customised to suit the specific needs/particularities of the school and the pre-service teacher by the school-based coach |
| • Teacher mentor allocation is ad hoc<br>• Teacher mentors have little knowledge of the curriculum/learning set by the university | • Teacher mentors participate in professional learning conversations with the school-based coach and set their mentoring goals<br>• Provides open access to core-curriculum, mentors can connect with the learning intentions in the curriculum<br>• Strategic matching of pre-service teacher goals with teacher mentor skills and knowledge |
| • Current partnerships are an administrative arrangement<br>• University site 'directs' school role | • Collaborative exchange is intrinsic to curriculum design<br>• Shared responsibility is inherent |

1996; Guyton & McIntyre, 1990; Zeichner, 2010). Further, this theory encourages the integration of these binaries in new ways so that 'an either/or perspective is transformed into a both/also point of view' (Zeichner, 2010, p. 92). Zeichner (2010) suggests that creating a hybrid or Third Space has the potential to bridge the boundaries between these two spaces. He explores various examples, such as bringing teachers into university courses; bringing representations of teacher practice into coursework, including mediated instruction where part of a university course is taught on-site in schools; or having hybrid educators where a course is taught both at the university and on-site; and/or incorporating knowledge from communities. In such spaces, responsibility for teacher education could be shared, as boundaries between practising and university faculty are questioned. Alternative ways of working and learning would give rise to new models, approaches, roles, and positions which would merge and/or reimagine what is considered academic and practitioner knowledge.

Zeichner's argument (2010, p. 89) is that the concept of hybridity enables greater connection:

> This work in creating hybrid spaces in teacher education where academic and practitioner knowledge and knowledge that exists in communities come together in new less hierarchical ways in the service of teaching learning represents a paradigm shift in the epistemology of teacher education programs.

Similarly, Klein et al. (2013) argue that teacher education guided by the Third Space theory attempts to 'address the major criticisms of teacher education, from the theory practice divide, to the unequal status of practitioner and academic knowledge as well

as the teacher and learner knowledge, and the nature of school–university partnerships' (p. 51). Given the potential of the Third Space theory, it influenced how we reconceptualised the accreditation requirements in three key areas: partnerships between schools and universities; the role of practising teachers within the teaching, learning, and professional experience processes; and providing a space for student agency in a highly regulated ITE curriculum.

## 4.5   Beyond Cream: Principles for National Accreditation: 6—Partnerships

As outlined in Principle 6 of the national standards and procedures, 'accreditation is built around partnerships involving shared responsibilities and obligations among initial teacher education providers, education settings, teachers, employers, and Authorities' (AITSL, 2016, p. 5). Partnerships between providers and schools and industry have long been advocated as necessary to improve the quality of ITE programs (Green et al., 2019) and 'to resolve the issue of the perceived theory/practice divide that has long plagued teacher education' (White et al., 2018, p. 17). For over twenty years, Darling-Hammond (2010) in the United States has argued that one of the critical features of effective teacher education programs is strong school–university partnerships. She advocates an overhaul of university–school relationships, saying that teacher educators must create partnerships with schools, confront and dismantle regularities that prevent investments in strong academic and clinical training, and behave as members of a profession (Darling-Hammond, 2010).

Similarly, the *Top of the Class* report (2007) argued that many of the issues relating to professional experience stemmed from a lack of shared responsibility between providers, schools, and systems. It advocated for the encouragement and support of partnerships by the government as a means of achieving high-quality ITE programs, specifically via the establishment of a National Teacher Education Partnership Fund to oversee joint submissions to improve program quality. As it added:

> Over time, a partnership approach to teacher education, perhaps based initially around practicum but ultimately encompassing all aspects and all stages of teacher education, will transform the way in which teachers are prepared and supported in this country. (p. 80)

Some researchers have argued that the Australian policy landscape around school–university partnerships has shifted in recent times. White et al. (2018) commented that 'most recently the Australian Government has moved from incentivising partnerships to now mandating them through the initial teacher education accreditation process' (White et al., 2018, p. 18). The evaluation of school–university partnerships conducted by AITSL as part of its review of the roll-out of TEMAG reforms commented that:

> While the benefits of strong school–university partnerships underpinning high-quality teacher education have been evident for over a decade through a range of innovative initiatives by ITE providers and education jurisdictions, TEMAG reforms have lifted partnerships to a pivotal role in all ITE. (AITSL, 2018, *p. 4*)

The TEMAG (2014) report argued strongly in support of school–university partnerships. Throughout the report, advantages to school–university partnerships are documented: greater connection, supporting employment preparation, improving research, and strengthening the currency of teaching and learning within ITE. It also outlines the impact of partnerships for professional experience, such as the potential to develop teacher mentor skills and the increased role that schools will play in selecting and supporting pre-service teachers and improving the availability and quality of placements.

Developing school–university partnerships is the cornerstone of the CAPE model. The partnership approach was, in part, prompted by the accreditation requirement that ITE providers show evidence of formal partnerships. However, in the CAPE model design, we focused upon the notion of 'shared responsibility' promoted in accreditation documents (AITSL, 2016, p. 5). While not explicitly defined, shared responsibility was framed around formal partnerships, agreed in writing to facilitate ITE programs and elements such as professional experience. In AITSL's *TEMAG Evaluation: School–University Partnerships* report, the following criteria were used to determine quality partnerships: (1) having a shared vision; (2) a partnership agreement; (3) an integrated professional experience model (which outlines the structure, timing, mentoring, staffing, and cost); (4) supports for pre-service teacher and mentor teacher; (5) communication and sustainable relationships; and (6) use of data to assess improvement in ITE outcomes (AITSL, 2018).

The CAPE model certainly met these criteria. For example, over a series of think tank days, the vision, courseware, and assessment were developed between university teacher educators, teachers, school leaders, and industry (curriculum authorities and the Department of Education). The roles and responsibilities of those involved, particulars of the partnership (cost and staffing), and memorandum of understanding were documented on a shared website. Relationships were built and sustained by developing professional learning opportunities within the partnership. School-Based Coaches came together to share practices and celebrate key learning. School-Based Coaches developed a mentoring package to support teacher mentors in schools. A considered, systematic system of staff meetings, principal breakfasts, and school visits was also organised to share the model. The university–school–industry relationship went beyond just the four weeks of professional experience. Indeed, many School-Based Coaches became teaching staff at the university and went on to further study. Teacher educators were invited to serve on school boards, attend principal meetings, and deliver professional development and became research partners with schools.

Thus, while this model met many of the criteria of shared responsibility for school–university partnership outlined by AITSL, more important for us was the framing of these partnerships in less hierarchical ways and developing conditions of trust and reciprocity through a Third Space theoretical lens (Kruger et al., 2009). As discussed

in the literature review, universities/ITE academics have been seen as the qualified experts to teach the theory, and schools are seen as being responsible for the development and teaching of the practice (Darling-Hammond, 2006). In the CAPE model, the aim was to better connect theory and practice and question the binaries in line with Third Space theory. Where possible, power within the partnership was shared, and what counts as expert knowledge would be challenged, and expertise distributed among its diverse participants, including pre-service teachers. We strategically and deliberately used components of the accreditation requirements to reenvisage agency and support for pre-service teachers while on placement.

## 4.6   Beyond Off-White: Program Standard 5.5

The *Top of the Class* report (2007) put forward various suggestions to improve the theory/practice divide, including academics needing to be 'more in touch with developments in schools and the classroom' (p. 77). Possible ways to achieve this included employing practising teachers as researchers and teachers, developing joint appointments, involving teachers in 'the design of the curriculum around practicum' (p. 78), as well as the provision of professional learning for staff and ongoing support for teacher mentors. This notion of practising teachers being more involved in the professional experience is evident in the current accreditation document, Program Standard 5.5, which outlines that ITE providers:

> … support the delivery of professional experience in partner schools/sites, including by identification and provision of professional learning opportunities for supervising teachers and communication from, and access to, designated initial teacher education provider staff who, preferably, have current or recent experience in teaching. (AITSL, 2016*, p. 42)*

Aligned with the principle of distributed power, School-Based Coaches were central to the CAPE model. The coach was a newly developed role to connect university and school-based learning and was designed to be undertaken by a practising teacher at the partner school. The literature on professional experience in ITE has extensively reported on the traditional roles of those in the triad of the pre-service teacher, teacher mentor, and university liaison/mentor (see, for example, Gaffey & Dobbins, 1996; Guyton & McIntyre, 1990; Zeichner, 2010). More recently, new roles that enable 'boundary crossing' between the school and university, sometimes referred to as boundary spanners (Burns & Baker, 2016; Weerts & Sandmann, 2010), boundary crossers (Akkerman & Bakker, 2011), or hybrid teacher educators (Elsden-Clifton & Jordan, 2019; Martin et al., 2011) have been proposed. The School-Based Coach in the CAPE model would be considered a hybrid role within this field of literature.

The professional experience course associated with the CAPE model was designed to be taught on-site both at the university campus and in schools, with the coach's role becoming critical as the boundary crosser between these sites of learning. The coach for each partnership school was chosen by the school leadership and based on a strong

mentoring or coaching skillset. This practising teacher was released from their regular teaching duties to perform this role for the placement duration (4 weeks). Schools were reimbursed via the university and industry funding to enable this release. The following formula was used to determine the rate of release: for every three pre-service teachers, the School-Based Coach was released from teaching for one day a week of the placement to coach the pre-service teacher and support the teacher mentor. For example, if the school had one coach and 15 pre-service teachers, the coach was released every day of the four weeks. If the school had six pre-service teachers and one coach, the coach was released for two days per week for the four weeks of placement. This flexibility with funding meant that a variety of sized schools could be involved in the partnership.

The role of the School-Based Coach was threefold. First, the coach supported and built the teaching capacity of pre-service teachers. The coach's role involved observing them teach, providing them with feedback, and modelling and facilitating professional learning conversations with them and teacher mentors. Second, they were vital in teaching the course *Professional Experience: Connected Classrooms.* On-site, they conducted workshops that developed pre-service teachers' practical knowledge and skills, supported the refinement of their goals based on their learners and school context, and assessed their performance. School-Based Coaches could localise the course's jointly constructed content to suit the specific school context and pre-service teacher needs.

Third, the School-Based Coach supported and worked directly with teacher mentors. When developing the CAPE model in line with Third Space theory, the aim was to disrupt binaries that often position the university as the expert (Elsden-Clifton & Jordan, 2016). Therefore, we did not want to design a professional learning program that was 'done to' teachers, nor did we want a program based on global or non-specific generic skills about mentoring during professional experience. Instead, in the CAPE model, teacher mentors were encouraged to set a goal around mentoring (for example, giving feedback, having difficult conversations, and team teaching). The School-Based Coach provided targeted professional learning based on the goals they had set. This professional learning could take multiple forms, including three-way supervision meetings, modelling and practising the skill, and feedback on their performance as teacher mentors. Rather than a one-off professional learning program each year, teacher mentors could individualise their goals and be responsive to the needs that arose with different pre-service teachers specific to that mentoring experience. Many teacher mentors hosted a pre-service teacher each year of the CAPE model, which meant the professional development they receive could develop and change each iteration they were involved.

Access to funding mechanisms was critical to this model. To be successful, it cost approximately $85,000/year to release School-Based Coaches and develop professional learning in addition to the payment for the supervision of the pre-service teachers. Therefore, additional financial support was provided by the State of Victoria, Department of Education and Early Childhood Development, through the Teaching Academy of Professional Practice (TAPP) funding. The TAPP initiative aimed to 'establish leading practice in providing quality pre-service teacher

education, continuing professional learning and research opportunity' (Department of Education and Early Childhood Development, 2013, p. 1). As this funding targeted the professional learning needs of teacher mentors and pre-service teachers' readiness for the classroom, we received $250,000 to support the CAPE model's implementation and evaluation from 2015 to 2018. The explicit and robust link to accreditation in the funding proposal certainly increased the financial and leadership support for the CAPE model.

## 4.7   Beyond Beige: Australian Professional Standards for Teachers—Standard 6

In attempting to achieve shared responsibility and distributed expertise in professional experience, it was important to also extend to pre-service teachers. Pre-service teachers in professional experience are often bound by binaries that place them in limiting positions such as teacher/student, active/passive, expert/notice, and student/learner. They neither 'belong' to the school, nor are they 'at' university. Thus, they are in between these two spaces. Given their positioning in the binaries and spaces, pre-service teachers often have very little agency. The university often determines what key concepts and knowledge they learn, and there is limited scope for individualisation of this curriculum. However, the CAPE model was based on goals and supporting pre-service teachers to achieve their goals through a coaching framework.

Setting goals linked to the Australian Professional Standards for Teachers is part of the performance and development culture at the schools, and it guided professional learning as outlined by AITSL (2011, p. 3):

> Teacher standards also inform the development of professional learning goals, provide a framework by which teachers can judge the success of their learning and assist self-reflection and self-assessment. Teachers can use the Standards to recognise their current and developing capabilities, professional aspirations and achievements.

The self-reflection and self-assessment cycle is reflected in *Professional Standard 6—Engage in Professional Learning,* in which pre-service teachers identify 'their own learning needs and analyse, evaluate and expand their professional learning both collegially and individually' (AITSL, 2011, p. 5). Specifically, this relates to focus area *6.1: Identify and Plan Professional Learning Needs,* which requires pre-service teachers to demonstrate they can identify professional learning needs. This is also evident in focus area *6.3: Engage with Colleagues and Improve Practice,* which asks that pre-service teachers demonstrate how they 'seek and apply constructive feedback from supervisors and teachers to improve teaching practices' (AITSL, 2011, p. 20).

As accreditation requires evidence of where these standards are taught and assessed, setting and meeting goals became the basis of the CAPE model and a feature of the course. Goal-based learning (Conzemius & O'Neill, 2006) has a long history in education and focuses on valuing learners' individual needs. In the course

*Professional Experience: Connected Classrooms*, pre-service teachers audited their past performance on practicum and their current knowledge and expected performance levels based on the Australian Professional Standards for Teachers. Pre-service teachers then developed four STEP goals (one goal related to **s**tudent, **t**eacher, **e**learning, and **p**lanning). Accompanying their goals, pre-service teachers submitted 500–650 words which outlined a justification for their goals and the strategies required to enact their goals.

On professional experience, the pre-service teachers enacted their goals in practice. During this time, they were supported by a school-based coach who coached them on reviewing and modifying their goals based on the specific school and classroom context. Further, in these four weeks, the coach led pre-service teachers through a weekly observation and feedback cycle and guided individual and group coaching sessions where goals were refined or revisited. The goal-setting process also allowed some strategic matching of teacher mentors with pre-service teachers based on who could best support pre-service teachers by the school leadership and school-based coach.

Often the curriculum within higher education is set by the university, is strongly influenced by accrediting bodies, and reinforces the teacher/student binary. However, this course was framed by the pre-service teachers' goals, based upon their current knowledge, skills against national standards, and identified professional learning needs. The pre-service teacher's goals shaped their assessment, learning, and which teacher mentor they were placed with. Pre-service teachers had a higher degree of agency in terms of playing an active role in directing their learning on professional experience and making a difference in their learning and development (Manyukhina & Wyse, 2019). This learning and teaching approach encouraged them to engage with curriculum and learning that had personal relevance that linked meaningfully to their previous experiences, interests, and their own values and beliefs about teaching, education, and young people (Manyukhina & Wyse, 2019).

## 4.8  Implications

> It is our deliberations that determine what we will make of the constraints and enablements we confront, what opportunity costs we are prepared to pay, and whether we consider it worthwhile joining others in the organized pursuit of change or the collective defence of the status quo. (Archer, 2003*, p. 52)*

Accreditation within the Australian context has undoubtedly changed ITE in terms of structure, emphasis, and assessment. It has forced a rethink of our programs' content, scope, and sequence across our ITE programs. Having been key members of the accreditation process, we are aware that at times interesting teaching and learning experiences disappeared in the name of accreditation when it 'didn't meet an APST'. Still, the regulatory process also gave rise to innovations and new approaches within the constraints and enablements of accreditation. This chapter outlined how we acted

strategically to find opportunities within the costs we were prepared to pay, to join the organised pursuit of accreditation (Archer, 2003). Accreditation encouraged us to think about achieving its core ideas and finding possibilities for a more ambitious goal. However, accreditation alone was not enough to achieve these outcomes; it also required a theoretical underpinning. Third Space theory provided this theoretical premise as it can reconceptualise the connection between universities and schools by disrupting binaries and encouraging the continual negotiation and reinterpretation of identities (Bhabha, 1994). Through reconceptualising the spaces of, and between, schools and universities, Third Space theory encouraged us to think in new ways about partnerships, shared knowledge, and ways of working, teaching, and learning.

As this chapter has outlined, the CAPE model blurred and questioned binaries and hierarchies that have traditionally shaped universities and schools generally and professional experience specifically. For example, the CAPE model fostered co-design and co-delivery of courses to better connect theory and practice. This model created hybrid roles such as the School-Based Coach, which challenged traditional positions and distributed expertise. It also provided spaces for pre-service teacher agency in their learning and development.

This chapter began by mapping the field of professional experience within the accreditation landscape. It then discussed how accreditation provided the impetus for innovation in three key areas: school–university partnerships based on shared responsibility for the preparation of pre-service teachers; greater involvement of practising teachers in the design and teaching of ITE; and an approach to professional experience that allowed pre-service teachers to develop their own goals-based approach to the practicum.

Accreditation in ITE can be more than just compliance, a meeting of standards, and accountability. In this instance, when the accreditation process was underpinned by the Third Space theory, it led to a much more ambitious goal, new opportunities, and possibilities. It provided the basis to challenge long-held views of professional experience and led to the discussion and enactment of alternative practicum models. The need to meet accreditation requirements also resulted in some fundamental changes in this field, including robust discussion around what counts as professional experience, who should teach it, and the aims of partnerships. The influence of accreditation raised the profile and authority of professional experience, which resulted in philosophical and fiscal support from leadership and industry. Indeed, the process allowed us to leverage off accreditation to seek funding for initiatives and innovations that may not have been forthcoming without these regulatory mandates. It also legitimised many of the aspirations of professional experience teacher educators, including advocating for the pivotal role of partnership and professional experience in the overall program design, linking theory and practice, and evaluating impact. For our university, the result of accreditation was the development of different and new models and approaches to placement to meet the requirements of the regulation, not the initially feared uniform, beige, or standardised approach to professional experience.

# References

Akkerman, S. F., & Bakker, A. (2011). Boundary crossing and boundary objects. *Review of Educational Research, 81*(2), 132–169.

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

Australian Institute of Teaching and School Leadership (AITSL). (2011). *Guidelines for the accreditation of initial teacher education programs in Australia.* AITSL.

Australian Institute of Teaching and School Leadership (AITSL). (2016). *Guidelines for the accreditation of initial teacher education programs in Australia.* AITSL.

Australian Institute of Teaching and School Leadership (AITSL). (2018). *TEMAG evaluation: School–university partnerships.* Prepared for the Australian Institute for Teaching and School Leadership by PTR Consulting Pty Ltd. AITSL.

Australian Institute of Teaching and School Leadership (AITSL). (2019). *Accreditation of initial teacher education programs in Australia.* AITSL.

Bahr, N., & Mellor, S. (2016). *Building quality in teaching and teacher education.* Australian Education Review No. 61. Australian Council for Educational Research.

Bhabha, H. (1994). *The location of culture.* 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. 27–47). Springer.

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.

Burns, R. W., & Baker, W. (2016). The boundary spanner in professional development schools: In search of common nomenclature. *School-University Partnerships, 9*(2), 28–39.

Collins, I. (2015). Using international accreditation in higher education to effect changes in organisational culture: A case study from a Turkish university. *Journal of Research in International Education, 14*(2), 141–154.

Conzemius, A., & O'Neill, J. (2006). *The power of SMART goals: Goals to improve student learning.* Solution Tree Press.

Danaher, P. A., Danaher, G. R., & Moriarty, B. J. (2003). Space invaders and pedagogical innovators: Regional educational understandings from Australian occupational travellers. *Journal of Research in Rural Education, 18*(3), 164–169.

Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education, 57*(3), 300–314.

Darling-Hammond, L. (2010). Constructing 21st century teacher education. In H. Valerie & C. W. Lewis (Eds.), *Transforming teacher education: What went wrong with teacher training, and how we can fix it* (pp. 223–248). Stylus Publishing.

Department of Education and Early Childhood Development (DEECD). (2013). *From new directions to action: World class teaching and school leadership.* http://ncee.org/wp-content/uploads/2016/12/Vic-non-AV-6-DEECD-2013-From-New-Directions-to-Action.pdf

Elsden-Clifton, J., & Jordan, K. (2016). Reframing professional experience: Adopting a distributed open collaborative course framework to facilitate third spaces. In A. Bertram & T. Barkatsas (Eds.), *Global learning in the 21st century* (pp. 57–70). Sense.

Elsden-Clifton, J., & Jordan, K. (2019). Who is the hybrid teacher educator? Understanding professional identity in school–university partnership. In A. Gutierrez, J. Fox, & C. Alexander (Eds.), *Professionalism and teacher education: Voices from policy and practice* (pp. 71–91). Springer.

Fertig, M. (2007). International school accreditation: Between a rock and a hard place? *Journal of Research in International Education, 6*(3), 333–348.

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

Forgasz, R., Heck, D., Williams, J., Ambrosetti, A., & Willis, L.-D. (2018). Theorising the third space of professional experience partnerships. In J. Kriewaldt, A. Ambrosetti, D. Rorrison & R.

Capeness (Eds.), *Educating future teachers: Innovative perspectives in professional experience* (pp. 33–47). Springer. https://doi.org/10.1007/978-981-10-5484-6_3

Gaffey, C., & Dobbins, R. (1996). Tertiary teacher educators: Do they make a difference in practicum. *PEPE Monograph, 1*, 105–122.

Green, C., Tindall-Ford, S., & Eady, M. (2019). School–university partnerships in Australia: A systematic literature review. *Asia-Pacific Journal of Teacher Education, 48*(4), 403–435. https://doi.org/10.1080/1359866X.2019.1651822

Guyton, E., & McIntyre, D. J. (1990). Student teaching and school experiences. In W. R. Houston (Ed.), *Handbook of research on teacher education* (pp. 514–534). Macmillan.

House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class: Report of the inquiry into teacher education.* http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=evt/teachereduc/report/fullreport.pdf

Klein, E. J., Taylor, M., Onore, C., Strom, K., & Abrams, L. (2013). Finding a third space in teacher education: Creating an urban teacher residency. *Teaching Education, 24*(1), 27–57.

Kruger, T., Davies, A., Eckersley, B., Newell, F., & Cherednichenko, B. (2009). Effective and sustainable university-school partnerships: Beyond determined efforts by inspired individuals. *Teaching Australia.* https://www.voced.edu.au/content/ngv%3A19413

Manyukhina, Y., & Wyse, D. (2019). Learner agency and the curriculum: A critical realist perspective. *The Curriculum Journal, 30*(3), 223–243. https://doi.org/10.1080/09585176.2019.1599973

Martin, S. D., Snow, J. L., & Franklin Torrez, C. A. (2011). Navigating the terrain of third space: Tensions with/in relationships in school–university partnerships. *Journal of Teacher Education, 62*(3), 299–311.

Moje, E. B., Ciechanowski, K. M., Kramer, K., Ellis, L., Carrillo, R., & Collazo, T. (2004). Working toward third space in content area literacy: An examination of everyday funds of knowledge and discourse. *Reading Research Quarterly, 39*(1), 38–70.

Soja, E. W. (1996). *Thirdspace: Journeys to Los Angeles and other real and imagined places.* Blackwell.

Taylor, M., Klein, E. J., & Abrams, L. (2014). Tensions of reimagining our roles as teacher educators in a third space: Revisiting a co/autoethnography through a faculty lens. *Studying Teacher Education, 10*(1), 3–19.

Teacher Education Ministerial Advisory Group (TEMAG). (2014). *Action now: Classroom ready teachers.* https://docs.education.gov.au/system/files/doc/other/action_now_classroom_ready_teachers_accessible.pdf

Weerts, D. J., & Sandmann, L. R. (2010). Community engagement and boundary-spanning roles at research universities. *The Journal of Higher Education, 81*(6), 702–727.

White, S., Tindall-Ford, S., Heck, D., & Ledger, S. (2018). Exploring the Australian teacher education 'partnership' policy landscape: Four case studies. In J. Kriewaldt, A. Ambrosetti, D. Rorrison, & R. Capeness (Eds.), *Educating future teachers: Innovative perspectives in professional experience* (pp. 13–31). Springer.

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.

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**Part III**
**Creating New Relationships and Powerful Teacher Education Partnerships: The Potential of 'Alliances'**

# Chapter 5
# Building Transdisciplinary Professional Practice Capabilities in Early Childhood Teacher Education

**Megan Gibson, Lyn Gunn, Alison Evans, Carolyn Keogh, and Danielle Gallegos**

**Abstract** Early childhood teacher education (ECTE) in Australia, like teacher education, is challenged by multiple layers of scrutiny, ongoing reviews, and resultant complexity in accreditation, regulation, and policy requirements. Whilst complexity abounds in ECTE, 'activism' creates opportunities and models of practice that transcend the constraints of policy to see teacher education programs where agentive and pro-active approaches create new possibilities for the teacher workforce to work in innovative ways. Transdisciplinarity provides models of practice that holds promise for realising new opportunities for pre-service teachers to be prepared to work in new ways of 'being a professional'. In this chapter, we turn to two studies that examined the research question: How can we build capacities for effective transdisciplinary professional practice between early childhood pre-service teachers and university dietetics students in the early years? This qualitative research focused on collaborative partnerships between a peak Early Childhood Education and Care (ECEC) organisation and the Faculties of Education and Health within one urban Australian university, to develop a model of transdisciplinary professional experience placement incorporating a co-located education/health approach. The research explored the possibilities this approach offered for developing knowledge and insights in ECTE. In doing so, this research proposes ways to better understand how teacher educators, students, and professionals from the fields of education and health can make sense of competing accreditation, regulation, and policy agendas to build professional practice capabilities in ECTE.

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## 5.1 Introduction

Early childhood teacher education (ECTE) in Australia, like teacher education, is challenged by multiple layers of scrutiny, ongoing reviews, and resultant complexity in accreditation, regulation, and policy requirements. Whilst complexity abounds in ECTE, 'activism' (Sachs, 2001) opens opportunities and models of practice that transcend the constraints of policy to see teacher education programs with agentive and pro-active approaches to create new possibilities for teacher workforce capabilities to work in innovative ways. Transdisciplinarity provides models of practice that holds promise for realising new opportunities for pre-service teachers to be prepared to work in new ways of 'being a professional' (Gibson et al., 2017, p. 203) and work across discipline areas.

This chapter examines possibilities to reconstruct the work of teacher educators through a transdisciplinary, education–health research project that illuminated the potential of professional alliances to prepare early childhood pre-service teachers for working with children and their families. Teacher educators are well positioned to optimally prepare pre-service teachers to work in ways that support children's complex needs. Such complexity calls for what Fenech et al. (2010) insist on to 'emancipate early childhood teachers from technical, de-professionalising constraints' (p. 91). This emancipatory approach engages with discourses of advocacy, activism, and agency and enables a re-imagining of, in the case of our chapter, possibilities and opportunities for ECTE.

As an authorship team, we have collaborated for close to a decade across discipline areas of Education and Health, with roles in teacher education, university teaching in health (nutrition), and practicing early childhood professionals to develop models of preparing undergraduate teachers and health professionals to work across disciplines. We bring this combination of teaching and practicing to consideration of two key imperatives that underpin our program of collaborative transdisciplinary research: (i) the role and potential of teacher education in preparing the early childhood teaching workforce to attend to, in the case of our research, and (ii) the increasingly complex health trajectories for young children. Together these issues coalescence to highlight the importance of early childhood teacher education graduates who are suitably prepared to work with children sustainably and optimally.

The role of teacher education is critical in preparing early childhood teachers and transforming the preparation of teachers from discourses of compliance/regulation/production to discourses that are innovative/creative/transformative, where graduates are able to engage with the complex nature of teaching and, in the case of our research, children's complex health needs. Discourses shape the work of teachers and teaching, setting 'the limits of what can be said, thought and done with respect to debates and initiatives designed to enhance the political

project of teacher professionalism' (Sachs, 2001, p. 151). The program of research profiled in this chapter involves an approach for developing transdisciplinary capabilities by re-imagining work-integrated learning as inter-professional experience in teacher education courses. Contemporary professionals, particularly early childhood teachers, are increasingly required to enter their fields with competencies that extend far beyond teaching in the classroom. Opportunities to work inter-professionally can not only enhance a student's competency development but can also disrupt the discipline silos and create new opportunities for transdisciplinary practice in early childhood teaching.

Working in transdisciplinary ways with 'creating a unity of intellectual frameworks beyond the disciplinary perspectives' (Stember, 1991, p. 4) holds promise for realising new opportunities in ECEC settings (Augsburg, 2014; Cumming & Wong, 2015) and for ECTE (Ryan & Gibson, 2016). The chapter reports on Phase 1 of a broader program of work examining how to build effective transdisciplinary practice and curriculum collaboration between early childhood teachers and health professionals in ECEC settings. Turning to two studies, the chapter addresses the research question: *How can we build capacities for effective transdisciplinary professional practice between early childhood pre-service teachers and university dietetics students in the early years?* This qualitative research focused on collaborative partnerships between a peak ECEC organisation and the Faculties of Education and Health within one urban Australian university to develop a model of inter-professional experience placement incorporating a co-located education/health approach. The research explored the possibilities that inter-professional experience placements offered for developing transdisciplinary capacities in early childhood teacher education. In doing so, this research, and this chapter, identifies a way to better understand how teacher educators, students, and professionals from the fields of education and health explore and make visible students' agency through transdisciplinary practice—specifically co-located professional experience placements.

The chapter provides an overview of existing literature, framed around children's health, teacher education, and transdisciplinarity (Augsburg, 2014; Cumming & Wong, 2015). Next, the research context provides insight into the two preliminary studies. Following this, the findings of these studies are presented together with a discussion threaded through this section. The chapter concludes with implications for policy and practice and further research recommendations.

## 5.2 Background

In order to investigate how to build capacities for effective transdisciplinary professional practice between early childhood teachers and health professionals in the early years, we turned to two bodies of literature: (i) teacher education with attention to early childhood teacher education (ECTE) and (ii) interdisciplinary to transdisciplinary work. Our contribution to this book on the work of teacher educators speaks

back to policy through an agentic approach of empowering early childhood pre-service teachers. We outline the potential and transformation through partnerships, that see unique and authentic alliances, by re-imagining work-integrated learning.

### 5.2.1 Teacher Education

Teacher education scholars argue that teachers continually construct and reconstruct new knowledge, skills, and understandings about teaching throughout their careers, rather than entering the profession with a finite set of skills (Darling-Hammond, 2014). Hence, a core goal of teacher education is to 'provide teachers with the core ideas and broad understanding of teaching and learning that give them traction on their later development' (Bransford et al., 2005, p. 3). Teacher preparation is tasked with laying the foundation for developing teachers' professional knowledge, practice, and values. Accordingly, there are significant expectations of, and implications for, teacher education program design, implementation, and practice.

Ongoing international dialogues centre around the question of how best to design and deliver teacher preparation that produces high-quality teachers. For over a decade, an extensive study of teacher education programs was undertaken in the USA by Darling-Hammond and colleagues (Darling-Hammond, 2006). Despite program diversity and difference, seven pivotal components were found to be common to exemplary teacher education: (i) vision and coherence; (ii) interconnected core curriculum; (iii) pedagogies that address assumptions; (iv) integrated professional experiences; (v) reciprocal school–university relationships; (vi) well-defined teaching standards; and (vii) inquiry-oriented teacher research with portfolio-based assessment (Darling-Hammond, 2006). Here, we briefly explore three of the seven components that are identified in the Darling-Hammond study findings, selected for their relevance to our research into transdisciplinary practice in professional experience: interconnected core curriculum, integrated professional experiences, and university–school partnerships. Each of these points provides further context for sights for our investigations into building capacities for effective transdisciplinary professional practice between early childhood teachers and health professionals in the early years.

### 5.2.2 Interconnected Core Curriculum

Studies have indicated that effective teacher preparation programs are grounded in the context of a practice–theory nexus (Darling-Hammond, 2006, 2014). Developing deep understanding of the interdependence and interaction between theory and practice is not new to teacher education it was raised by Dewey (1904/1965). Issues around 'lack' of theory–practice nexus in teacher education are frequently raised as a key issue in teacher education reviews (Gilroy, 2014; Teacher Education Ministerial

Advisory Group [TEMAG], 2014). The finding of a 'lack' of theory–practice nexus in these reports is determined predominantly by self-reported pre-service teacher questionnaires (Mayer, 2014). This offers particular relevance for the research at the centre of this chapter that focuses on pre-service teachers working collaboratively in transdisciplinary ways that apply theory into practice in authentic, meaningful ways during their teacher preparation.

### 5.2.3  Integrated Professional Experiences

A number of studies have found that interwoven coursework that includes professional experience is critical for developing pre-service teacher competencies (see, for example, Darling-Hammond, 2014; Le Cornu, 2016). For example, Levine's (2006) study of exemplary programs in the USA found that pre-service teachers' understandings of teaching were significantly enhanced when there was a reciprocal interplay between professional experience and university-based learning. Billett's (2011) extensive study of work-integrated learning in six universities in Australia also found that practice-based learning was significantly enriched when students were supported to reconcile their understandings following the experience. Despite the diversity of discipline, Billet found that the core to enhanced student learning was explicit scaffolding of critical reflective activities immediately after the practicum.

Enduringly professional experience is vexed by technical and operational issues that span across political, theoretical, professional, and economic domains (Darling-Hammond, 2006, 2014). Professional experience or work-integrated learning (WIL) involves pre-service teachers engaging with educational workplaces (centre-based childcare, kindergarten, and school) as a formal part of their teacher education program. Pre-service teachers are typically expected to undertake supervised teaching duties during professional experience. Alongside traditional mono-disciplinary WIL models, new models of WIL are emerging where students from different disciplines undertake inter-professional professional placements for competency development, and these models informed the initiation of the co-located professional experienced explored in this chapter (Wilson et al., 2017).

### 5.2.4  University–'School' Partnerships

Studies have demonstrated that reciprocal, purposeful, and collegial relationships between the field and universities enable pre-service teachers to engage in professional 'learning communities' (Le Cornu, 2012, p. 159) that enhance pre-service

teacher practice, resilience, critical learning, and mentoring opportunities (Darling-Hammond, 2006; Le Cornu, 2015). Scholars highlight that whilst forging, maintaining, and sustaining university–school partnerships can significantly improve pre-service teacher learning, this might be easier in some contexts than others (Darling-Hammond & Lieberman, 2012). For the study that is central to this chapter—transdisciplinary professional experiences in early childhood settings—it is pertinent to think about how partnerships with early years settings may look, and for this reason, we now turn to an examination on early childhood teacher education (ECTE).

## 5.3 Early Childhood Teacher Education

The ECTE literature indicates that effective early childhood teacher preparation necessitates distinct teacher education design and delivery considerations (New, 2016; Whitebook et al., 2012; Whitebook & Ryan, 2011). A key issue in this regard is that there is no agreement on what 'effective' early childhood teacher preparation really means (Whitebook & Ryan, 2011). An emergent body of ECTE research is generating discussion about the critical design and delivery elements of ITE that need to be considered for effective contemporary early childhood teacher preparation. Significantly, scholars point out that a critical challenge in early childhood teacher preparation is that 'we have a lot of accrued wisdom but little empirically proven practice' (Ryan & Gibson, 2016, p. 205). It is an agreed imperative that early childhood-specific, teacher education research needs to be deepened and expanded, including a focus on working across disciplines to put in place conditions for children to thrive amidst increasing complex life situations (Nolan et al., 2012).

Whilst the role of the early childhood teacher, and concomitantly ECTE, is emerging as key to children's health and wellbeing, there has to date been limited attention afforded to how early childhood pre-service teachers may work with health professionals, including fellow university students, across disciplines to maximise children's outcomes.

### 5.3.1 Interdisciplinary to Transdisciplinary Ways of Working

Multidisciplinary and interdisciplinary works involve professionals working alongside each other and sharing information to make joint decisions. By contrast, transdisciplinarity goes beyond drawing together the concepts from the disciplines to create new knowledge that transcends the traditional boundaries of the disciplines (Park & Son, 2010; Wong et al., 2012). Working in transdisciplinary ways with 'creating a unity of intellectual frameworks beyond the disciplinary perspectives' (Stember,

1991, p. 4) opens opportunities for professionals to work with complexity. In transdisciplinary teams, a co-ordinated approach is noted to improve informing, particularly for children and families, where models of early intervention are paramount to bringing about optimal outcomes for young children.

For early childhood teachers and for pre-service early childhood teachers, transdisciplinary ways of working proactively attend to complexity in teaching and in children's lives. An example for the application of transdisciplinary ways of working comes from the increasing awareness and need for targeted strategies to support children's nutrition and physical activity. Indeed, the importance of early intervention in ECEC has long been recognised, with a heightened need to prioritise examination of the complementary and synergistic ways in which early childhood teachers and health professionals (and in particular nutrition professionals) can effectively work together (Darlow et al., 2016) to actively bring about positive outcomes for children.

Studies highlight that mono-disciplinary approaches create duplication of services within ECEC settings and potentially limit professional capacity building and marginalising ECEC practices (Nolan et al., 2012) so that shared learning and common goals (including health and wellbeing) are not realised (Cumming & Wong, 2012). Inter-professional practice is defined as a 'collaboration of scholars of at least two different academic disciplines aiming at common results' (Di Giulio & Defila, 2017, p. 631). Yet, when early childhood teachers are afforded opportunities to work alongside health professionals, there is a transcendence of professional knowledge and potential to put in place conditions for children's outcomes, in our example health, to be optimally supported through transdisciplinary practice.

As a research team of early childhood teacher educators, early childhood professionals, and health academics, we conceptualised a co-located transdisciplinary professional experience placement model to provide students from different disciplines (early childhood and dietetics) with the opportunity to work together on complex problems to contribute knowledge and skills, collaborate with other members, and collectively determine the best outcomes for children and their families.

Early childhood teachers, and concomitantly early childhood teacher education, are well positioned to make a difference in the life trajectories of young children (Early et al., 2007; Ishimine et al., 2009). This requires rethinking education and health silos to drive change of traditional approaches to maximise children's education and health outcomes. In the remainder of this chapter, we explore how as teacher educators we have worked with health academics to design research that sees transdisciplinary alliances with pre-service teachers and health (dietetics) students.

As a research team, we identified transdisciplinary practice as an opportunity to focus on professional experience as a pivotal component of ECTE, where we could find ways to aptly prepare pre-service early childhood teachers to work in ways to support children's learning and health outcomes. We now turn to the two studies that form the research basis for this chapter, first outlining the methodology before presenting the findings and discussion from these two preliminary studies.

## 5.4  Methodology

### 5.4.1  Conceptual Framework

In this chapter, we propose transdisciplinarity as a conceptual framework that offers 'ways of working that are based upon collaborative and cooperative approaches across and between professionals from different disciplinary backgrounds' (Cumming & Wong, 2015). This framework sees the exchange of professional knowledge and crossing of 'disciplinary boundaries' (McGonigel et al., 1994, p. 103). As a conceptual framework, transdisciplinarity sits comfortably with the broader frame of this book on reconstructing the work of teacher educators, and for this section of the book on creating new relationships and powerful teacher education partnerships. The focus of our research on transdisciplinary partnerships across early childhood education and dietetics speaks to the possibilities for professional alliances enabled through this approach.

Transdisciplinarity brings four overarching dimensions of understanding what is entailed in becoming and being a transdisciplinary professional: (i) an appreciation of an array of skills, characteristics, and personality traits aligned with a transdisciplinary attitude; (ii) acceptance of the idea that transdisciplinary professionals are intellectual risk-takers and institutional transgressors; (iii) insights into the nuances of transdisciplinary practice and attendant virtues; and (iv) a respect for the role of creative inquiry, cultural diversity, and cultural relativism (Augsburg, 2014). These dimensions underpin our research method and in turn our approach to the data.

### 5.4.2  Method

This qualitative research focused on collaborative partnerships between a peak ECEC organisation and the Faculties of Education and Health within one urban Australian university to develop a model of transdisciplinary co-located professional experience placements. The State-based Health authority was a critical friend in the project. The research explored the possibilities that inter-professional experience placements offered for developing transdisciplinary capacities in early childhood teacher education.

This research sits within a broader program of research *Transdisciplinary Professional Work: The Potential of Early Childhood and Health Collaborating in the Field* (see Evans et al., 2018), with Phase 1 incorporating two small-scale studies (Study A and Study B) reported on here. Each of the studies that examined the research question:

> How can we build capacities for effective transdisciplinary professional practice between early childhood pre-service teachers and university dietetics students in the early years?

Students and academic staff from Education (early childhood) and Health (dietetics) collaborated with staff, children, and families in early childhood centres (long daycare centres and kindergartens) to explore the integration of health concepts and practices. Consistent with a transdisciplinary approach, where traditional boundaries are transcended (Park & Son, 2010), a co-ordinated approach was put into place with a focus on social mealtimes. The focus on social mealtimes was identified and a framework was developed through a co-design model involving academics, partner organisations, and health authorities. Social mealtimes are fraught with jostling for what is to eat and the rules of engagement for how it is eaten. Harte et al., (2019, p. 1) contend 'mealtimes in ECEC settings are a unique cultural phenomenon co-constructed by the ECEC community of children and educators'. Under a less conceptualised model, students may have just been placed together somewhat organically with their professional collaborations left to chance. However, a model of shared practice provided important entry points for students to connect and authentically collaborate. The intent that wrapped around this framework was for students to be immersed in meaningful and authentic professional transdisciplinary experiences.

In developing a framework for transdisciplinary collaborations and professional Education–Health relationships, we turned to the text *Being an Early Childhood Educator* (McArdle et al., 2015) as a useful way to think through the roles within the project and make these visible for the early childhood and dietetics students and academics. Figure 5.1 illustrates a model that was drawn on to provide students with a sense of roles and responsibilities (pre-service teacher, adapted for dietetics
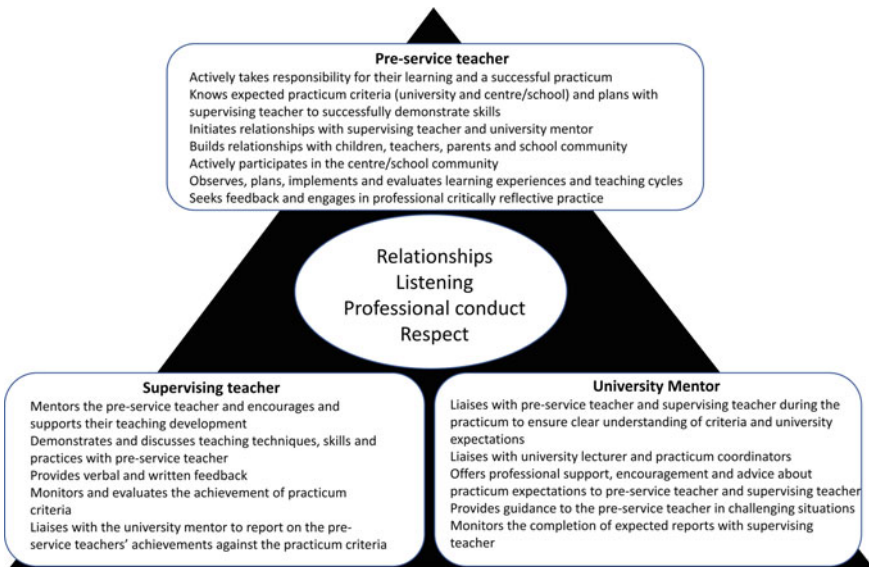


**Fig. 5.1** Roles and responsibilities (From: *Being an early childhood educator: Bringing theory and practice together*, by F. McArdle, M. Gibson, & L. Zollo, Edn. 1, © 2015 by Allen & Unwin, Fig. 2.2, p. 46, 'Triad for prac'. Reproduced with permission from Taylor & Francis Group.)

student; supervising teacher; university mentor/academic) as they participated in the co-located professional experience placement.

Each of the two studies, undertaken two years apart in the same semester, involved a project model with four key components. One student from early childhood and one student from dietetics were put into a pair based on logistics (e.g., geographic proximity to one another, and the placement site).

1. *Professional conversations.* At the commencement of the research, student and academic participants took part in professional conversations. The facilitated conversations involved an orientation to the project, with opportunities for students to connect with a partner (based on the geographic location of their placement). The discussion was focused on expectations for professional experience, including their respective unit assessment tasks and practicum requirements and outcomes. Importantly, and intentionally, a culture underpinned by values of trust and respect was articulated to students during this first component so as to commence the project with clear shared understandings and put in place effective communication strategies. The placement topic of social mealtimes was introduced as per Fig. 5.2. At this initial professional conversation, students commenced working in pairs to plan, implement, and evaluate a shared project about social mealtimes within their centre.
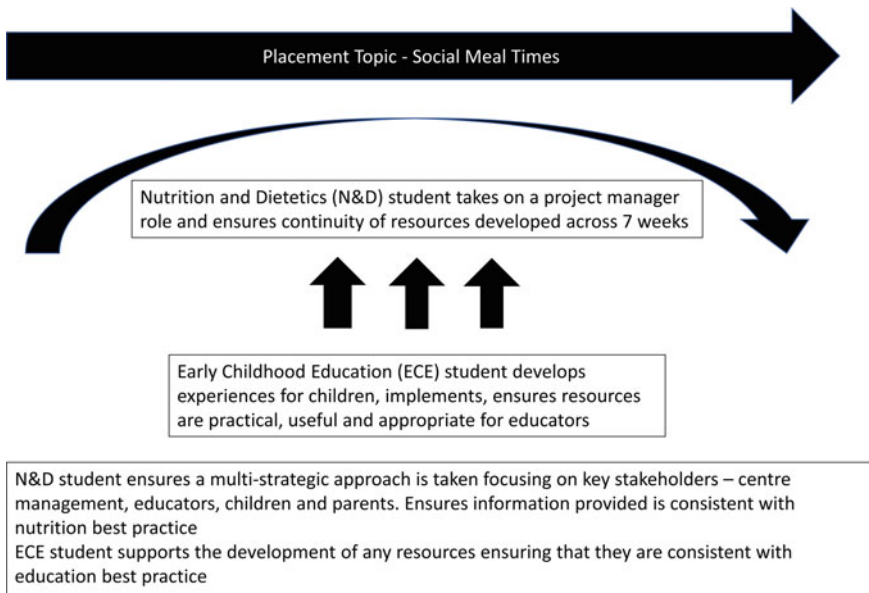


**Fig. 5.2** Social mealtime framework for Early Childhood and Dietetics students (Reprinted with permission from Andrew Resetti, Senior Nutritionist, Children's Health Queensland)

2. *Professional experience placements.* The centerpiece of the project was the professional experience placement. Early childhood students completed a four-week placement and dietetics students completed a seven-week placement. Whilst on placement online mentoring support was provided by one university partner/academic support person.
3. *Site visits.* At the midway point during the four-week co-located placement, the university partner/academic support person visited the centre and had a professional conversation with the students. This component provided important support for clarification.
4. *Midpoint presentation.* As part of an early childhood professional experience initiative to facilitate optimal engagement and critical reflection (see earlier in this chapter, Darling-Hammond (2014), Le Cornu (2016), Ryan and Gibson (2016), students attended a half day on campus at the midway point. Students shared and discussed their co-located experience, enabling an important reciprocal interplay between professional experience and university-based learning (Billett, 2011).
5. *Post-professional experience symposium.* At the conclusion of the placement, Education and Dietetics students presented in pairs at an on-campus symposium. The focus of this session was to share experiences and articulate their key learnings from the transdisciplinary model.

### 5.4.2.1  Methods of Data Collection

The choice of qualitative data collection methods (Creswell, 2014; Silverman, 2010) was guided by the research methodology. Data were generated to gain insights into the participants, students, academic staff, and educator/teachers' experience and reflections about the transdisciplinary professional experience. Data collection (interviews and focus groups) was generated post-placement for Study A and Study B as follows:

- Study A: interviews with Education and Health students.
- Study B: separate one-hour focus groups for Education and Health students (total 2 focus groups).
- Face-to-face interviews with Education and Health academic staff.
- Face-to-face interview with ECEC centre leading educators/teachers.
- Field notes recorded derived from incidental conversations and observations during meetings and workshops.

Data from Study A and Study B were considered together as one corpus.

Approval to conduct the research was obtained from the University Human Research Ethics Committee and the partner peak organisation.

### 5.4.2.2 Participants

Participants in Study A and Study B were drawn from students and academic staff from Education and Health Faculties at a large urban University in Australia and teachers/educators from early childhood centres (n = 38). A total of 20 students participated in Phase 1 of the research, with 10 students in each of Study A and Study B. For each study, five Bachelor of Education (Early Childhood) students and five Bachelor of Nutrition and Dietetics (Faculty of Health) students participated. Early childhood students were studying a core child health unit concurrently with the professional experience unit. Dietetics students were drawn from a professional experience unit (subject). Each degree program was four years in duration. All students who were enrolled were invited to participate in studies, with a recruitment strategy via email and lecture materials. Students were asked to submit an expression of interest via email, with selection based on the ability to commit to each component of the research (e.g., professional conversation and symposium) and a minimum grade point average (GPA) of 4 (pass). As mentioned earlier, the logistics of students' geographic location were considered. By coincidence, the same number of students expressed interest in each of Study A and Study B; however, up to 20 students could have been accommodated in the model. A final point to note here is that participation in the project was conveyed to students as enhancing their professional placement, and additional academic staff support would not adversely impact on their substantive assessment tasks.

Table 5.1 details the participants in the study. Academic staff who participated in Study A and Study B were the same, with each teaching in the respective education (health and/professional experience) and dietetics (professional experience) units. Educators/teachers who participated were employed in each of the five centres.

With students paired in placements, a total of five ECEC centres, or five sites, were part of Phase 1 for each of Study A and Study B.

**Table 5.1** Summary of participants for Phase 1: Study A and Study B

| Participants | Study A | Study B |
|---|---|---|
| Early childhood students | 2nd year n = 5 | 4th year n = 5 |
| Dietetics students | 4th year n = 5 | 4th year n = 5 |
| Academic staff—Education | n = 2 | n = 3 |
| Academic staff—Health | n = 2 | n = 2 |
| ECEC centre educators/teachers | n = 4 | n = 5 |
| Total participants | 18 | 20 |

### 5.4.2.3  Data Analysis

Data analysis drew on the transdisciplinarity conceptual framework (Augsburg, 2014), with inductive and deductive thematic analysis (Clarke & Braun, 2013; Edwards, 2010). First, the overarching dimensions of understanding what is entailed in becoming and being a transdisciplinary professional were applied to the data: (i) an appreciation of an array of skills, characteristics, and personality traits aligned with a transdisciplinary attitude; (ii) acceptance of the idea that transdisciplinary professionals are intellectual risk-takers and institutional transgressors; (iii) insights into the nuances of transdisciplinary practice and attendant virtues; and (iv) a respect for the role of creative inquiry, cultural diversity, and cultural relativism. Next, the application of inductive and deductive data analysis procedures enabled the emergence of developing understandings from the data to inform the research question, with themes and patterns identified, based on the research literature. Accuracy and consistency were ensured through a process of a research assistant initially coding the data, then three academic members of the research team first independently and then collaboratively examining this preliminary analysis for points of consensus and dissensus. The coalesces of transdisciplinarity and thematic identified key themes, presented as findings here in this chapter, including indicative quotes and discussion against relevant literature. Study A and Study B were considered together as one corpus of data.

## 5.5  Findings and Discussion

Research findings, and ensuing discussion, are presented around core themes. These findings indicate that the inter-professional experience placement enables rich understanding of transdisciplinary practice across early childhood and health. The three interconnected key themes that were identified in the data were collaborative professional relationships, co-created expertise, and professional identities. Each will be explored in this section of the chapter.

### *5.5.1  Collaborative Professional Relationships*

Students were able to combine their skills in a collaborative process within a real-world experience. The design of the work-integrated learning promoted collaboration between the students as well as between the students and the early years learning team led by a Centre Director. The placements afforded multiple opportunities to also develop relationships with children and their families. Students were leading their learning and had agency over the design of the project work alongside their peers:

> So, we really put into practice (what) we had learnt about … in our lectures – that you have to communicate with other specialists. (Early childhood pre-service teacher)

> We learned a lot around how to communicate with children and … how to work with children. Learning from the Directors and Educators was vital to the success of this project. (Nutrition student)

The two National frameworks, National Interdisciplinary Education Framework for Professionals Working in the Early Years (Grant et al., 2016) and *National Guidelines: Best Practice in Early Childhood Intervention* (Early Childhood Intervention Australia [ECIA], 2016) highlight the importance of interdisciplinary and transdisciplinary practice including collaborative teamwork and strengths-based practice, having in place clear goals and a shared purpose. The early childhood pre-service teachers demonstrated a strong sense of agency, driving the development of their professional capabilities, where students' professional sense of self was enabled through the cross-disciplinary collaborations in this transdisciplinary space:

> … it was great to give advice on both the placement and then work together to come up with an idea drawing upon both our knowledge – so … how to deliver a lesson- and then the actual content that the dietician was trying to teach the students. So that was really good to work together; you could draw on both of our strengths. (Early childhood pre-service teacher)

Professional collaboration was also a theme in the educators' interview responses, with these relationships influencing [the centre's] thinking and practice in relation to beginning understandings of transdisciplinary practice and the importance of shared understandings across disciplines—frameworks, practice, language, and terminology. As the early childhood–dietetics students contributed to professional conversations in the centres, there were notable transformations in educators' knowledge base and openness to change their own practices:

> I learnt that it's hard to get good nutrition throughout the day. Maybe I'm not eating as healthy as I should be, and I should be role modelling this behaviour. (Centre educator)

> We now sit down at mealtimes and talk to the children about their lunchbox choices. (Centre educator)

Families and staff received evidence-based information regarding healthy eating, dietary requirements, and infant feeding guidelines through direct interaction with the students and through the development of resources such as posters and booklets. Children enjoyed the opportunity to learn nutrition information through songs, stories, pictures, and delicious cooking sessions.

### 5.5.2   Co-Created Expertise

Disrupting professional silos and entering into genuine professional collaborations where meaning was made together was evident in the data sets, including students,

academics, and educators/teachers. This notion of creating experience together—co-created expertise (MacNaughton, 2005)—challenges a binary notion of expert–non-expert, rather acknowledges that different perspectives, viewpoints, and in this case professional knowledge are valid and coalescence to create shared and new understandings. This was echoed again and again across the data, with participants sharing how they had gained knowledge from their peers and supervising teachers (across discipline areas):

> Benefits of this project include gaining knowledge that is not yet known. It is beneficial for both the nutrition and education students as they are able to teach one another different things, which will most likely be useful for their future careers. (Early childhood pre-service teacher)

> I have no background in education at all, so she [early childhood student] provided me with the support. I think I provided her with support as well. We worked together to see how both our disciplines can achieve the same goal and I think that was a very positive outcome as well. (Dietetics student)

The shared professional learnings were echoed again and again in the data, including developing skills to connect with children:

> The most interesting thing I learned is actually how to communicate with children. I realised that because I don't understand them, I try to not engage with them. I just learned how to communicate with children and understand them much better. (Dietetics student)

This collaborative learning came from fellow students and also from centre educators:

> Learning from the Directors and Educators was vital to the success of this project. (Dietetics student)

The firsthand experience of 'living and breathing' professional experience in the transdisciplinary model was also noted as instrumental in applying knowledge:

> We have learnt a lot through reading the literature about children's eating habits and nutrition issues evident in early childhood centres, but this was then evidenced in the centre and we saw it for ourselves. (Dietetics student)

> We were able to teach one another different things, which will most likely be useful for our future careers. (Early childhood pre-service teacher)

Centre educators/teachers also noted the potential of sharing expertise to bring about new ways of transdisciplinary models of practice, with the co-located placement providing:

> Influencing thinking and practice in relation to existing (transdisciplinary practice) models. (Educator/teacher)

> Importance of shared understandings across disciplines – frameworks, practice, language and terminology. (Educator/teacher)

Again, this provided important opportunities to apply their learning as students made connections between the placement and theory and to apply this learning:

So, we really put into practice (what) we had learnt about … in our lectures – that you have to communicate with other specialists. (Early childhood pre-service teacher)

The connection and application of knowledge–theory into practice requires careful teacher education course design (Darling-Hammond, 2014) and professional experience considerations (Le Cornu, 2016). In this study, students and educator/teachers were able to combine their skills in a collaborative process within a real-world experience, with the opportunity to examine their core discipline knowledge and enhance it through connecting with other disciplines to address the nutritional needs of children, and educators, within the centre.

As part of co-creating expertise, and building professional knowledge, a number of educators noted how their own approach to nutrition had changed through participating in the project with another educator sharing how this had resulted in changed practice:

I learnt that it's hard to get good nutrition throughout the day. Maybe I'm not eating as healthy as I should be, and I should be role modelling this behaviour. (Educator/teacher)

We now sit down at mealtimes and talk to the children about their lunchbox choices. (Educator/teacher)

The theme of co-created expertise was also identified within the interviews with academics from education and health, with their insights into the potential to collaborate for new models of professional experience placements:

… new insights in relation to supervision styles and expectations. (Education academic)

Australian-based research highlights 'learning community model(s) of professional experience' (Le Cornu, 2016, p. 86) positively impact pre-service teacher learning. Underpinning these models are inquiry-oriented, participatory, communal, and collaborative values and practices. The project gave students the possibility to examine their core discipline knowledge and enhance it with other disciplines to address the nutritional needs of the community. In addition to the benefits identified through this theme of co-created expertise were outcomes for families. Both families and staff received evidence-based information regarding healthy eating, dietary requirements, and infant feeding guidelines through direct interaction with the students and through the development of resources such as posters and booklets.

Creating skills and knowledge from working inter-professionally within settings, such as early childcare settings, can promote and translate practitioner's skills into transdisciplinary practice. Transdisciplinary practice, where professionals work across discipline areas and collaborate to share knowledge, can be generated from the outcomes of learning across disciplines where students participate in learning and the acquisition of knowledge and skills from different professions (Park & Son, 2010). The transdisciplinary practice has the potential for realising shared outcomes for teachers and concomitantly for children's health and wellbeing as professionals draw together the concepts from disciplines and create new knowledge that transcends traditional discipline silos (Park & Son, 2010).

Alongside creating knowledge together, through shared experiences, the students noted the opportunity to actually apply knowledge:

> I could never have learned this from books, I had to actually do it. (Nutrition/dietetics student)

> We have learnt a lot through reading the literature about children's eating habits and nutrition issues evident in early childhood centres but this was then evidenced in the centre and we saw it for ourselves. (Dietetics student)

Sharing expertise also permeated the reflections of the education and health academics, who shared their newfound insights into professional experience supervision styles and expectations:

> This experience has an immense potential on creating innovative models on how we conduct professional experiences. (Education academic)

Engaging with this model supports clear understanding of roles and responsibilities and ways through which early childhood and dietetics students would work with one another in meaningful ways. As a research team, we were mindful of providing authentic inter-professional placements that would allow for rich transdisciplinary collaborations. Working collaboratively together on placement and on a focused shared mealtime project created the impetus for respecting and recognising one another's respective discipline knowledges:

> … working with a nutrition student who was expected to provide experiences for children … and she didn't have the knowledge of the, you know, pedagogies and ways of teaching, so it was a challenge for us to work together to sort of build-up that knowledge for both of us … to present appropriate experiences for children. It was a good challenge, because it allowed us both to gain more knowledge and skills and understandings about both teaching and also about nutrition. (Early childhood pre-service teacher)

Creating skills and knowledge from working inter-professionally within settings such as early years settings can promote and translate practitioner's skills into transdisciplinary practice. Transdisciplinary practice, where professionals work across discipline areas and collaborate to share knowledge, can be generated from the outcomes of learning across disciplines where students participate in learning and the acquisition of knowledge and skills from different professions (Park & Son, 2010). The transdisciplinary practice has the potential for realising shared outcomes for children's health and wellbeing as professionals draw together the concepts from disciplines and create new knowledge that transcends traditional discipline silos (Park & Son, 2010).

### 5.5.3   Professional Identities

Inter-professional learning, including the theme of co-created experience, is also linked to participants' professional identities. On a number of occasions in the focus group data, the education and health students talked about how the project had shaped their thinking about their future career and work:

> We were able to teach one another different things, which will most likely be useful for our future careers. (Early childhood student)

Due to the changing nature of graduate careers, particularly within early childhood teaching, nutrition, and dietetics, universities are encouraged to consider opportunities that promote broader graduate capabilities and contemporary work-ready skills (Jackson & Collings, 2018). Importantly there are links between early childhood teacher professional identities and where pre-service teachers plan to work (Gibson, 2013; Thorpe et al., 2011). Emerging research suggests that pre-service early childhood teachers tend to construct positive and professional images of the teacher in school settings and less positive images of the teacher in prior-to-school settings (Gibson, 2013).

The focus on professional identities, being valued and validated, also infiltrated the talk from the academic staff:

> On our own we can do great work, but together we can do exceptional work. (Dietetics academic)

A tension between professional identity and transdisciplinarity is identified by Nolan et al. (2012), where professionals protect their own respective knowledge base and expertise whilst at the same time seeing themselves outside that space, willing to share and disrupt their expertise to meld together 'evidence' bases to create new understandings. Nolan et al. (2012) suggest that what is required is a 'shared investment to build the capacity of service delivery' (p. 95). This research into building capacities for effective transdisciplinary professional practice between early childhood teachers and health professionals in the early years offers new ways to think about working collaboratively so as to disrupt silos that feed into this way of being a professional (Gibson & Gunn, 2020; Gibson et al., 2017).

Collegiality and working within a transdisciplinary team offered new insights to build upon pre-service teacher professional identities (McArdle et al., 2015). Sharing knowledge and understanding of each other's disciplines to find a shared vision drawing on discipline-specific frameworks and policies promoted new thinking and supported student agency and voice:

> ... realising that you have knowledge to bring to the table. Sometimes it's like 'Do I know enough?' But in this experience, you were able to realise that you have to work together in order to get there, because you know, none of us could do it by ourselves. I guess it was recognising that you're an important part of the project and you're an important part of the team. (Early childhood pre-service teacher)

The professional collaborations enabled 'real-world', authentic encounters for the early childhood pre-service teachers, expanding their professional and personal relationships, working together to build knowledge, resulting in enhanced, stronger professional identities.

The three key research thematic findings—collaborative professional relationships, co-created expertise, and professional identities—coalesce with (Augsburg's, 2014) dimensions of transdisciplinarity as the participants in this research demonstrated understanding and valuing of their professional counterpart's skills and

characteristics. Whilst the study was small in scale, there was a pushing beyond professional-discipline boundaries to become 'intellectual risk-takers' (p. 234) to insights into the 'nuances of transdisciplinary practice' (p. 238). Furthermore, the early childhood pre-service teachers and the dietetics students developed a respect for the role of creative inquiry as they traversed shared experiences and engaged in ongoing professional dialogue.

## 5.6 Limitations and Challenges

In this chapter, we have aimed to explore transdisciplinary professional practice as a way of thinking differently about ECTE. Whilst small in scale, and acknowledged as a limitation, the two studies that have been reported, nonetheless, present findings that open possibilities for thinking in cross-disciplinary innovative models of professional experience, and work-integrated learning, in teacher education. Furthermore, the research is somewhat contextual with only one urban university's students participating.

Phase 1 of the research reported in this chapter was small-scale, with 39 participants in total. Whilst the data generated through focus groups and interviews enabled participant voices and is 'rich' (Creswell, 2014), it nonetheless comes from a small sample size. The impact of these two studies is modest, though provides immense scope to scale up with a larger number of participants, across universities and jurisdictions. There are also possibilities of transferability to other countries.

Alongside these limitations, there were a number of challenges in the research projects. First, whilst there were planning meetings to develop clarity of roles and expectations for the research team of academics (early childhood teacher educators and dietetics academics) and for the students (early childhood pre-service teachers and dietetics students), there were also challenges with fine lines between prescriptive roles and an organic process of roles unfolding. Likewise, time to communicate was a challenge, not surprising for academic researchers, engaged in teaching. Notable were the different professional experience expectations across ECTE and dietetics, with this requiring time to explain and develop shared professional understandings, on both sides.

## 5.7 Conclusions

This chapter has explored the possibilities of transdisciplinary professional experience placements, offering insights into re-imagining ECTE. In doing so, it has identified ways to better understand how teacher educators, students, and professionals from the fields of education and health can make sense of competing accreditation, regulation, and policy agendas. New ways of 'doing' professional experience, with authentic transdisciplinary work-integrated learning experiences, offer early

childhood pre-service teachers opportunities to 'transcend' one-dimensional course experiences and work together with other professionals (in this case dietetics) of 'thinking otherwise' (Ball, 1998, p. 81) about ECTE experiences and more broadly teacher education.

The 'agentic' strategy initiated by the academics from both Health and Education Faculties through the reframing of the professional experience component of their university study enriched students' preparation to enter their respective professions. This approach enabled the breaking down of traditional discipline silos to see an emerging teaching and health workforce prepared and equipped to work together, in authentic ways. In putting this model in place and through the research findings of collaborative professional relationships, co-created expertise, and professional identities, we have provided insights into ways to better understand how teacher educators, students, and professionals from the fields of education and health can make sense of competing regulatory agendas and maximise their joint professional expertise.

We conclude this chapter with consideration of innovations and implications for ECTE policy and practice. This research project addresses Australian and international research and policy imperatives by focusing on workforce capacity building to attend to the complexities of children's health and wellbeing. The project provides infrastructure for early childhood teachers and allied health professionals to share disciplinary knowledge and work in transdisciplinary ways to collaborate on contextually responsive curriculum and practice that supports children's education and complex health and wellbeing. Transdisciplinary practice is an evolving process that applies a strengths-based approach and holds promise for realising new opportunities in ECEC settings. These imperatives translate to ECTE with a call for an 'activist' approach (Sachs, 2003) that moves beyond one-dimensional teacher education policy imperatives and opens possibilities for re-conceptualising the preparation of teachers to be optimally positioned in the early childhood profession.

# References

Augsburg, T. (2014). Becoming transdisciplinary: The emergence of the transdisciplinary individual. *World Futures, 70*(3–4), 233–247.

Ball, S. (1998). Educational studies, policy entrepreneurship and social theory. In R. Slee, G. Weiner, & S. L. F. Tomlinson (Eds.), *School effectiveness for whom?* (pp. 70–83). Falmer.

Billett, S. (2011). *Summary: Curriculum and pedagogic bases for effectively integrating practice-based experiences.* Australian Learning and Teaching Council.

Bransford, J., Darling-Hammond, L., & Le Page, P. (2005). Introduction. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 1–39). Jossey-Bass.

Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist, 26*(2), 120–123.

Creswell, J. (2014). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (5th ed.). Pearson Australia.

Cumming, T., & Wong, S. (2012). Professionals don't play: Challenges for early childhood educators working in a transdisciplinary early intervention team. *Australasian Journal of Early Childhood, 37*(1), 127–135.

Cumming, T., & Wong, S. (2015). Changing and sustaining transdisciplinary practice through research partnerships. In P. Gibbs (Ed.), *Transdisciplinary professional learning and practice* (pp. 25–39). Springer International Publishing.

Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs.* Jossey-Bass.

Darling-Hammond, L. (2014). Strengthening clinical preparation: The holy grail of teacher education. *Peabody Journal of Education, 89*(4), 547–561. https://doi.org/10.1080/0161956X.2014.939009

Darling-Hammond, L., & Lieberman, A. (2012). Teacher education around the world: What can we learn from international practice? In L. Darling-Hammond & A. Lieberman (Eds.), *Teacher education around the world: Changing policies and practices* (pp. 151–169). Routledge.

Darlow, B., Donovan, S., Coleman, K., McKinlay, E., Beckingsale, L., Gallagher, P., Gray, B., Neser, H., Perry, M., & Pullon, S. (2016). What makes an interprofessional education program meaningful to students. *Journal of Interprofessional Care, 30*(3), 355–361.

Dewey, J. (1904/1965). The relation of theory to practice in education. In R. D. Archambault (Ed.), *John Dewey on education: Selected writings* (pp. 313–338). University of Chicago Press.

Di Giulio, A., & Defila, R. (2017). Enabling university educators to equip students with inter- and transdisciplinary competencies. *International Journal of Sustainability in Higher Education, 18*(5), 630–647.

Early Childhood Intervention Australia. (2016). *National guidelines: Best practice in early childhood intervention.* ECIA. https://www.eciavic.org.au/documents/item/1419

Early, D., Maxwell, K., Burchinal, M., Alva, S., Bender, R., Bryant, D., Cai, K., Clifford, R. M., Ebanks, C., Griffin, J. A., Henry, G. T., Howes, C., Iriondo-Perez, J., Jeon, H.-J., Mashburn, A. J., Peisner-Feinberg, E., Pianta, R. C., Vandergrift, N., & Zill, N. (2007). Teachers' education, classroom quality, and young children's academic skills: Results from seven studies of preschool programs. *Child Development*, *78*(2), 558–580. https://doi.org/10.1111/j.1467-8624.2007.01014.x.

Edwards, A. (2010). Qualitative designs and analysis. In G. MacNaughton, S. Rolfe, & I. Siraj-Blatchford (Eds.), *Doing early childhood research: International perspectives on theory and practice* (pp. 155–176). Allen & Unwin.

Evans, A., Gibson, M., Zollo, L., Keogh, C., & Gallegos, D. (2018). Alone: great together: Exceptional education and nutrition inter-professional collaborative professional placements for better childhoods. *C & K Cascades, 1*, 14–16.

Fenech, M., Sumsion, J., & Shepherd, W. (2010). Promoting early childhood teacher professionalism in the Australian context: The place of resistance. *Contemporary Issues in Early Childhood, 11*(1), 89–105.

Gibson, M. (2013). 'I want to educate school age children': Producing early childhood teacher professional identities. *Contemporary Issues in Early Childhood, 14*(2), 127–137.

Gibson, M., Cumming, T., & Zollo, L. (2017). Re-thinking discourses of teacher professionalism in early childhood education: An Australian perspective. In M. Li, J. Fox, & S. Grieshaber (Eds.), *Contemporary issues and challenges in early childhood education in the Asia-Pacific region* (pp. 203–220). Springer.

Gibson, M., & Gunn, L. (2020). The early childhood professional. In A. Kilderry & B. Raban (Eds.), *Strong foundations: Informing practice in early childhood* (pp. 26–37). ACER Press.

Gilroy, P. (2014). Policy interventions in teacher education: Sharing the English experience. *Journal of Education for Teaching, 40*(5), 622–632. https://doi.org/10.1080/02607476.2014.957996

Grant, J., Parry, Y., Gregoric, C., Sumsion, J., Brinkman, S., Walsh, K., Jovanovic, J., Miller, K., Colmer, K., & Gibson, C. (2016). *National interdisciplinary education framework for professionals working in the early years.* Australian Government Department of Education and Training.

Harte, S., Theobald, M., & Trost, S. (2019). Culture and community: Observation of mealtime enactment in early childhood education and care settings. *International Journal of Behavioral Nutrition and Physical Activity, 16*(1), 1–11.

Ishimine, K., Tayler, C., & Thorpe, K. (2009). Accounting for quality in Australian childcare: A dilemma for policymakers. *Journal of Education Policy, 24*(6), 717–732. https://doi.org/10.1080/02680930903207695

Jackson, D., & Collings, D. (2018). The influence of work-integrated learning and paid work during studies on graduate employment and underemployment. *Higher Education, 76*, 403–425.

Le Cornu, R. (2012). A sustainable model for experiential learning. In T. Kerry (Ed.), *International perspectives on higher education: Challenging values and practice* (pp. 157–172). Bloomsbury Publishing.

Le Cornu, R. (2015). *Key components of effective professional experience in initial teacher education in Australia.* AITSL.

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.2015.110220

Levine, A. (2006). *Educating school teachers.* Education Schools Project.

MacNaughton, G. (2005). *Doing Foucault in early childhood studies: Applying post-structural ideas.* Routledge.

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

McArdle, F., Gibson, M., & Zollo, L. (2015). *Being an early childhood educator: Bringing theory and practice together.* Allen & Unwin.

McGonigel, M. J., Woodruff, G., & Roszmann-Millican, M. (1994). The transdisciplinary team: A model for family-centered early intervention. In L. J. Johnson, R. J. Gallagher, M. J. LaMontagne, J. B. Jordan, J. J. Gallagher, P. L. Hutinger & M. B. Karnes (Eds.), *Meeting early intervention challenges: Issues from birth to three* (2nd ed., pp. 95–131). Paul H. Brookes.

New, R. (2016). 21st century early childhood teacher education: New frames for a shifting landscape. In L. Couse & S. Recchia (Eds.), *Handbook of early childhood teacher education* (pp. 1–16). Routledge.

Nolan, A., Cartmel, J., & MacFarlane, K. (2012). Thinking about practice in integrated children's services: Considering transdisciplinarity. *Children Australia, 37*(3), 94–99.

Park, J.-Y., & Son, J.-B. (2010). Transitioning toward transdisciplinary learning in a multidisciplinary environment. *International Journal of Pedagogies and Learning, 6*(1), 82–93.

Ryan, S., & Gibson, M. (2016). Preservice early childhood teacher education. In L. J. Couse & S. L. Recchia (Eds.), *The handbook of early childhood teacher education* (pp. 195–208). Routledge.

Sachs, J. (2001). Teacher professional identity: Competing discourses, competing outcomes. *Journal of Educational Policy, 16*(2), 149–161.

Sachs, J. (2003). *The activist teaching profession.* Open University Press.

Silverman, D. (2010). *Doing qualitative research* (3rd ed.). SAGE Publications.

Stember, M. (1991). Advancing the social sciences through the interdisciplinary enterprise. *The Social Science Journal, 28*(1), 1–14. https://doi.org/10.1016/0362-3319(91)90040-B

Teacher Education Ministerial Advisory Group [TEMAG]. (2014). *Action now: Classroom ready teachers.* http://docs.education.gov.au/system/files/doc/other/action_now_classroom_ready_teachers_print.pdf

Thorpe, K., Boyd, W., Ailwood, J., & Brownlee, J. (2011). Who wants to work in childcare? Pre-service early childhood teacher's consideration of work in the child-care sector. *Australasian Journal of Early Childhood, 36*(1), 85–94.

Whitebook, M., Austin, L., Ryan, S., Kipnis, F., Almaraz, M., & Sakai, L. (2012). *By default or by design? Variations in higher education programs for early care and education teachers and their implications for research methodology, policy, and practice.* http://cscce.berkeley.edu/files/2012/ByDefaultOrByDesign_FullReport_2012.pdf

Whitebook, M., & Ryan, S. (2011). Degrees in context: Asking the right questions about preparing skilled and effective teachers of young children. *Preschool Policy Brief, 22.* http://nieer.org/wp-content/uploads/2016/08/23-2.pdf

Wilson, L., McNeill, B., & Gillon, G. (2017). Inter-professional education of prospective speech-language therapists and primary school teachers through shared professional practice placements. *International Journal of Language Communication Disorders, 52*(4), 426–439.

Wong, S., Sumsion, J., & Press, F. (2012). Early childhood professionals and inter-professional work in integrated early childhood. *Australasian Journal of Early Childhood, 37*(1), 81–88.

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# Chapter 6
# Collaborating to Work with and Against the Grain: Reshaping Outbound Mobility Programs (OMPs) in Pre-Service Teacher Education

**Deborah Henderson, Donna Tangen, Amyzar Alwi, Aliza Alwi, and Zaira Abu Hassan Shaari**

**Abstract** Transnational experiences that support university students to enter culturally diverse workplaces have represented a growing movement within higher education settings. This chapter draws from qualitative research on the process of shared reflections between teacher educators in Australia and Malaysia about a university-based transnational program, referred to as an outbound mobility program (OMP), designed to develop pre-service teachers' intercultural competence and prepare them to be culturally responsive teachers. As with various study abroad programs in teacher education internationally, many OMPs are organised and managed by professional staff in universities and/or third-party providers, and not by academics. In contrast, this OMP was controlled by the teacher-education academics in Australia and Malaysia who worked in partnership to develop and deliver the program through an active engagement in flexible communication channels and dialogic reflections and learning. Findings from this study indicate that the success of the program rests on the mutual respect and trust built amongst the team members over time that enabled them to agentively shape it to meet the needs of pre-service teachers in both countries. This was due in some part to our prior engagement in a twinning program between the institutions but also due to the personal beliefs, interactions and reflective lens team members drew upon and shared before, during and after each of the four annual iterations of the OMP. We posit that without taking time to discuss our beliefs about

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the value of intercultural understanding, build trust and engage in shared reflexivity, any such program could be compromised.

## 6.1 Introduction

Transnational experiences that support university students to enter culturally diverse workplaces have represented a growing movement within higher education settings. Different manifestations of these experiences, such as Study abroad programs, International Professional Experience (IPE) and international student outbound mobility programs (OMPs), are considered to be a means of internationalising higher education and of addressing learning goals that respond to the conditions of globalisation (Stromquist & Monkman, 2014). In Faculties and Schools of Education, a discourse emerged around the need for intercultural understanding and cultural competence as essential professional attributes of a practising university-based or school-based educator (de Oliveira Andreotti et al., 2015; Piątkowska, 2015). Within teacher education, OMPs were seen as opportunities to facilitate intercultural knowledge and understanding (Deardorff, 2006; Hall et al., 2016) and as a pedagogical strategy to prepare a new generation of graduates to teach in culturally diverse classrooms (Santoro, 2014). Much of the empirical research on OMPs focus on the student experience (Haas, 2018; Hall et al., 2018). By contrast, this chapter draws from qualitative research on how teacher educators in Australia and Malaysia collaborated to purposively design and implement an OMP from 2013 to 2016 (inclusive), to foster intercultural understanding in ways that encouraged pre-service teachers in both countries to become interculturally competent, culturally responsive teachers.

Intercultural competence/sensitivity is increasingly recognised across the global range of educational institutions, government agencies, non-government organisations and corporations as a core capability for the twenty-first century. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) has consistently emphasised the importance of understanding of, respect for and dialogue between different cultural groups (UNESCO, 2006) and reiterated how and why intercultural competencies should be a feature of school education (UNESCO, 2013). Similarly, the Organisation for Economic Co-operation and Development (OECD, 2018) emphasises the importance of education that enables learners to engage with others harmoniously in culturally diverse environments locally and globally. In Australia, Initial Teacher Education (ITE) institutions are required to respond to the recommendations of the Teacher Education Ministerial Advisory Group's (TEMAG) report *Action Now: Classroom Ready Teachers* (TEMAG, 2014). This report noted that in preparing teachers to address student learning needs, the 'diversity of students in Australian classrooms requires teachers to be prepared to engage with students

who are culturally and linguistically diverse' (TEMAG, 2014, p. 16). Accordingly, graduate teachers are now required to demonstrate the skills and capacities to relate to, engage with and teach students from diverse cultures. In Malaysia, where the national language is Malay, and English is the official second language, teachers need to be capable of teaching students in schools that reflect the multi-ethnic and multicultural society of the country. In this context, multicultural education is both a concept and deliberate process (Manning et al., 2017), so it is critical that pre-service teachers are prepared to teach learners to recognise, accept and appreciate the differences in culture and ethnicity.

Many of the OMPs that originate in Australia send pre-service teachers to countries in the Asia region in alignment with objectives of the intergovernmental forum, the Asia–Pacific Economic Cooperation (APEC). This forum aims to foster collaboration and cooperation between Australia and the countries of the region with a specific focus on building cultural understanding and 'people-to-people links of enduring value' (APEC, 2015, p. vii) to bolster economic prosperity. Malaysia's longstanding commitment to this forum was reiterated during November 2020, when it hosted the first virtual summit of leaders from the APEC nations, titled: 'Optimising Human Potential Towards a Future of Shared Prosperity'. It is notable that OMPs in the Asia–Pacific are usually outsourced to commercial providers and are, thus, subject to critique for providing superficial forms of experiential learning that do not embed meaningful reflection and fail to build the intercultural capacity required for culturally responsive teaching (Marx & Moss, 2011).

Concomitantly, another powerful discourse on Australia-Asia engagement positions education as an economic rather than a social good (Marginson, 2016). This emphasis is reflected in some education policy agenda shaped by an instrumental economism aimed at furthering Australia's strategic interests in the region as its economy transitions from a resource-based to a modern service economy (Singh, 2018). In this context, universities are also expected to contribute to national productivity and deliver graduates capable of working in, and contributing to, the global marketplace (Henderson, 2020). The *Malaysian Higher Education Blueprint 2015–2025* (Ministry of Education, 2015) reflects this emphasis by aiming to position Malaysia as a regional education hub whose graduates contribute to the global knowledge economy (Ganapathy, 2016). It also assumes that evidence of an educated Malaysian workforce will attract international investment which, in turn, will fuel the economic development of the nation (Wan et al., 2017).

By contrast, the OMP we describe presents an agentive, interventionist approach to positioning OMPs in pre-service teacher education as a cross-border collaborative work of Australian and Malaysian teacher educators. Our aim was to design an intensive experiential learning program that would foster intercultural understanding in pre-service teachers from both countries beyond the instrumentalism of the marketplace and steer them on a path of learning with and from others 'based on deep and meaningful understandings of peoples' similarities and differences' (Romano & Cushner, 2007, p. 224). Many facets of collaboration were nurtured by both teams to ensure that the program remained viable for pre-service teachers from both institutions. One such facet was the engagement in professional conversations

on a continuous basis to discuss and reflect upon the strengths of the program in foregrounding intercultural understanding as well as address areas where changes were required.

The chapter draws from one component of our empirical research, which focuses on the qualitative case study approach (Stake, 2008) adopted to investigate the question: How do Australian and Malaysian teacher educators collaboratively plan and implement a government-funded OMP aimed at fostering culturally responsive future teachers? The chapter is structured as follows. We start by defining intercultural understanding and then briefly discuss the notion of agency and the way in which we have theorised it in our research, and then locate the role of teacher educators' beliefs about intercultural understanding within this framework. Following an overview of the design of the research upon which this chapter is based, we discuss the findings focusing on four aspects of our collaborative decision-making that stemmed from our beliefs about the importance of foregrounding intercultural understanding in the OMP with reference to achieving agency.

## 6.2 Terminology

The literature on intercultural understanding and/or learning in education indicates that a range of terms are used interchangeably and near-synonymously. These terms include intercultural sensitivity (Bennett, 2004, 2009), intercultural competence (Bennett, 2004, 2009; UNESCO, 2013), and intercultural communication (Arasaratnam, 2009; Matveev & Nelson, 2004). It must be noted that while intercultural sensitivity relates to the complexity of perceptions of cultural difference (Bennett, 2004), intercultural competence refers to the potential for enactment of culturally sensitive behaviours in another cultural context (Bennett, 2004; Cubukcu, 2013). It was the potential for those intercultural sensitivities learned through engagement in one cultural setting to be applied to interactions with other cultural groups (Cubukcu, 2013), that prompted our interest in foregrounding intercultural understanding in the OMP. As one of the Malaysian teacher educators recalled in an interview in 2016, 'one of my expectations from the program is that through the program I hoped the students would extend and apply the experience to the classroom once they are posted to schools' (M1).

In their review of the literature, Perry and Southwell (2011) note Hill's (2006) emphasis on the cognitive and affective domains of intercultural understanding. These domains encompass knowledge of one's own cultural affiliations, similarities and differences between cultures, positive attitudes such as empathy and respect for others, and the affective basis of intercultural sensitivity (Chen & Starosta, 2000). Hassim (2015) argues that intercultural learning is essentially dialogical, for it involves cultural groups learning with and from one another.

In the Australian Curriculum for students from the preparatory years of schooling to year 10 (aged 5–16 years), intercultural understanding is construed as a

general capability that encompasses 'knowledge, skills, behaviours and dispositions' (Australian Curriculum, Assessment and Reporting Authority [ACARA], n.d.), and incorporates aspects of intercultural understanding, intercultural competence, intercultural communication. The *Malaysian Education Blueprint 2013–2025* (Ministry of Education Malaysia, 2013) similarly indicates that through their education, students develop the skills to work with diverse cultures, that 'every student leaves school as a global citizen', and that they have 'shared values and experiences' through a 'willingness to embrace peoples of other nationalities, religions and ethnicities' (p. 13). This notion of intercultural understanding as a particular capability for living with others in the diverse world of the twenty-first century reflects the approaches recommended by UNESCO (2006, 2013), comprising understanding and competence including skills, behaviours and dispositions.

In this chapter, we examine the nature of our agentic collaborations via our individual and collective reflective discourses that drew from our beliefs about the value of intercultural understanding, which in turn, informed our judgements and decision-making about the design and delivery of the program between Australia and Malaysia. Timperley (2015) indicates that the building of professional conversations over time is needed in order for feedback on a teaching approach or program to be considered and accepted by members of these interactions. Educators who accept their role as learners adopt an openness in sharing beliefs and ideas on how they can improve their practices. Such sharing involves deep contemplation on the program and the role each player takes; it involves both the giving and receiving of constructive feedback to move things forward in a positive way for the benefit of the program and, particularly, for the benefit of the students engaged in the program. Loughran (2014) reminds us that such dialogic reflection, when coupled with research on practice, is a form of professional identity building.

## 6.3 Theorising Agency and Beliefs

The notion of agency has been theorised from a range of different perspectives including critical realist social theory (Archer, 1995, 2000, 2003, 2007), and Bourdieu's (1977) conception of 'habitus', amongst others. In the research this chapter draws from, we employed an ecological understanding of agency that has its origins in the pragmatist philosophy of Mead (1934) and his emphasis on reflexivity as the capacity to engage in reflection or deliberation, and from the work of Dewey (1938) and the importance of adapting, experimenting, and innovating in response to situations. This view of agency posits it as something individuals *do* in response to certain situations, rather than an innate personal capacity. Biesta and Tedder (2007) argue that the achievement of agency results from the confluence and interplay of 'individual efforts, available resources and contextual and structural 'factors' as they come together in particular and, in a sense, always unique situations' (p. 137). This focus on different situational elements aligning together dynamically in particular contexts has been further conceptualised by Biesta et al. (2015), who in turn, draw

from Emirbayer and Mische (1998) and their emphasis on the interplay between context, structure and the temporal dimension. As Biesta et al. (2015) put it:

> the achievement of agency is always informed by past experience, including personal and professional biographies; that it is orientated towards the future, both with regard to more short-term and more long-term perspectives; and that it is enacted in the here-and-now, where such enactment is influenced by what we refer to as cultural, material and structural resources. (p. 627)

This framing of agency as a situated, temporal form of engagement resonated with our collaborations to curate the OMP. Accordingly, we draw from Biesta et al.'s (2015) ecological conception of agency-as-achievement, as informed by Emirbayer and Mische's (1998) ideas, to frame the analysis of our collaborations to make practical and normative judgements about how the program could be designed and enacted. That is, we explore our previous professional collaborations, our enactment of culturally informed decision-making as we curated and implemented the OMP, together with our desired projective outcomes for pre-service teacher learning about intercultural understanding.

### 6.3.1  Beliefs

In general terms, beliefs refer to an individual's acceptance that something exists without requiring proof. Beliefs can also denote a set of broader ideas that encompass 'general knowledge of objects, people and events, and their characteristic relationships' (Hermans et al., 2008, p. 128); and they can be defined in different ways (Fives & Buehl, 2012). It is also important to note that while the factors identified in Sect. 6.3 can shape an individual's beliefs, they do not include action or behaviour. Rather, such factors *inform* an individual's behaviour. In distinguishing between knowledge and beliefs, Nespor (1987) refers to beliefs as affective overriding concerns that serve as a means of defining goals and tasks. He argues that beliefs play a major role in defining teaching tasks as well as 'organizing the knowledge and information relevant to those tasks' (Nespor, 1987, p. 324). In our research, we were mindful that teacher educators' beliefs encompass what Meirink et al. (2009) refer to as intentions and expectations, to highlighting the ways in which beliefs play a role in the iterative dimension of achieving agency.

## 6.4  Design

The chapter draws upon empirical research undertaken from 2013 with teacher educators in two institutions. Data[1] are taken from email correspondence, transcripts of interviews and focus groups with Australian (A1, A2) and Malaysian (M1, M2, M3) teacher educators, as well as interviews with a Malaysian journalist subsequently published as an article titled Teaching Across Cultures in the 'Learning Curve' Supplement of the Malaysian newspaper *The New Straits Times* (Mustafa, 2014). Data were also sourced from the Australian teacher educators' (A1, A2) diary entries, reflective writing and field notes. Thematic analysis (Braun & Clarke, 2006) was conducted across data sets to identify emerging codes, which were subsequently grouped into themes. Following the inductive phase, a deductive approach was applied to identify those themes associated with the context, structure and the temporal dimension of agency as described in Sect. 6.3, and the projective outcomes.

## 6.5  Context: Previous Professional Collaborations and Histories

The key elements of a successful cross-culture collaboration include shared beliefs in the value of effective communication, mutual trust and an on-going commitment to the program by both partners (Heffernan & Poole, 2005; Kosmutzky, 2018; McBurnie & Ziguras, 2007). Paramount to fulfilling these key elements is valuing intercultural understanding and having a clear vision about the on-going needs of the students as they progress through the program. While there is literature describing multidisciplinary approaches to intercultural interactions in academic settings (Byram et al., 2001; Spencer-Oatey & Franklin, 2009), and cross-cultural programs with reference to policy and administration (Shanahan & McParlane, 2005), there is scant research on the significance of cross-border collaboration of teacher educators in ensuring that a quality program is delivered.

The case study described in this chapter has a long history of cross-border collaboration, which began through a 5-year twinning program between the two institutions. This particular twinning program, which commenced in 2008, operated within the larger context of a transnational consortium of five Malaysian Institutes of Education twinned with five Universities (two based in New Zealand, two in Australia and one in the United Kingdom). At a conference in Kuala Lumpur in 2012, teacher educators from two of the institutions discussed the possibility for further collaboration in a new program involving students in reciprocal travel to Brisbane and to Kuala Lumpur; however, funding for this exchange was a major barrier. 'As the STMP [Australian Government Study Overseas Short-term Mobility Program] funding closed on 31 August 2012, and we couldn't secure any funding to bring your [Malaysian] students

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[1] Data referred to in this chapter were collected under QUT Ethics Approval Number 1600001164 and QUT Ethics Approval Number 1300000784.

here, we'll do our best make sure this program is rewarding for them as they'll be staying in KL' (A1, 2013, email). As negotiations between institutions continued in relation to the kind of program we wanted and the logistics of what was possible given the limitations of available funding, the OMP was set up for Australian students to travel to Malaysia for a 2-week intercultural learning program commencing in September, 2013.

Two different competitive Australian government schemes to develop and deliver the OMP were sought and awarded. Funding for the program's first 3 years was provided under the Australian Government's STMP allocation, which aimed at promoting opportunities for more Australians at the tertiary area to undertake meaningful short-term international mobility experiences. Funding for the fourth year of the program in 2016 was awarded under the New Colombo Plan (NCP), which aimed to build young Australians' knowledge of the countries of the Indo-Pacific. Hence, from the outset, we worked 'with the grain' in terms of meeting the objectives and outcomes of government funding requirements, but also 'against the grain' in that we were determined to shape the OMP to meet our shared purposes. In terms of their professional histories, both the Australian and Malaysian teacher educators had extensive experience working in intercultural contexts. At several points during the 4 years of the program, the teacher educators met to discuss and reflect on the various aspects of the program and of working together as partners. This has to be sensitively negotiated, as M1 observed 'it's very difficult to actually establish at the beginning, a partnership … because I think you have to overcome, like a lot of trust issues, and I guess also the balance of power in the partnership' (M1).

Over the 4 years of the program, the teacher educators from Australia travelled to Malaysia with the students. In the prior twinning program (completed before the OMP began), teacher educators from Malaysia had visited the Australian campus so were familiar with some of the background experiences of the Australian students travelling to their campus. As A2 (2014) noted, 'over the years, we have built good professional and personal relationships with our Malaysian colleagues' and 'we have interacted extensively with their students'; while M1 noted 'I feel very comfortable about working with students from Australia again' (2013); and M3 expressed her confidence of further collaboration given that the [previous] twining program 'has given them [Malaysian students] the opportunity to be in charge of something—to be responsible for something'.

As a team we drew upon these exchange visits to begin our reflections on the OMP discussed in this chapter. Some key questions that were worked through included: How can we foreground intercultural understanding in the program? What are the logistics in managing a cross-border OMP? How much time, energy and commitment does involvement in such a program require from the teacher educators? What would be considered best practices to conduct a trans-border collaboration? Consideration of these questions through group dialogues follows.

## 6.6 Structure: Enactment of Culturally Informed Decision-Making

### 6.6.1 Flexible Communication Channels Between Partners

There are many unseen but necessary decisions and actions that go into the development and delivery of an OMP. The one we are describing included: program planning, the selection of students, permission slips, negotiations and related program preparations with colleagues in Australia and in Malaysia, negotiating with colleagues at the Australian High Commission in Kuala Lumpur to allow the Australian pre-service teachers to visit and receive a briefing on Australia-Malaysia relations, devising/revising the resources to use with students (before, during and after the program), presenting a series of pre-departure briefings to students, preparing for travel to Malaysia and within Malaysia, and delivering post-departure de-briefings and reflections. In addition, the Australian teacher educators set up a separate online Blackboard site for student briefings and resources for the participating Australian pre-service teachers.

Dialogues began initially via emails between the two institutions in organising both the logistics and management of the program. As there is no set pattern on how to establish and maintain international, cross-cultural collaborations we relied on our history of working together to determine what needed to be included in this OMP. We tried on several occasions to use Skype but experienced issues with connectivity as evidenced in a follow-up email in December 2013 to M1, M2 and M3. 'It was lovely to see your smiling faces today—but I am so sorry the sound wasn't good and we weren't able to talk via Skype, so I've put some of the points we'd started to discuss in this email to help us revise the program for next year' (A1).

In addition to travelling to Malaysia with the participating students each year, both Australian teacher educators self-funded their travel to Kuala Lumpur to liaise with their Malaysian partners. Such face-to-face meetings were appreciated by both groups as opportunities to develop trust and respect. It was significant that these meetings facilitated further communication via extensive email exchange, which was the most common form of online communication used throughout our collaboration as we fine-tuned the annual itinerary and the workload expectations for our students. Both groups of teacher educators initiated email exchanges on a needs basis. 'I felt very comfortable exchanging emails as needed about the program and visits to schools' (M1, 2015).

During these email exchanges, we negotiated the amount of work both cohorts of pre-service teachers could reasonably undertake as they also had to commit to the coursework of their degree programs while engaged in the program. The Australian students' involvement, for example, was connected to one of two subjects they were studying as part of their coursework. To embed their experiences through the OMP, these pre-service teachers were obliged to complete a series of digital reflections throughout their time in Malaysia, the culmination of which would contribute to a final assignment in their respective subjects. The Malaysian pre-service teachers also

had coursework commitments. They were also attending classes in between times when there were engaged with the Australian pre-service teachers. In Kuala Lumpur, telephone conversations were made via WhatsApp.

### 6.6.2 Shared Commitment to a Collaborative Approach

Throughout our partnership, we drew from our beliefs that intercultural understanding was most effectively achieved through experiential learning. Teacher educators A1 and M1 were most closely involved in establishing the parameters of the program. These many negotiations, while time-consuming were necessary, however, they were not included in workload. Teacher educators at both institutes were carrying their normal full workloads, with the OMP an add-on to their work. As A1 described the process:

> It was an enormous commitment (time and workload wise), however – from my own perspective … I believed it could prompt meaningful intercultural encounters and learning. I was deeply engaged and believed in it, because I thought it was so authentic and worthwhile for the participating Australian and Malaysian students each year. (A1, 2016)

Data reveal that having a deep belief in the importance of the program was needed to ensure that the program continued as strongly as it did. Numerous discussions via email reflect the focus on embedding intercultural understanding, such as the need to 'unpack the activity during the street walk to explore the cultural dimensions' (M1, 2013); 'we must modify this for next year because this sort of intercultural learning matters so much' (A1, 2013); and 'it is critical that we get both lots of students to share their reflections on why this part of the program was so challenging' (A1, 2013). The lead teacher educator on the Malaysian team also commented on the effect of taking on this additional workload: 'I think the first year was the hardest. I think it took a toll on me [however] I think having done it once, I know I can do it again' (M1, 2016).

Undertaking such an enormous enterprise that was above workload for teacher educators in both countries was an indication of their commitment to provide pre-service teachers with extraordinary opportunities for their personal and professional growth in preparation for their future as culturally aware teachers. There were other team members who, over time, took on a more peripheral role as the realisation of the time commitment for them needed to be considered.

### 6.6.3 Consistent Group Membership and the Development of Mutual Respect and Trust

Data indicated that a desire for consistent group membership was shared by teacher educators in both countries. M1 recalled in an interview in 2016:

> I think what I decided from early on was that I wanted a core team … to establish that sense of continuity because if you have done this sort of thing before – you would have the opportunity to reflect on how you would want to improve that. (M1)

Similarly, the Australian teacher educators who travelled to Malaysia and participated in OMP each year noted that this continuity 'made it so much easier to fine-tune the program each year' (A1). A2 noted that continuity also supported the development of trust and moving beyond stereotypical assumptions that can occur in international partnerships.

> When we started MOEM [the twinning program] in 2008, the Malaysian universities had always had twinning programs and they've always had these sort of outbound mobility programs and we were initially cast as just another bunch of people coming in telling them how to write their curriculum and all that kind of stuff. So, it has been a gradual process of trust and mutual respect that's built up. Because of our consistent membership and we were able to collaborate and share, it has been a gradual process. (A2, Interview, 2016)

The development of mutual respect and trust that increased during our planning and discussion throughout our work on the OMP was critical to collaboration and our research. Although there was a lot of time and energy involved to develop and deliver the OMP, the Australian teacher educators also prompted discussions on how we could conduct research together to learn more about the nature of our collaborations and our experiences in the OMP and share it with a wider audience. As participant A1 described it: 'Our collaboration is just so critical to the research, and we wanted to do the research right from the word go—and this is why we persisted with the Ethical Clearance' (A1, 2015). However, this was not a straightforward process as one Malaysian participant noted:

> Even though I had worked on two twinning programs – one with UK institutions and one with a Malaysian public university – there were times when I mistook 'critical' as 'criticism' … [and] wanted to protect my 'territory', or resisted what I perceived as interference from outsiders. (M1, 2014)

Discussions on cross-border collaboration for research required some reflection as without a feeling of trust and belief that all voices in the process were valued, there was no room for growth within the team. Trust had to be built within and across institution members to provide that reassurance. Building such trust took consideration and time. During a focus group in 2016, the Malaysian teacher educators reflected on their participation in joint research on the program, something they were originally hesitant about because of their previous experience with researchers from another country in a different international project. M1 noted, 'I see a difference—and I also think working with you and [A2] on a research team I think it is a different kind of attitude—or is it a kind of level of respect that we have … that we share'. In another part of the focus group, M2 reflected 'I value … the research that has evolved out of our program, our collaboration … and echo what [M1] has said' (M2).

The development of trust and respect was also evident during the negotiations about the logistics of the program. '[A2] wrote to me last week to convey the good news. [M3] and I am pleased you can both be in KL and talk more on the research … please see the program which I have now finalised with the academic staff' (M1,

2014). Evidence suggests that trust is an important concept to consider in relation to developing productive cross-cultural collaborations (Greenwood, 2019; Heffernan & Poole, 2005; Mach & Baruch, 2015). Trust includes other constructs 'such as accountability, pressure to perform and uncertainty on the one hand, and safety, familiarity and risk-taking on the other' (Greenwood, 2019, p. 114). In addition, there is an element of negotiating who is in control of the different aspects of the project. There was trust between colleagues that different elements of the OMP would be organised by those in the best position to do the job. Some aspects of the program were organised by the Australian team while other aspects could only be organised by the Malaysian team.

As noted earlier in the chapter, what distinguished this OMP to other such programs was that rather than involving commercial providers to organise and run the program, we devised, curated and refined each year of program through our reflections and discussions. One of the Australian academics noted in an interview for the *New Straits Times*, that 'evolving is a cornerstone of how the program can grow. We are in constant contact with our Malaysian colleagues to develop the program … there is genuine commitment … which adds to the richness and authenticity' of the OMP (A2, in Mustafa, 2014, p. 3).

As well as developing trust with partners across the two institutions, participant M1 described the need to build trust with her team within her institution:

> I think one of the things I've learnt – and maybe through my involvement in the twinning program – is that I feel when I work on a team I need to have full confidence and trust that once I have communicated the intention of the program that everyone will be responsible … once the intention is communicated people will just get on with their work. (M1, 2015)

This idea was also expressed by the Australian teacher educators. As A1 (2016) put it, 'without trust in your team members things can get very difficult, very quickly'.

## 6.7 Projective Outcomes: Hopes for Culturally Responsive Future Teachers

### 6.7.1 Active Engagement in Dialogic Reflections on Issues of Pedagogy and Curriculum

As the focal point for the OMP, there was much reflection and discussion about what we hoped both groups of students would gain through participation in the OMP and how we could structure it to provide opportunities for authentic intercultural learning. It should be noted here that over the four iterations of the program, each year a different group of Australian pre-service teachers travelled to Malaysia. This structure for the Australian cohorts was determined as a result of the nature of the funding for travel and the course progression of these pre-service teachers, which allowed for only one opportunity each to participate in the program. In contrast, some

of the Malaysian pre-service teachers participated in the program more than once: first as a novice to the program, then as a mentor to new pre-service teachers (both Malaysian and Australian) to the program. This arrangement began in the first year of the program where some Malaysian pre-service teachers from the prior twinning program were also included as participants in the first iteration of the OMP. Having these students participate was a conscious effort on the part of the Malaysian teacher educators to establish a pattern and continuity to the program and to provide an opportunity for these pre-service teachers to develop leadership skills, as described by participant M2: '[we developed a] pattern of involving [Malaysian] buddies from the one year to the next. So, everyone has a share of leading the organisation … it's a very good system as I think it has a kind of sense of continuity' (M2, 2016).

Participant M1 expanded on some of the roles these Malaysian pre-service teachers took on as leaders in the program:

> … I think it makes them very mature in terms of organising and also in terms of thinking that this program is not just about them being involved as buddies, but thinking about how to make it a more enriching experience for the [Australian] students. (M1, 2016)

As indicated above, the kind of continuity of participation enjoyed by the Malaysian pre-service teachers was not possible for the Australian students. Therefore, the Australian teacher educators provided pre-departure briefings for the Australian pre-service teachers to prepare for engagement with their Malaysian peers and Malaysian culture, as for some this was their first trip outside Australia. The Australian teacher educators felt that it was first important to develop a student handbook that established the learning goals and a daily outline of the program as well as some facilitation of guided reflections on the nature of their engagement and learning for these pre-service teachers.

There is much written on the value of including guided reflections in a structured OMP. Boynton Hauerwas et al. (2017), for example, describe that reflections encourage pre-service teachers to continue their intercultural development post-travel through gaining a greater awareness of working with culturally and linguistically diverse students in schools. We have found in our own research that guided reflections help pre-service teachers gain in cultural understanding of others, but also of themselves (Henderson, 2018; Henderson et al., 2018). The pre-departure briefings evolved as the program evolved, yet each had a focus on providing the Australian pre-service teachers with some background information of their role in the program and cultural knowledge of life and schooling in Malaysia. Items discussed in the pre-departure briefing included ensuring that the Australian pre-service teachers had a good understanding that they were cultural representatives not only of themselves as Australian but also as Australian teachers. The Malaysian teacher educators also held pre-engagement sessions to prepare the Malaysian pre-service teachers on their responsibilities as representatives of the host institution and how their participation would be worked in and around their own coursework commitments.

Another feature of the program was that with each iteration an Australian teacher educator travelled to Malaysia with the pre-service teachers so was able to both observe and hold reflective conversations with the pre-service teachers while in situ.

In the first iteration of the program (2013), A2 travelled with the Australian pre-service teachers to Malaysia. Both Australian teacher educators had taught the Malaysian cohort when they were in the twinning program so were delighted to meet up with them in the OMP. With this iteration of the program A2 did note that the pre-service teachers from the twinning program behaved as mentors to the other Malaysian pre-service teachers. However, these pre-service teachers were also remembering what it was like to live in Australia when they were studying in Australia through the twinning program and wanted to return the hospitality they received in Australia. This was done through a series of unscheduled social outings the Malaysian students organised such as 10 pin bowling in one of the large shopping malls, eating out at local fast food outlets, and travelling to see other sites such as the Batu Caves and temples in Gombak, Selangor.

One role each of the Australian pre-service teachers had was to teach an English-based reading lesson to a group of primary school-aged Malaysian students while in Kuala Lumpur. Therefore, the Australian pre-service teachers had to select a book to read prior to travel, and develop follow-up activities for the Malaysian students to complete. This activity was challenging for some of the Australians who were training to be secondary teachers in disciplines other than English as they worried about how they could teach such young children. When it came time for them to deliver their lessons, these fears were allayed as these lessons were delivered near the end of their stay in Malaysia after they had some time to settle into the culture and they had time to discuss their lessons with their Malaysian peers as to the appropriateness of their plans.

Another planned activity was for the Australian pre-service teachers to attend lessons on learning bahasa Melayu language to the point where they could go to the Central Market in Kuala Lumpur and order something in *bahasa*. To underscore this responsibility, A2 had a discussion with the pre-service teachers that they would not be accompanied to the markets by their Malaysian peers so they would have to take up this responsibility on their own, as described in A2s field notes:

> After a good discussion it was decided that the [Australian] students go to Central without me. They had their brief and knew what they were supposed to do and look for and I think are ready to branch out on their own without me or their buddies holding their hands. (A2, 2013 – field notes)

Student interviews subsequent to this excursion and others in the following years indicated that the Australian students, while initially terrified to speak *bahasa*, found this activity not only stretched them but gave them some insight on what it might be like for teaching a student in their class who does not have English as a first language. Teacher educator, M3, commented on how the Malaysian pre-service teachers responded to the Australian pre-service teachers' efforts to learn the language:

> … sometimes in class they will talk about different values, different ways of life – how they go out and have dinner, how boys and girls go out together … they also discuss about how the Australian students learn and how they were just having such a fun time looking at how the Australians picked up the language by actually going to the stalls and trying to purchase food and items. (M3, 2016)

A comradery between the two groups of pre-service teachers developed in a large part because they were provided with opportunities to engage in activities together as buddies. The buddy system was a cornerstone of the OMP. Much reflection and discussion on the effectiveness of the buddy system was held over the 4 years of the program, as expressed by participant A1:

> Indeed, some of the Australian students contended that the most authentic intercultural learning took place when they had deep and meaningful interactions (and adventures) with their buddies. They talked about their mutual concerns [ranging from] … why they decided to become a teacher … to poverty and the trafficking of children, racism, the sustainability of the environment as well as corporal punishment in schools. (A1, 2020)

Having opportunities for engaging in these kinds of discussion was central for the pre-service teachers and would not have been topics they would want to have discussed with their lecturers. Initiated by participant M1, who drew upon her experience of having buddy systems in other OMPs, our buddy system was the glue that held the program together, a base structure or connecting thread for developing intercultural capacity in the most authentic way for the pre-service teachers. Our previous research on OMPs has included some form of a buddy system as part of the pre-service teacher engagement and invariably describes how making these connections throughout the program were pivotal for success or failure (Henderson, 2018; Henderson, et al., 2018; Tangen et al., 2010, 2017). Over the four iterations of the program, we had ongoing discussions about how we could continually strengthen the interactions between the pre-service teachers using and transforming the buddy system.

## 6.8   Conclusion

Management of both the expected and unexpected in the OMP was made easier due to the mutual respect and trust the teacher educators from both institutions had developed for each other during the years of collaboration. This process was successful in our OMP for several reasons. From the outset, teacher educators in both countries shared a belief that intercultural understanding mattered; that Australian and Malaysian pre-service teachers would benefit from a program designed to provide opportunities for them to become interculturally competent, culturally responsive teachers. Second, there was a shared commitment to work with a collective approach between the institutions with members from both institutions accepting responsibility for their roles and willingly reflecting on these roles in an iterative manner. There was a clear purpose for the OMP, which helped to guide what would and would not be included in the program. Having an established relationship between the two institutions prior to setting up the OMP was critical to its success.

Another strong point in the program was that there was a consistency in the core team members in both institutions to allow for trust and respect to grow. Other staff members were involved but without a core team to drive the program it is

not certain that such a strong program would have been sustained. Maintaining open communication channels throughout the program allowed for team members to share information and mutual understandings of the strengths and challenges of shared ideas. Finally, the process of shared dialogic reflection on the OMP was a cornerstone in the program's success. This chapter has provided many examples of how these shared processes help to overcome misunderstandings and mistrust and to build on working to ensure that all pre-service teachers engaged in the program would benefit in their growth and development as culturally aware teachers.

However, notwithstanding our positive collaboration, the pressure of the workload became such that at the end of 2016, both groups of teacher educators decided they needed to pause the program in order to manage the increased workload expectations of their respective institutions. Without some form of workload adjustment, it was too stressful to take on the extra work curating and implementing the program involved. Sadly, despite our shared beliefs about the value and purpose of the OMP, the structural context for action (Biesta et al., 2015), finally undermined our agency to continue.

In addition to workload, a further consideration for future programs must be what happens post-COVID-19? Whether, how and when future OMPs may occur should cause us time for reflection. We have demonstrated that at the heart of an OMP is the 'people' interaction in real face-to-face time. While virtual intercultural exchanges can connect pre-service teachers, teaching is a people profession where interpersonal connections need to be made face-to-face. The world at the moment is struggling with how to educate young people in the face of a global pandemic as well as socio-cultural, economic and political instability. These are real fears that must be considered. In relation to future cross-border OMPs, we are left with one question to reflect upon: where to from here?

# References

Arasaratnam, L. A. (2009). *The development of a new instrument of intercultural communication competence.* www.immi.se/intercultural/nr20/arasaratnam.htm

Archer, M. (1995). *Realist social theory: The morphogenetic approach.* Cambridge University Press.

Archer, M. (2000). *Being human: The problem of agency.* Cambridge University Press.

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

Archer, M. S. (2007). *Making our way in the world: Human reflexivity and social mobility.* Cambridge University Press.

Asia-Pacific Economic Cooperation (APEC). (2015). *Enhancing cross-border higher education institution mobility in the APEC region.* Australian Council for Educational Research. www.acer.edu.au

Australian Curriculum, Assessment and Reporting Authority. (n.d.). *General capabilities.* https://australiancurriculum.edu.au/f-10-curriculum/general-capabilities

Bennett, M. J. (2004). Becoming interculturally competent. In J. Wurzel (Ed.), *Toward multiculturalism: A reader in multicultural education* (pp. 62–77). 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*(4), 1–13.

Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching, 21*(6), 624–640. https://doi.org/10.1080/13540602.2015.1044325

Biesta, G. J. J., & Tedder, M. (2007). Agency and learning in the lifecourse: Towards an ecological perspective. *Studies in the Education of Adults, 39*(2), 132–149.

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge University Press.

Boynton Hauerwas, L., Skawinski, S. F., & Ryan, L. B. (2017). The longitudinal impact of teaching abroad: An analysis of intercultural development. *Teacher and Teacher Education, 67*, 202–213. https://doi.org/10.1016/j.tate.2017.06.029

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

Byram, M., Nichols, A., & Stevens, D. (2001). *Developing intercultural competence in practice*. Multilingual Matters.

Chen, G. M., & Starosta, W. J. (2000). The development and validation of the intercultural sensitivity scale. *Human Communication, 3*, 1–15.

Cubukcu, F. (2013). Pre-service English teachers' intercultural sensitivity. *Journal of Human Sciences, 10*(1), 832–843.

Deardorff, D. (2006). Identification and assessment of intercultural competence as a student outcome of internationalization at institutions of higher education in the United States. *Journal of Studies in International Education, 10*(3), 241–266.

De Oliveira Andreotti, V., Biesta, G., & Ahenakew, C. (2015). Between the nation and the globe: Education for global mindedness in Finland. *Globalisation, Societies and Education, 13*(2), 246–259. https://doi.org/10.1080/14767724.2014.934073

Dewey, J. (1938). *Experience and education*. Macmillan.

Emirbayer, M., & Mische, A. (1998). What is agency? *American Journal of Sociology, 103*(4), 962–1023.

Fives, H., & Buehl, M. (2012). Spring cleaning for the 'messy' construct of teachers' beliefs: What are they? Which have been examined? What can they tell us? In K. R. Harris, S. Graham, & T. Urdan (Eds.), *APA educational psychology handbook: Volume 2 Individual differences and cultural and contextual factors* (pp. 471–499). American Psychological Association.

Ganapathy, M. (2016). Transformation of Malaysia's higher education system: Malaysia education blueprint (2015–2025). *Bulletin of Higher Education Research, 5*(1), 10–11.

Greenwood, J. (2019). Operational trust: Reflection from navigating control and trust in a cross-cultural professional development project. *Educational Philosophy and Theory, 51*(1), 107–116.

Haas, B. W. (2018). The impact of study abroad on improved awareness: A quantitative review. *Intercultural Education, 29*(5–6), 571–588.

Hall, T., Gray, T., Downey, G., Sheringham, C., Jones, B., Power, A., & Truong, S. (2016). Jafari and transformation: A model to enhance short-term overseas study tours. *Frontiers: The Interdisciplinary Journal of Study Abroad*, *27*(1), 33–46.

Hall, T., Gray, T., Downey, G., & Singh, M. (Eds.). (2018). *The globalisation of higher education–Developing internationalised education in research and practice*. Palgrave McMillan.

Hassim, E. (2015). Next steps for Asia learning: A conceptual discourse. *The Social Educator, 33*(1), 14–25.

Heffernan, T., & Poole, D. (2005). In search of 'the vibe': Creating effective international education partnerships. *Higher Education, 50*(2), 223–254.

Henderson, D. (2018). Seeking Asia literacy beyond and within: Examining the nature of future teachers' learning through Outbound Mobility Experiences. In H. Soong & N. Cominos (Eds.), *Asia literacy in a global world: An Australian perspective* (pp. 125–144). Springer.

Henderson, D. (2020). Neo-liberalism and configuring global citizenship in higher education: Outbound Mobility Programs. In J. Zajda (Ed.), *Globalisation, comparative education and policy*

*research series: Globalisation, ideology and neo-liberal higher education reforms* (pp. 81–102). Springer.

Henderson, D., Tangen, D., Alford, J., Hepple, E., Alwi, A., Shaari, A. H., & Z., & Alwi, A. (2018). The global citizen: Exploring intercultural collaborations and the lived experience of Australian and Malaysian students during a short-term study tour in Malaysia. In T. Hall, T. Gray, G. Downey, & M. Singh (Eds.), *The globalisation of higher education – Developing internationalised education in research and practice* (pp. 307–319). Palgrave McMillan.

Hermans, R., van Braak, J., & Van Keer, H. (2008). Development of the beliefs about primary education scale: Distinguishing a developmental and transmissive dimension. *Teaching and Teacher Education, 24*(1), 127–139.

Hill, I. (2006). Student types, school types and their combined influence on the development of intercultural understanding. *Journal of Research in International Education, 5*(1), 5–33.

Kosmutzky, A. (2018). International team research in comparative higher education: Shedding some light on it social side. *Journal of Comparative and International Higher Education, 10*, 14–23.

Loughran, J. (2014). Different lenses on teaching. *Teachers and Teaching: Theory and Practice, 20*(3), 247–250.

Mach, M., & Baruch, Y. (2015). Team performance in cross cultural project teams: The moderated mediation role of consensus, heterogeneity, faultlines and trust. *Cross Cultural Management, 22*(3), 464–486.

Manning, M. L., Baruth, L. G., & Lee, G. L. (2017). *Multicultural education of children and adolescents.* Taylor & Francis.

Marginson, S. (2016). *Higher education and the common good.* Melbourne University Publishing.

Marx, H., & Moss, D. (2011). Please mind the culture gap. Intercultural development during a teacher education study abroad program. *Journal of Teacher Education*, *62*(1), 35–47.

Matveev, A. V., & Nelson, P. E. (2004). Cross cultural communication competence and multicultural team performance: Perceptions of American and Russian managers. *International Journal of Cross Cultural Management, 4*(2), 253–270.

McBurnie, G., & Ziguras, C. (2007). Institutions, not students, get the travel bug. *Far Eastern Economic Review, 17*(1), 58–61.

Mead, G. H. (1934). *Mind, self, and society from the standpoint of a social behaviorist*. University of Chicago Press.

Meirink, J. A., Meijer, P., Verloop, N., & Bergen, T. C. M. (2009). Understanding teacher learning in secondary education: The relations of teacher activities to changed beliefs about teaching and learning. *Teaching and Teacher Education, 25*(1), 89–100.

Ministry of Education. (2015). *Malaysia Education Blueprint–Higher education 2015–2025.* Ministry of Education.

Ministry of Education Malaysia. (2013). *Malaysia Education Blueprint 2013–2025: Preschool to post-secondary education.* Kementerian Pendidikan Malaysia.

Mustafa, Z. (2014). Teaching across cultures. Learning curve supplement. *The New Straits Times*, 1–3.

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies, 19*(4), 317–328.

OECD. (2018). *Preparing our youth for an inclusive and sustainable world: The OECD PISA global competence framework.* Organisation for Economic Co-operation and Development. https://www.oecd.org/education/Global-competency-for-an-inclusive-world.pdf

Piątkowska, K. (2015). From cultural knowledge to intercultural communicative competence: Changing perspectives on the role of culture in foreign language teaching. *Intercultural Education, 26*(5), 397–408. https://doi.org/10.1080/14675986.2015.1092674

Perry, L., & Southwell, L. (2011). Developing intercultural understanding and skills: Models and approaches. *Intercultural Education, 22*(6), 453–466.

Romano, R., & Cushner, K. (2007). Reflections on the importance and value of the overseas student-teaching experience. In K. Cushner & S. Brennan (Eds.), *Intercultural student teaching: A bridge to global competence* (pp. 215–225). Rowman & Littlefield Education.

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.

Shanahan, R., & McParlane, J. (2005). Serendipity or strategy? An investigation into entrepreneurial transnational higher education and risk management. *On the Horizon, 13*(4), 220–228.

Singh, M. (2018). Asian-Australian literacy: Post-20.1.17 knowledge production. In H. Soong & N. Cominos (Eds.), *Asia literacy in a global world: An Australian perspective* (pp. 53–71). Springer.

Spencer-Oatey, H., & Franklin, P. (2009). *Intercultural interaction.* Palgrave Macmillan.

Stake, R. (2008). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* (pp. 119–149). Sage Publications.

Stromquist, N. P., & Monkman, K. (Eds.). (2014). *Globalization and education: Integration and contestation across cultures.* Rowman & Littlefield.

Tangen, D., Henderson, D., Alford, J., Hepple, E., Alwi, A., Shaari, A. H., & Z., & Alwi, A. (2017). Shaping global teacher identity in a short-term mobility program. *Asia-Pacific Journal of Teacher Education, 45*(1), 23–38. https://doi.org/10.1080/1359866X.2015.1119803

Tangen, D., Mercer, K. L., Hepple, E., & Spooner-Lane, R. (2010) *Developing academic and intercultural competence: The impact of a Patches program* [Conference paper]. In *2010 Australian association for research in education international education research conference.* Melbourne.

TEMAG. (2014). *Action now: Classroom ready teachers.* Teacher Education Ministerial Advisory Group. https://docs.education.gov.au/system/files/doc/other/action_now_classroom_ready_teachers_accessible.pdf

Timperley, H. (2015). *Insights: Professional conversations and improvement-focused feedback. A review of the research literature and the impact on practice and student outcomes.* AITSL.

UNESCO. (2006). *UNESCO guidelines on intercultural education.* United Nations Educational, Scientific and Cultural Organisation.

UNESCO. (2013). *Intercultural competencies: Conceptual and operational framework.* United Nations Educational, Scientific and Cultural Organisation.

Wan, D. C., Chapman, D., Hutcheson, S., Lee, M., Austin, A., & Zain, A. N. M. (2017). Changing higher education practice in Malaysia: The conundrum of incentives. *Studies in Higher Education, 42*(11), 2134–2152.

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# Chapter 7
# Supporting the Continuum of Teacher Education Through Policy and Practice: The Inter-Relationships Between Initial, Induction, and Continuing Professional Development

**Ann MacPhail, Sarah Seleznyov, Ciara O'Donnell, and Gerry Czerniawski**

**Abstract** This chapter explores the extent to which the delivery of the teacher education continuum, i.e., initial, induction and in-service/continuing professional development (rather than the delivery of each pillar as a sole entity) is supported through policy and practice. By exploring the relationship between policy agencies, professional development agencies, and initial teacher education institutes in Ireland and England, respectively, this chapter considers the extent to which such relationships may/may not be central to the effective delivery of the teacher education continuum. Related discussion points include professional practice, school- and higher education-based teacher educators, leadership, and collaborative partnerships. Archer's critical realist social theory of reflexivity is offered as a framework through which the competing agenda of those involved across the teacher education continuum can be explored. This allows the chapter to establish the extent to which such agenda aid or hinder teacher education (as a continuum) in preparing and supporting pre-service teachers, beginning teachers, and experienced teachers to engage with contemporary classroom contexts.

**Keywords** Teacher education continuum · Teacher training · Education policy · Teacher educators · Teacher education partnerships

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## 7.1    Introduction

The authors of this chapter fully acknowledge the difficulties and dangers of making comparisons within, and between, different national education systems. Educational provision, in all its forms, is deeply influenced by the cultural, economic, and political context in which it is located (Alexander, 2001; Hayhoe, 2007). Nevertheless, some aspects of the Irish and English policy and practice context, in relation to a teacher education continuum, are shared by many countries. In this chapter, the authors share pertinent points from the Irish and English teacher education context, respectively, that encourage consideration of the extent to which the delivery of the teacher education continuum collectively, i.e., initial, induction, and in-service/continuing professional development (rather than the delivery of each pillar as a sole entity) in each jurisdiction is supported through policy and practice.

The author team comprises an Irish and English higher education-based teacher educator, the Director of a Teaching School Alliance, and Education Endowment Foundation Research School in England working to support schools with high-quality teacher training, professional development, and school improvement support, and the National Director of Ireland's largest single support service offering professional learning opportunities to teachers and school leaders in a range of pedagogical, curricular, and leadership areas. We believe that meaningful representation across multiple 'teacher educator' roles is central when the intention is to engage in discussion exploring inter-relationships across the teacher education continuum.

There is a preference within policy circles in Ireland to use 'initial teacher education' (ITE) and 'teacher education' and in English policy circles to use 'initial teacher training' (ITT) and 'teacher training'. In working through the two respective policy contexts in this chapter, we maintain the preference of country-specific terminology for each. In closing this chapter, Archer's (2007) critical realist social theory of reflexivity is offered as a framework through which the competing agendas of those involved across the teacher education continuum can be explored to establish the extent to which such agendas aid or hinder the delivery of the teacher education continuum collectively.

## 7.2    Irish Policy Context

The rising tide of accountability in teacher education due to the influence of the European higher education space has led to a range of policies and regulations related to various aspects of the continuum of teacher education in Ireland over the last ten years (Clarke & Killeavy, 2012; Conway & Murphy, 2013). Attempts have been made to present the initial, induction, and in-service/in-career dimensions as inter-related aspects of the teacher education continuum. The Teaching Council's Policy on the Continuum of Teacher Education (Teaching Council, 2017) has heralded a new set

of roles, relationships, and responsibilities for all stakeholders in Irish teacher education (Conway, 2013). However, we contend that the enactment of each dimension has been restricted to the specific space occupied by the respective components. In turn, this has limited the exploration of how the dimensions relate to each other and how the roles, responsibilities, and relationships of stakeholders involved in each dimension can be reconfigured to work collectively across the continuum. Indeed, Coolahan (2004) noted the necessity to consider a renewed policy approach to teacher education and to the teaching career which addresses the three dimensions as interconnected and essential supports for lifelong learning. Without this, we agree that this has contributed significantly to the fragmentation that currently exists in teacher education, particularly between the university and school contexts (Clarke et al., 2012). Coolahan's (2004) observation that 'What has been absent up to date has been an overall cohesive agency to co-ordinate multi-faceted action, and the lack of a political will to take the necessary action … working together one may hope that the aspirations and policies for teacher education in Ireland … may reach fruition in the near future' (p. 3) is as relevant to us today as it was when the comment was made over 15 years ago.

### 7.2.1  *Initial Teacher Education in Ireland*

In Ireland, initial teacher education (ITE) programmes for primary and post-primary teachers are facilitated through a range of concurrent (undergraduate) and consecutive (postgraduate) programmes. All ITE programmes in Ireland that lead to registration must have professional accreditation from the Teaching Council.

The Teaching Council was established in 2006 with a regulatory function to shape the content and delivery of all ITE programmes. Teaching Council regulations (2017) have been a catalyst for many ITE departments to revise programmes, as well as expectations and work practices for initial teacher educators (ITEds). The Teaching Council promotes the 'continuum of teacher education' with specific standards for entry to teacher education. There has been the introduction of school-university partnerships in support of newly qualitied teachers' learning and a mandated induction programme (DROICHEAD) with the creation of Professional Support Teams in schools to mentor new teachers. Currently, underway is a new programme of professional development (COSÁN) to support teachers as lifelong learners.

An international panel (Sahlberg et al., 2012) was tasked to identify possible new structures which would recognise and address weaker areas in the system of teacher education. It recommended 'teacher education should be facilitated in a university setting with systematic links to clinical practice in field schools [which] would also provide a critical mass for improving capacity for high quality research' (p. 25). The Department of Education and Skills (2012) noted that the vision for the structure of ITE provision in Ireland was that by 2030 each network of teacher education institutions 'will offer research-based teacher education in internationally inspiring environments' (p. 24).

It is worth noting that teacher education in Ireland has 'entered a period of increased surveillance and control' (Waldron et al., 2012, p. 3). Aligned with this is the lack of human, material, and financial resources to support such restructuring and reconceptualising of ITE programmes (O'Donoghue et al., 2017).

## 7.2.2   Continuous Professional Development in Ireland

At state level in Ireland, Continuous Professional Development (CPD) for teachers is provided by partners funded by the Department of Education and Skills (DES). These include national support services, management bodies, professional associations, universities, and a network of education centres. Their target audience are qualified teachers who are registered with the Teaching Council. CPD is not mandatory in Ireland with teachers undertaking CPD electively.

The majority of DES funded CPD is designed and facilitated by support services in line with policy/curriculum priorities and the self-identified needs of schools. Staffing of the services operates on a secondment basis where school principals and teachers are released from their schools for finite periods to work with the services as teacher educators. The largest of these is the Professional Development Service for Teachers (PDST), established in 2010, as an amalgamation of stand-alone support services into a single integrated, cross-sectoral (primary and post-primary), and multi-disciplinary body. The PDST leads the design and facilitation of professional development for all primary and post-primary curriculum and policy areas. Junior Cycle (first three years of post-primary) reform and Special Educational Needs (SEN) are respectively managed by other professional development providers, i.e., Junior Cycle for Teachers (JCT) and the National Council for Special Education (NCSE).

As 'continuing teacher educators' (O'Donnell, 2022), DES support service staff are set apart from their counterparts in earlier phases of the teacher education continuum in working with established and experienced teachers and school leaders. Their work frequently involves the introduction of system reform and guiding schools in implementing change, arguably adding a layer of complexity to their interface with audiences. Accordingly, they must facilitate learning settings, which acknowledge the complexities and discomfort of professional growth where existing cultures, assumptions, and habitual practices may be challenged.

For many years, provision for teacher CPD in Ireland has largely comprised nationally scheduled transmissive 'roll-outs'. In recognising the power of context and contemporary views of CPD as a 'process' not an 'event' (Guskey & Yoon, 2009), the PDST privileges sustained and collaborative approaches of teacher professional learning (Desimone, 2009). Internationally recognised models such as on-site school support, communities of practice, action research, and lesson study feature prominently in PDST's support offerings reflecting the organisation's fidelity to transformative professional learning (Kennedy, 2014) and post-modern stances of teacher professionalism (Hargreaves, 2000).

### 7.2.3   The Role of (Initial and Continuing) Teacher Educators in Advocating (or not) for Working Collectively Across the Continuum in Ireland

Our interest is in exploring why there appears to be a lack of shared and multi-faced action in Ireland towards teacher education as a collective from stakeholder groups involved in each dimension of the teacher education continuum, despite support for such action being evident in a number of the previously referred to documents. We do this by interrogating our respective positions (as an initial teacher educator in a higher education institute in Ireland and a 'continuing' teacher educator/CPD provider) to begin understanding what some of the issues may be with working collectively across the teacher education continuum, i.e., initial, induction and in-service/continuing professional development.

In the same vein to what has been reported internationally, there are many possible connotations and complexities attached to the different constructed roles of 'teacher educator', dependent on the specific remit of the teacher educator and the populations with which they work. There is no guaranteed unity in the term 'teacher educator' or in the way in which individuals choose to enact the term. Unity is difficult to give that the term 'teacher educator' captures '… all those who actively facilitate the (formal) learning of student teachers and teachers' (European Commission, 2013, p. 8).

### 7.2.4   'Initial Teacher Educator' in Higher Education

As in many countries, the enactment of the role of ITEd in Ireland (even with similar teaching or research responsibilities) varies widely dependent on the philosophies, disposition, working context, and level of expertise of individuals. The level of autonomy afforded to ITEds results in them having relative freedom in deciding where they invest their energies with respect to advocating (or not) for a genuine continuum of teacher education that supports working collectively with other teacher education stakeholder groups across the continuum. The identity as ITEds happens while teacher educators work and interact with colleagues, pre-service teachers (PSTs) and others involved in teacher education (Swennen et al., 2010). However, not all ITEds have a disposition to advocate for an alignment between ITE, induction, and in-service. Indeed, there are many instances in the literature where those discussing ITE use the term 'teacher education' to explicitly convey ITE only and not the continuum. Likewise, not all ITEds are entrenched in addressing the reality of schools through their programme, support the work of those providing CPD opportunities to teachers or constructively and critically consider the government-level proposed change and reform in schools.

### 7.2.5   Continuing Teacher Educator and CPD

The distinct and evolving role of the Irish continuing teacher educator, as hinted in Sect. 7.2.2, goes some way towards identifying possible barriers to engagement across the continuum. There is little to suggest that the lack of such engagement is associated with a reluctance to work with colleagues in the initial or induction phases. Indeed, with the support of PDST management, their members work with initial and induction teacher educators on collaborative projects in areas of shared priority such as team teaching or digital technologies. However, these are often short term and finite endeavours as the growing demands of modern CPD provision means that the PDST is obliged to prioritise core business over that of cross-continuum work.

An unprecedented proliferation of curriculum and policy reform in Ireland has become synonymous with large-scale provision of CPD for Ireland's teachers and school leaders plotted along ambitious timelines. The work programme of support services expands in accordance with increasing policy priorities and bolted-on appendages. Similarly, it can change direction with successive Ministers of Education meaning that for the services, CPD can be a moving target. Arguably, another moving target facing support services like the PDST is the turnover of staff owing to the secondment arrangement. Invariably, this results in continuous rounds of staff induction absorbing additional energy and time. Thereafter, ongoing development of service staff is critical to remaining 'ahead of the curve' towards supporting schools in such a dynamic and changing educational landscape.

## 7.3   Shared Conversation and Spaces for the Irish Context

### 7.3.1   Advocating for the Enactment of Teacher Education as a Continuum

The target audience for higher education-based teacher educators and 'continuing teacher educators' is not entirely dissimilar. That is, cooperating teachers/school-based teacher educators and PSTs are common audiences, where the enhancement of students' school learning experiences is a shared priority. Even so, there are expected differences in the type of support each partner provides, as well as the extent and timing of such support.

Interestingly, school placement appears to be the catalyst through which advocacy for the enactment of a teacher education continuum in favour of operating as three separate entities of initial, induction, and in-service can be achieved. In revisiting the standards for ITE, the Teaching Council notes the centrality of school placement for all stakeholders:

> School placement is considered the fulcrum of teacher education. It includes teachers from all phases of the continuum – experienced teachers who support and guide the student teacher,

and who learn from the process themselves; student teachers who are learning about being teachers; and placement tutors. (November 2019)

The Teacher Education Policy Section (Initial Teacher Education and Professional Development) of the Department of Education and Skills has recently requested submissions to a Policy Statement on ITE. Overarching themes included (a) student placement and connection to schools, with a specific focus on the coherence between ITE, induction and future professional development; and (b) current structures and linkages between the Teaching Council, Higher Education Authority, Department of Education and Skills, higher education institutes, and support services (such as the PDST).

### 7.3.2   (Un)intended (Mis)alignment Across the Continuum

Reform and new policy priorities are keys to the remit of the PDST, comprising the vast portion of its work. This is not necessarily a competing space with other parts of the teacher education continuum. Implementation imperatives and timelines mean that the audience of CPD support services are frequently the first recipients of reform messages given that they are to be embedded first and foremost by practising teachers and school leaders in order that policy goals are achieved. Initial teacher education and induction invariably receive these messages afterwards, and often through episodic inputs from support services who, as system front-liners of reform, must preserve the more substantial provision for their primary audience as part of school improvement and accountability agendas. Models of provision, therefore, differ according to capacity, internal expertise, and policy expectations. The more likely competing agenda comprise approaches, methodologies, and what is considered 'best practice' in pedagogy.

While there are no formal arrangements for working as partners, one example in the Irish context is the 'STEM for Girls' initiative which is an ITE/CPD partnership between the PDST and two university Schools in University College Dublin.

### 7.3.3   The Creation of a Shared Space

In a response to the previously noted lack of 'crucial agency' (Coolahan, 2004), the National Teacher Education and Teacher Educator Forum in Ireland was established in November 2017 to identify and address common interests and requirements across all Irish colleagues who identified as teacher educators (Murray et al., 2021). Colleagues noted (a) a clear interest in an inclusive networking space; (b) a need for a collective voice and collective consideration of the teacher education continuum to inform teacher education; (c) an acknowledgement of the necessity for resource pooling and institutional support; and (d) the centrality of PSTs and school placement.

Working as a collective and collaborative group to establish a platform for teacher education that would inform both current and future teacher education policies was a unanimous priority of the Forum. The Forum has attracted involvement from higher education institutes, cooperating teachers/school-based mentors and CPD providers.

## 7.4    English Policy Context

Changes in teacher training and education in England can be added to a list of reforms that, over time, have attempted to secure greater value for money, make education systems more responsive to the requirements of industry and commerce, and raise pupil achievement (Hulme, 2016; Livingstone & Robertson, 2001; OECD, 2010). These features have, at times, been accompanied by wider international discourses reflecting the marketisation and economisation of public sector work, in which teacher education is often portrayed as a 'policy problem' (Mayer, 2014, p. 40). In England, this 'problem' received particularly savage handling by, at the time, the incoming Secretary of State for Education Michael Gove, with his reference to academics working and running teacher education departments in universities as the 'Blob' and 'Enemies of Promise' (Gove, 2013). The implication of this divisive discourse is one in which the 'progressive' ideas often associated with university education departments are seen to be responsible for damaging young people's education. The cure for this apparent 'disease', and the theorisation seen as one of its symptoms, has, in England, been the drive for more 'school-led' teacher education with a change in direction to more on-the-job 'training' (e.g., through *School Direct* and *School-Centred Initial Teacher Training (SCITT)*) and what some have described as the 'practice turn' (Cochran-Smith, 2016, p. xiii). In exploring the extent to which a teacher education continuum can, therefore, be said to exist in the English context, we acknowledge the integrity, commitment, and passion that teacher educators in *all* contexts bring to the work they do. We also acknowledge that the potential for a teacher education continuum in England is severely hampered by this policy context.

### 7.4.1    *Initial Teacher Education in England*

Despite calls for coherence across Initial Teacher Training (ITT), Newly Qualified Teacher (NQT), and in-service teacher professional development (Boyd, 2014; European Commission, 2010; Twiselton, 2019), there is relatively little overall coordinated connection between ITT, professional development, and the experiences of new and/or experienced teachers in schools. There are a number of reasons why this is the case. Spurred on by publication of the government's white paper *The Importance of Teaching* (Department for Education [DfE], 2010), there has been an increase in SCITTs and employment-based routes into teaching (EBITTs) including *School Direct.* These routes, like their university counterparts, provide Qualified

Teacher Status (QTS). Another pathway developed under New Labour, *Teach First,* offers a salaried route for high achieving graduates (like the US *Teach for America* programme). As a social enterprise, registered as a charity, Teach First focuses on placing teachers in schools with high numbers of disadvantaged pupils. As is the case with school-centred routes into teaching, Teach First is practice-focused, works with partner universities, and encourages early-career teachers on the scheme to complete a Master's programme, which is delivered in partnership with universities (Teach First, 2018). Governmental emphasis on outstanding schools leading the training and professional development of teachers has also been bolstered by the development of Teaching Schools (TSs) (DfE, 2012). These schools have been judged 'good' or 'outstanding' in the Office for Standards in Education, Children's Services and Skills (Ofsted) inspections and work with other institutions (including universities) to provide school-based initial teacher training, as well as professional and leadership training in their local area.

These different pathways coexist with more traditional university routes that offer both QTS and university accreditation (e.g., The Postgraduate Certificate in Education). The shift away from the dominance of university routes into teaching, part of an international trend in more school-based teacher education models, has been widely reported (Boyd & Tibke, 2012; Lunenberg et al., 2014; White et al., 2015). In England, these developments have created a confusing network of possible pathways for potential teachers, many of which have been little more than short-lived experiments (Whiting et al., 2018). For example, *Troops To Teachers*, originally launched in 2012 with a budget of over £10 million, was intended to bring former army personnel into schools, with a focus on hard-to recruit subjects and to tackle endemic behaviour challenges. After 6 years, the programme recruited just 363 trainees and with a subsequent re-launch in 2018, the programme reportedly managed to recruit only 22 trainees (Hazell, 2019).

Alongside governmental attempts to reduce the connections between ITE and universities, a deepening separation of some roles within teacher education is becoming entrenched within many higher education institutions. Those who work in universities offering teacher education are usually classified either as 'education researchers' or as 'teacher educators' (Murray et al., 2011). The latter role invariably involves heavy teaching timetables with few opportunities for research. Moreover, serving teachers are often seconded from schools to universities to become teacher educators (Murray et al., 2011) and rarely have opportunity to engage in education research. Taken together, these developments have engendered fears of a significant threat to higher education systems in England, in terms of decreasing student numbers (and therefore income) and the extent to which both educational research and teacher-focused Continuing Professional Development (CPD) provision in some higher education institutions remain viable activities.

That said, while the conditions for a future teacher education continuum appear in the English context to be somewhat fragmented, they do nevertheless exist. It has been argued that the intention behind the introduction and validation of the school-based routes described above was to wrest control of teacher education from universities and academics oft portrayed as left-leaning (Exley & Ball, 2011). It was argued

that the School Direct programmes, Teaching Schools and SCITTs were intended to inject much needed practice-based learning into heavily theoretical teacher training programmes (DfE, 2010). However, the plan to remove the need for, and reduce the influence of, teacher training universities has failed, with Teach First and the majority of Teaching Schools and SCITTS returning to local universities to supply much of the core training programme for pre-service teachers, supplementing this with a small number of school-based training sessions with more of a practice focus, or extended school placements. It is also the case that many of the same teacher educators train teachers on both school-based and higher education-led programmes, largely with the same programme content (Whiting et al., 2018).

### 7.4.2   Continuous Professional Development in England

For teacher educators' CPD, no continuum currently exists in England. The European Commission's (2013) report *Supporting Teacher Educators for Better Learning Outcomes* did much to acknowledge an historic lack of support given to teacher educators at the start of their professional careers. In England, the majority of teacher educators working in universities are ex-teachers and while CPD opportunities do exist, many are generic in nature (e.g., targeting skills associated with grant writing or academic publications) rather than specifically focusing on the professional learning needs of neophytes, or their more experienced, university-based teacher educators (Czerniawski, 2018). One of the outcomes of more recent government policy in ITE since 2010 has been the expanding provision of professional development for some teacher educators in some schools, albeit in fragmented and particularised forms. This point is emphasised by Murray et al. (2017):

> The emergence of 'Teaching Schools' as recognized centres of excellence, with government funding available to support school-led ITE programmes and school-focused research and development projects, has greatly increased the professional learning opportunities available to school-based educators. (p. 660)

Unlike Ireland, CPD for teachers in England is largely unregulated by policy, beyond the inclusion in the inspection framework of an obligation for school leaders to 'focus on improving staff's subject, pedagogical, and pedagogical content knowledge' (Ofsted, 2019, 'Leadership and Management' section). There is a broad expectation from the Department for Education (DfE, 2019a) that teachers should be offered, and take part in, professional development, but with no associated legal minimum time requirement. Many universities offer traditional CPD courses such as postgraduate programmes of study, although Opfer and Pedder (2010) have argued that teachers do not always value such programmes, feeling they connect poorly to actual classroom practice. School-based CPD is, generally, not quality assured, nor controlled in terms of providers, leaving schools to navigate a complex market of commercial, public, and third sector providers. Even 'national' CPD programmes,

such as the Early Career Framework (see Sect. 7.4.3) or National Professional Qualifications for school leaders, operate in a marketised context, with many providers bidding to secure the opportunity to design and lead their own versions of existing programmes.

Calls for more effective CPD in England over the last two decades have, to some extent, focused on improving the structures for, and duration of, CPD in schools (Stoll, 2009; Timperley et al., 2014). Many of these calls have focused on improving the relationship between research and practice, either by ensuring CPD engages practitioners with research into effective teaching and learning (e.g., Coe et al., 2015; Hallgarten et al., 2014), or by engaging teachers in research-like processes such as lesson study, action research, or practitioner enquiry (e.g., Bell et al., 2010; Timperley et al., 2014). The establishment of the Education Endowment Foundation[1] in 2011, and its more recent network of Research Schools, has enabled research material to be made more accessible and digestible to teachers. It has, however, not necessarily sought to encourage teachers to engage in research-orientated CPD approaches, leaving this largely up to individual schools or networks of schools.

### 7.4.3 The Early Career Framework—A Glimmer of Hope or a Missed Opportunity?

The recent publication of the Early Career Framework (DfE, 2019a) is the first substantial attempt by policymakers in England to tackle a fragmented teacher education continuum. However, whilst the framework claims that it 'builds on and complements ITT' (DfE, 2019a, p. 5), it is largely focused on extending the support framework offered to NQTs from 1 to 2 years, so that they do not move too quickly into the performance appraisal and professional development systems of in-service teachers. Within this 2-year framework, NQTs receive additional non-contact time, targeted professional development, and careful mentoring through the framework (DfE, 2019a), whilst continuing to access the routine professional development offer of the school within which they work. However, while the intention behind the publication of this document is to be welcomed, there has been no effective policy attempt to tackle an enduring gap between ITT and NQT programmes, nor to streamline the provision of professional development for teachers beyond their second year; provision which remains largely in the hands of senior leaders at school level. Furthermore, in a separate document published in the same year announcing the launch of the Early Career Framework, the DfE published its *Teacher Recruitment and Retention Strategy* (DfE, 2019b). The publication of this document is also welcomed, not least for the acknowledged support of 'key sector bodies' offering a 'shared vision for the profession' (DfE, 2019b, p. 4). However, when reflecting on a potential teacher

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[1] https://educationendowmentfoundation.org.uk/about/history/.

education continuum in England, it is also worth noting that following this acknowledgement of support, not one signatory on page 5 of that document directly represents universities.

## 7.5 Shared Conversation and Spaces for the English Context

### 7.5.1 Advocating for the Enactment of Teacher Education as a Continuum

The English context described in this chapter would seem to offer little hope for the creation of a collective teacher education continuum. For those of us working in teacher education, that hope is complex, enduring, tenacious, and deeply embedded. Diversification, competition, and consumer orientation are distinct, yet related, aspects of the marketisation of education (Ball, 2018; Bartlett et al., 2002) that have impeded the development of that continuum. In England, the growth of employment-based routes into teaching over the last two decades (e.g., the Graduate Teacher Programme and School Direct initiatives) has been accompanied by fragmentation within the profession. As the roles available for higher education-based teacher educators in workplace learning have diminished, the importance of mentoring roles for pre-service teachers in schools has steadily grown (Murray et al., 2013), along with the pressures on teachers in schools to market, capture, and facilitate elements of a fragmenting teacher education system. Paradoxically, the growth of academy chains (in England) has also been accompanied by a renewed interest in school-based practitioner research, recently accelerated in 2016 by the growth of 'Research Schools' set up in partnership with the Education Endowment Foundation (EEF), the Institute for Effective Education (IEE), and backed by the Department for Education (DfE). While it is too soon to give a clear indication as to the effects such schools will have on the education system, their existence further complicates distinctions between its roles, institutions, phases (i.e., primary/secondary etc.) and career stages. The emergence of new research-related job roles in schools (e.g., Research Leads and Research Advocates) and the rise of grassroots teacher-led organisations (e.g., researchED) also raise important questions around the purpose of educational research and who, why, how, and for whom, it is carried out (Czerniawski, 2018).

Teachers and teacher educators are, or should be, central to societal transformation. Both share potentially active and agentic roles as change agents in professional development, school reform, and school improvement (Guskey, 2002; Imants & Van der Wal, 2020). That potential cannot be fully realised within the atomisation that characterises so much of the English education system, including those elements that relate to teacher training. The introduction of the Early Career Framework (DfE, 2019a) offers limited scope to achieve an authentic and cooperative teacher education

continuum. Such a continuum cannot be successfully achieved without substantial systemic change.

## 7.5.2  The Creation of Shared Space

The formation of a policy-making process that is properly informed and interrogated by research, rather than defined by policy makers' preferred approaches to teaching and learning, would be one way to achieve that authentic and cooperative teacher education continuum. If both teacher educators and teachers are to operate in an 'agentic state', the divide between research and teaching must be narrowed to enable a more successful dialogue around what works, where and for which pupils, and to support dual engagement in, and with, research by teachers and teacher educators. Policymakers in England would do well to note the paradox of pushing to promote practice-based learning over university-led learning, whilst at the same time bemoaning the fact that some teachers might not engage with an evidence-based. A divide can, unwittingly, be reinforced by universities who often have to employ staff either as teacher educators or as education researchers: a situation not helped by the fact that the current Teaching Standards in England make no mention of research (DfE, 2013). Expanding the remit of the Education Endowment Fund to encourage practitioner engagement in research would be a significant move towards that continuum. Such a structural move would boost teachers' agency by raising the status of practitioner research and enable more teachers to become both knowledge consumers *and* knowledge producers, above and beyond those who voluntarily choose to embark on Master's and Doctoral pathways. This move would also help end the historic and divisive bifurcation between theory and practice that has plagued the English education system since its inception along with the 'ivory tower' reference to university-based teacher educators.

It might also help to streamline the ITE system, avoiding the current fragmentation of pathways that this chapter has described. In so doing, an extension to the time it takes to become a teacher would enable pre-service teachers to engage more fully with research (both as producers and consumers), as part of their professional development. National ITE programme content could then be reviewed by independent panels of research-engaged practitioners, educational researchers (including those within Higher Education Institutions (HEIs)), and those bodies working closely with teacher educators, e.g., Chartered College of Teachers (CCT), the Universities' Council for the Education of Teachers (UCET), and the British Educational Research Association (BERA). Greater autonomy could then be given to trusted or validated CPD leaders, such as Maths or English Hub schools (DfE, 2014) to develop locally responsive CPD programmes that align with critically interrogated research evidence, rather than policy directives. Universities could then connect with these Hubs enabling more school-university partnership research projects, again with the goal of enabling teacher agency. And finally, ending the siloed cultures that permeate much of ITE in England so that teacher educators are more involved in research, and

education researchers are more involved in teacher education. Taken together, such changes would help create shared spaces where pre-service teachers and in-service teachers become more research-minded and better able to exercise agentic choice, when taking decisions about classroom practice, their professional development and the development of their profession as a whole.

## 7.6 Agentic and Reflexivity Threads

Archer's critical realist social theory of reflexivity (2003), which frames the chapters in this book, provides a framework through which the competing agenda of those involved across the teacher education continuum can be explored to establish the extent to which such agendas aid or hinder teacher education (as a continuum) in effectively preparing and supporting PSTs, beginning teachers, and experienced teachers to engage with contemporary classroom contexts. This chapter prompts us to consider agentic ways of working as well as the extent to which reflexivity captures the personal and social identities that affect engagement with what we have identified as our 'call to action', i.e., teacher education as a continuum rather than three silos of initial, induction and in-service/CPD education.

### 7.6.1 Agentic Ways of Working

A clear articulation of the word 'agentic' and its relationship to agency is captured by Bjerede and Gielniak (2017), '… agentic is described as an individual's power to control his or her own goals actions and destiny. It stems from the word agency; the capacity, condition, or state of acting or of exerting power' (para. 1). It is clear in the instances reported in this chapter that there is a difference in the level of agentic learning (Bjerede & Gielniak, 2017) (i.e., self-directed actions aimed at personal growth and development based on self-chosen goals) undertaken by the initial and continuing teacher educator, and across the two nations. In Ireland, the initial teacher educator conveys a level of autonomy afforded to many academics in higher-education institutes to determine their behaviour and associated practices (albeit related to contributing to ITE programmes), acknowledging that such decisions and choices can be individualised and/or mediated by the higher education structure. The continuing teacher educator in Ireland is accountable for the design and facilitation of a national CPD programme and is therefore confined by a highly regulated space. It is perhaps understandable that the assumption be made that the continuing teacher educator is operating in an 'agentic state' (Milgram, 1974, p. 133), where they follow the orders of someone in authority. Commonly associated with such a state is that the individual(s) do not feel responsible for their actions or their consequences, and we would suggest that this is not the case in the instance reported

here. Evidence for this arises (specifically in the context of the continuing teacher educator) in Sect. 7.6.2.

The shift from autonomy to 'agency' is referred to as the 'agentic shift' (Milgram, 1974, p. 133). Prompted by findings that suggest that a shift in agency may influence susceptibility (Damen et al., 2015), there may be a concern for the initial teacher educator with respect to a shift in the level of autonomy (that such a position in higher education allows) to advocating for the enactment of a continuum of teacher education with organisations (e.g., Teaching Council) who are centrally tasked with overseeing the enactment of the continuum. The concern would arise if the initial teacher educator became more susceptible to direct persuasion by a source of authority (e.g., Teaching Council) after experiencing low agency in that specific arena. England provides an interesting example of this possibility. In England, the initial teacher educator has historically enjoyed a similar degree of autonomy to that of their Irish counterpart. One might also say that the English continuing teacher educator has enjoyed significantly greater autonomy since the Conservative government took power in 2010, with the demise of the National Strategies and their associated training packages. Continuing teacher educators not working on National Professional Qualifications for school leaders, or within Maths or English Hubs, have ostensibly been able to promote any preferred approaches to curriculum and pedagogy. However, recent policy shifts towards prioritising a practice emphasis in ITE programmes, and moves to encourage specific pedagogic models, such as Direct Instruction and 'knowledge-rich' curricula,[2] may yet constrain the degree of agency initial and continuing teacher educators are able to enjoy. Whilst both ITE and schools' inspections frameworks claim not to advocate a particular method of planning (including lesson planning), teaching or assessment (Ofsted, 2020), the extensive funding and publicity afforded to the government's 'preferred' approaches means any teacher educator not aligning with these preferences may find their agency to be compromised.

### 7.6.2  Reflexivity

Reflexivity is conceptualised as the human ability to subjectively consider oneself in relation to the world (Archer, 2007). Archer sees reflexivity as enabling the individuals to adopt certain 'stances' towards society, which constitute the micro–macro link and produce the 'active agent'. In that sense, reflexivity is a mediator between structure and agency (Archer, 2003, 2007).

There is a hint in this chapter of the significance of the individual's background and their position in social structures for reflexivity. The cultural/social capital aligned with the initial teacher educator allows them to respond to structural and cultural contexts through their internal conversations and, in turn, generate post-reflexive

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[2] https://www.gov.uk/government/speeches/nick-gibb-the-evidence-in-favour-of-teacher-led-instruction.

choices. An example of this is captured by the initial teacher educator deciding that the contribution they wish to make and pursue as a teacher educator is that teacher education be supported as a continuum rather than as three silos (initial, induction, and in-service/CPD). Limited abilities, or opportunities, for the continuing teacher educator to question their situation through internal conversation and generate post-reflexive choices, may contribute to the reproduction of existing practices. An example of this is captured through the admittance in the Irish context that the continuing teacher educator, as stated earlier in Sect. 7.2.5, 'is obliged to prioritise core business over that of cross continuum work'. In both instances, reflexivity affords the teacher educators to deliberate on their future actions as advocates for the teacher education continuum, with the continuing teacher educator more clearly aligning with the tension arising 'between being conditioned to do things one way but being able to conceive of doing them differently' (Archer, 1996, pp. xxiv–xxv).

## 7.7   Conclusion

It is hoped that this chapter contributes to a serious consideration of how best to work with colleagues across the teacher education continuum to ensure that it represents a shared understanding of the delivery of effective teacher education across initial, induction, and continuing professional development. The central premise remains that a genuine, shared teacher education continuum across all teacher education stakeholders will more effectively prepare and support pre-service teachers, beginning teachers, and experienced teachers to engage with contemporary classroom contexts. The authors of this chapter propose, and indeed have led by example, that the likelihood of a genuine, shared teacher education continuum is heightened by working with, and learning from, reflective stakeholders. This chapter has initiated an exploration of how current policy and practice affects the delivery of the teacher education continuum. The next stage is to propose a collective action strategy (MacPhail, 2020) on how best to achieve the support and enactment of a collective and shared teacher education continuum.

## References

Alexander, R. (2001). *Culture and pedagogy: International comparisons in primary education.* Blackwell.

Archer, M. (1996). *Culture and agency* (2nd ed.). Cambridge University Press.

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

Archer, M. (2007). *Making our way through the world: Human reflexivity and social mobility.* Cambridge University Press.

Ball, S. J. (2018). Commercialising education: Profiting from reform! *Journal of Education Policy, 33*(5), 587–589.

Bartlett, L., Frederick, M., Gulbrandsen, T., & Murrillo, E. (2002). The marketisation of education: Public schools for private ends. *Anthropology and Education Quarterly, 33*(1), 5–29.

Bell, M., Cordingley, P., Isham, C., & Davis, R. (2010). *Report of professional practitioner use of research review: Practitioner engagement in and/or with research.* CUREE, GTCE, LSIS & NTRP.

Bjerede, M., & Gielniak, M. (2017). *What is agentic learning and why is it important?* https://www.gettingsmart.com/2017/11/what-is-agentic-learning-and-why-is-it-important/

Boyd, P. (2014). Using modelling to improve the coherence of initial teacher education. In P. Boyd, A. Szplit, & Z. Zborg (Eds.), *Teacher educators and teachers as learners: International perspectives* (pp. 51–73). Libron.

Boyd, P., & Tibke, J. (2012). Being a school-based teacher educator: Developing pedagogy and identity in facilitating work-based higher education in a professional field. *Practitioner Research in Higher Education, 6*(2), 41–57.

Clarke, M., & Killeavy, M. (2012). Charting teacher education policy in the Republic of Ireland with particular reference to the impact of economic recession. *Educational Research, 54*(2), 125–136.

Clarke, M., Lodge, A., & Shevlin, M. (2012). Evaluating initial teacher education programmes: Perspectives from the Republic of Ireland. *Teaching and Teacher Education, 28*(2), 141–153.

Cochran-Smith, M. (2016). Foreword. In G. Beauchamp, L. Clarke, M. Hulme, M. Jephcote, A. Kennedy, G. Magennis, I. Menter, J. Murray, T. Mutton, T. O'Doherty, & G. Peiser (Eds.), *Teacher education in times of change* (pp. x–xvi). Policy Press.

Coe, R., Cordingly, P., Greany, T., & Higgins S. (2015). *Effective Continuing Professional Development and Learning (CPDL)—Thematic analysis of the findings from Phase 1*. Teacher Development Trust.

Conway, P. F. (2013). Cultural flashpoint: The politics of teacher education reform in Ireland. *The Educational Forum, 77*(1), 51–72.

Conway, P. F., & Murphy, R. (2013). A rising tide meets a perfect storm: New accountabilities in teaching and teacher education in Ireland. *Irish Educational Studies, 32*(1), 11–36.

Coolahan, J. (2004). The historical development of teacher education in the Republic of Ireland. In A. Burke (Ed.), *Teacher education in the Republic of Ireland: Retrospect and prospect* (pp. 3–11). The Centre for Cross Border Studies.

Czerniawski, G. (2018). *Teacher educators in the 21st century: Identity, knowledge and research.* Critical Publishing Limited.

Damen, T. G., Müller, B. C., van Baaren, R. B., & Dijksterhuis, A. (2015). Re-examining the agentic shift: The sense of agency influences the effectiveness of (self) persuasion. *PLoS ONE, 10*(6), e0128635.

DfE. (2010). *The importance of teaching: Schools White Paper*. The Stationery Office.

DfE. (2012). *Teaching schools—background*. http://www.education.gov.uk/nationalcollege/index/support-for-schools//teachingschools/teachingschools-background.htm

DfE. (2013). *Teachers' standards—guidance for school leaders, school staff and governing bodies. July 2011 (introduction updated June 2013)*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/665520/TeachersStandards.pdf

DfE. (2014). *Network of 32 maths hubs across England aims to raise standards* [Press release]. Department for Education.

DfE. (2019a). *Early career framework*. https://www.gov.uk/government/publications/early-career-framework

DfE. (2019b). *The teacher recruitment and retention strategy*. www.gov.uk/government/publications

Department of Education and Skills. (2012). *Report of the International Review Panel on the structure of initial teacher education provision in Ireland*. Higher Education Authority.

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher, 38*(3), 181–199.

European Commission. (2010). *Developing coherent and system-wide induction for beginning teachers: A handbook for policy makers.* https://ec.europa.eu/assets/eac/education/policy/school/doc/handbook0410_en.pdf

European Commission. (2013). *Supporting teacher educators for better learning outcomes.* European Commission.

Exley, S., & Ball, S. J. (2011). Something old, something new … understanding Conservative education policy. In H. Bochel (Ed.), *The Conservative Party and social policy* (pp. 97–118). Policy Press.

Gove, M. (2013). I refuse to surrender to the Marxist teachers hell-bent on destroying our schools: Education Secretary berates 'the new enemies of promise' for opposing his plans. *The Daily Mail.* http://www.dailymail.co.uk/debate/article-2298146/I-refuse-surrender-Marxist-teachers-hell-bent-destroying-schools-Education-Secretary-berates-new-enemies-promise-opposing-plans.html

Guskey, T. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and Practice, 8*(3), 381–391.

Guskey, T. R., & Yoon, K. S. (2009). What works in professional development? *Phi Delta Kappan, 19*(7), 495–500.

Hallgarten, J., Bamfield, L., & McCarthy, K. (Eds.) (2014). *Licensed to create: Ten essays on improving teacher quality*. RSA Action and Research Centre.

Hargreaves, A. (2000). Four ages of professionalism and professional learning. *Teachers and Teaching: Theory and Practice, 6*(2), 151–182.

Hayhoe, R. (2007). The use of ideal types in comparative education: A personal reflection. *Comparative Education, 43*(2), 189–205.

Hazell W. (2019). 'Troops to teachers' scheme to get veterans into the classroom recruits just 22 trainees. *'i'* [Online news]. https://inews.co.uk/news/education/troops-to-teachers-veterans-classroom-352478

Hulme, M. (2016). Analysing teacher education policy: Comparative and historical approaches. In G. Beauchamp, L. Clarke, M. Hulme, M. Jephcote, A. Kennedy, G. Magennis, I. Menter, J. Murray, T. Mutton, T. O'Doherty, & G. Peiser (Eds.), *Teacher education in times of change* (pp. 37–54). Policy Press.

Imants, J., & Van der Wal, M. M. (2020). A model of teacher agency in professional development and school reform. *Journal of Curriculum Studies, 52*(1), 1–14.

Kennedy, A. (2014). Understanding continuing professional development: The need for theory to impact on policy and practice. *Professional Development in Education, 40*(5), 688–697.

Livingstone, K., & Robertson, J. (2001). The coherent and the empowered individual: Continuing professional development for teachers in Scotland. *European Journal of Education, 24*(2), 184–194.

Lunenberg M., Dengerink J., & Korthagen, F. (2014). *The professional teacher educators: Roles, behaviour and professional development of teachers.* Sense Publications.

MacPhail, A. (2020). Developing commitments and capacity to learn with, and from, each other. In A. MacPhail & H. Lawson (Eds.), *School physical education and teacher education: Collaborative redesign for the 21st century* (pp. 179–191). Routledge.

Mayer, D. (2014). The appropriation of the professionalisation agenda in teacher education. *Research in Teacher Education, 4*(2), 39–44.

Milgram, S. (1974). *Obedience to authority: An experimental view*. Harper & Row.

Murray, J., Czerniawski, G., & Barber, P. (2011). Teacher educators' identities and work in England at the beginning of the second decade of the twenty-first century. *Journal of Education for Teaching, 37*(3), 261–277.

Murray J., Czerniawski, G., & Kidd, W. (2013). *Understanding teacher educators' work and knowledge: Multiple perspectives* [Conference paper]. BERA Annual Conference, University of Sussex, United Kingdom.

Murray, J., Lunenberg, M., & Smith, K. (2017). Educating the educators: Policies and initiatives in European teacher education. In M. Peters, B. Cowie, & I. Menter (Eds.), *A companion to research in teacher education* (pp. 651–666). Springer.

Murray, J., MacPhail, A., Meijer, P. C., Oolbekkink-Marchand, H., Ulvik, M., & Guberman, A. (2021). Influencing professional development at national levels: Learning from reciprocity and diversity. In R. Vanderlinde, K. Smith, J. Murray, & M. Lunenberg (Eds.), *Teacher educators and their professional development: Learning from the past, looking to the future* (pp. 144–157). Routledge.

O'Donnell, C. (2022). *The secondment of teachers to continuing professional development: Transitions and tensions* [Ed.D]. Maynooth University, Maynooth, Ireland.

O'Donoghue, T., Harford, J., & O'Doherty, T. (2017). *Teacher preparation in Ireland. History, policy and future directions.* Emerald.

OECD. (2010). *The high cost of low educational performance.* OECD Publications.

Office for Standards in Education (Ofsted). (2019). *Quality of education.* https://successforall.org.uk/ofsted/

Office for Standards in Education (Ofsted). (2020). *Framework and handbook for inspecting initial teacher education partnerships in England under section 18B of the Education Act 1994 and Education and Inspections Act 2006.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/895321/Initial_teacher_education_framework_and_handbook.pdf

Opfer, V. D., & Pedder, D. (2010). Benefits, status and effectiveness of continuous professional development for teachers in England. *The Curriculum Journal, 21*(4), 413–431.

Sahlberg, P., Furlong, J., & Munn, P. (2012). *Report of the International Review Panel on the structure of initial teacher education in Ireland: Review conducted on behalf of the Department of Education and Skills.* Department of Education and Skills.

Stoll, L. (2009). Knowledge animation in policy and practice: Making connections [Conference paper]. Annual Meeting of the American Educational Research Association. www.oise.utoronto.ca/rspe/UserFiles/File/Publications%20Presentations/AERA%2009%20knowledge%20animation%20paper%20Stoll.pdf

Swennen, A., Jones, K., & Volman, M. (2010). Teacher educators: Their identities, sub-identities and implications for professional development. *Professional Development in Education, 36*(1–2), 131–148.

Teach First. (2018). *Master's degree handbook 2018 cohort.* https://connect2.teachfirst.org.uk/sites/connect.teachfirst.org.uk/files/2020-04/Masters%20Handbook_2020.pdf

Teaching Council. (2017). *Initial teacher education: Criteria and guidelines for programmes.* Teaching Council. https://www.teachingcouncil.ie/en/Publications/Teacher-Education/Initial-Teacher-Education-Criteria-and-Guidelines-for-Programme-Providers.pdf

Timperley, H., Kaser, L., & Halbert, J. (2014). *A framework for transforming learning in schools: Innovation and the spiral of inquiry.* Centre for Strategic Education.

Twiselton, S. (2019). In interview with Helen Ward in article for TES. *'Revealed: The experts updating teacher training'.* https://www.tes.com/news/revealed-experts-updating-teacher-training

Waldron, F., Smith, J., Fitzpatrick, M., & Dooley, T. (Eds.) (2012). *Re-imagining initial teacher education.* Liffey Press.

White, E., Dickerson, C., & Weston, K. (2015). Developing an appreciation of what it means to be a school-based teacher educator. *European Journal of Teacher Education, 38*(4), 445–459.

Whiting, C., Whitty, G., Menter, I., Black, P., Hordern, J., Parfitt, A., Reynolds, K., & Sorensen, N. (2018). Diversity and complexity: Becoming a teacher in England in 2015–2016. *Review of Education, 6*(1), 69–96.

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# Part IV
# Nurturing Trust in Heavily Regulated Environments: Assessment, Policy and Their Impact on Teacher Education Programs

# Chapter 8
# Exploring the Impacts of a Teaching Performance Assessment on Australian Initial Teacher Education Programs

**Rebecca Spooner-Lane, John Buchanan, Kathy Jordan, Tania Broadley, Rowena Wall, and Graham Hardy**

**Abstract** In 2014, Australia's Teacher Education Ministerial Advisory Group (TEMAG) emphasised the need for a rigorous approach to assessing graduating teachers' classroom readiness. The Australian Institute of Teaching and School Leadership (AITSL) revised its Program Standards and Procedures to include a requirement for all pre-service teachers (PSTs) to be assessed using a Teaching Performance Assessment (TPA) as a condition of graduation. The purpose of this chapter is to make visible the experiences of four Australian Initial Teacher Education (ITE) providers as they implemented a TPA for the first time. At the time of the study, the ITE providers were at varying stages of introduction, exploration, and implementation of the TPA. Using a case study approach, the researchers gathered evidence from PSTs and teacher educators to determine whether the introduction of an additional assessment hurdle in the final semester of a teacher education program supported or diminished their sense of agency. The study's findings suggest that despite some initial reservations about incorporating a high-stakes capstone assessment in the final semester of teacher education programs, teacher educators and PSTs experienced an

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enhanced sense of agency as they adapted to the new assessment task. Through engagement in professional dialogues and shared understanding of expectations of PSTs at a graduate level, both PSTs and teacher educators perceived unexpected benefits of engaging in the TPA process. While the findings are limited to four ITE providers presented in the study, similar research findings have also been found in the United States of America where TPAs have been in operation for a number of years.

**Keywords** Teaching performance assessment · Initial teacher education · Pre-service teachers

## 8.1  Background

Against perceptions of increasing public concern about the effectiveness of Australian teachers (Ryan, 2013; Thomson et al., 2010), the Federal Government formed the Teacher Education Ministerial Advisory Group (TEMAG) to examine whether Initial Teacher Education (ITE) programs equip graduates with the necessary knowledge and skills to commence teaching and positively impact student learning. TEMAG's report, *Action Now: Classroom Ready Teachers* (TEMAG, 2015), asserted that enhancing the capability of teachers was 'vital to raising the overall quality of Australia's school system and lifting student outcomes' (p. viii). While the report acknowledged evidence of excellent and innovative teacher education practice, apprehension was expressed around perceived declining educational standards and variability in ITE program quality (TEMAG, 2015). Alarm was also expressed around the lack of consistency and rigour among ITE assessments.

The TEMAG recommended the implementation of a performance assessment of Australian graduating teachers against professional standards of teaching, similar to Teaching Performance Assessments (TPAs) already in use such as the Deakin Authentic Teacher Assessment in Australia (ATA; Dixon et al., 2011), the Performance Assessment for California Teachers (PACT; Darling-Hammond, 2010; Pecheone & Chung, 2006) and the Education Teacher Performance Assessment (edTPA; Hébert, 2017; Pecheone & Chung, 2006) in the United States of America.

As a central, national body, the Australian Institute of Teaching and School Leadership (AITSL) was given responsibility to action TEMAG's report recommendations. Program Standard 1.2 of the national standards and procedures (AITSL, ) included that a TPA must:

a.   be a reflection of classroom teaching practice including the elements of planning, teaching, assessing and reflecting;
b.   be a valid assessment that clearly assesses the content descriptors of the Graduate Teacher Standards;
c.   have clear, measurable and justifiable achievement criteria that discriminate between meeting, and not meeting, the Graduate Teacher Standards; and,

d.  be a reliable assessment in which there are appropriate processes in place for ensuring consistent scoring between assessors.

In October 2016, the AITSL established a competitive national grant process to offer financial support to ITE providers to develop a TPA. The AITSL's funding resulted in two nationally endorsed TPAs by AITSL's Expert Advisory Group (EAG) in 2018: the Graduate Teacher Performance Assessment (GTPA), led by the Australian Catholic University (ACU) and the Assessment for Graduate Teaching (A∫GT), led by the University of Melbourne (UoM). The ACU and UoM sought additional interest from other ITE providers to join their respective consortia for a fee. Some providers took this option, while other ITE providers developed and trialled their own TPA. A year later, the AITSL added the requirement that by 2019, all ITE providers must incorporate an EAG-endorsed TPA. Between 2019 and 2020, three consortia-led, and six individually led TPAs, were successfully endorsed by the EAG.

In Sect. 8.1.1, we consider how agency may be exercised by ITE providers in the way that they respond to educational policy.

## 8.1.1  Agency

Teacher educators exert agency in multiple ways every day. Agency, or one's capacity to make choices, is a socially constructed, dynamic, transitory, and fragmented phenomenon (Davies, 2000). Priestley et al. (2015) note that 'agency is rooted in past experience, orientated to the future and located in the contingencies of the present' (p. 20). Robinson's (2012) study found that teachers exercise agency by adapting educational policies to align to their professional goals and circumstances. At other times, teachers may actively resist or passively wait out a reform. Biesta et al.'s (2015) ecological view of teacher agency proves useful when considering how teacher educators' and pre-service teachers' (PSTs) may respond to the implementation of the TPA.

According to Biesta et al.'s (2015) ecological model when new education policies are approved, teacher educators have choice, or agency, in how they respond. This view is supported by Archer (2003) who describes this choice as one's 'stance' (p. 14) positing that teacher educators have 'degrees of freedom in determining their own courses of action' (p. 7). Biesta et al. (2015) confirm that agency is 'a quality of the engagement of actors with temporal–relational contexts-for-action, not a quality of the actors themselves'; agency is 'not something that people can have' but rather 'is something that people do' (p. 626). This ecological understanding stems from a pragmatist philosophy where agency is concerned with the way in which actors 'critically shape their response to problematic situations' (Biesta & Tedder, 2006, p. 11). In this study, how teacher educators responded to the initial implementation of the TPA and whether they demonstrated a sense of agency while complying with TPA policy requirements will be explored.

PSTs develop agency in the classroom through 'active intentional decision making and participation in organising, adapting and experimenting with instructional practices and the learning environment' (Heikonen et al., 2020, p. 115). Through navigating challenges building their teaching expertise, and promoting learning among their students, pre-service teachers actively build their sense of agency. Active reflection, or making meaning of classroom situations (Schön, 1987), provides pre-service teachers with the opportunity to improve their learning and enhance their awareness of the interrelationships between 'knowledge, beliefs, strategies, contextual and situational factors' (Heikonen et al., 2020, p. 116). It was, therefore, important in the present study to determine whether fulfilling the TPA task requirements enhanced or diminished PSTs sense of agency during their final professional experience placement.

## 8.2   Literature Review

Section 8.2.1 provides a brief review of the introduction of TPAs in Australia. Given that TPAs have operated in the United States for a number of years, we highlight the similarities and differences between TPAs implemented in Australia and the United States before discussing the strengths and limitations of TPAs.

### 8.2.1   Similarities and Differences Between TPAs Implemented in Australia and the United States

In Australia, the introduction of a summative TPA is used as a measure of graduate teachers' readiness to teach, or in terms of the TEMAG report, *'classroom readiness'* of graduate teachers (TEMAG, 2015, p. xiii). Similar to existing TPAs in the United States, TPAs in Australia are linked to provisional teacher registration across the country.

In the United States, TPAs comprise portfolios aligned to a set of professional teacher standards (Stacey et al., 2019), encompassing evidence of teaching instruction, video recordings, curriculum plans and samples of student work and learning (Darling-Hammond et al., 2013). Portfolios also include a reflective component where PSTs explain the link between learning goals, curriculum, assessment and feedback provided to students (Dover & Schultz, 2016). In Australia, TPAs also use a structured portfolio approach aligned to the Australian Professional Standards of Teaching (APST) and require PSTs to demonstrate that they can plan, implement, assess and reflect on a series of lessons as well as evaluate their impact of teaching on student learning (Buchanan et al., 2020).

However, some significant differences exist between TPAs implemented in Australia and those in the United States of America. In Australia, the introduction of TPAs has resulted in ITE providers being positioned as the gatekeepers to the teaching profession (Allard et al., 2014). The design, implementation and scoring of TPAs are administered by ITE providers. In the United States, however, the edTPA and PACT have been outsourced to a commercial entity—Pearson Education.

In the United States, PSTs pay a fee (approximately $300 per submission) to submit their assessment (Goldhaber et al., 2017) and if they fail the first time, they resubmit their assessment, paying the submission price again. The lack of transparency in how TPA assessors make their final judgements is a cause of concern for PSTs (Au, 2013) with questions being raised as to whether the assessor was appropriately trained or qualified to make the final judgement (Greenblatt & O'Hara, 2015). The scoring of the edTPA, for instance, is conducted remotely, with assessors recruited from across the country. Only one person assesses each portfolio. Assessors are not held accountable unless one of their portfolios is randomly selected for additional scoring, however, measures of inter-rater reliability are not published publicly (Greenblatt & O'Hara, 2015). In Australia, all TPAs endorsed by the EAG require ITE providers to engage in cross-institution moderation. This process is part of a quality assurance process to ensure that ITE providers are assessing individual graduates against the Graduate Teacher Standards to a comparable passing standard nationally. Cross-institution and inter-rater reliability data are also submitted to AITSL as a program accreditation requirement. While PSTs do not pay a fee to submit their TPA, ITE providers in Australia must fund the design, administration and implementation of the TPA, which has had substantial implications for 'pre-service teacher graduation, program design, program accreditation, and workforce planning' (Adie & Wyatt-Smith, 2018, p. 119).

### 8.2.2  Benefits of Implementing a Teaching Performance Assessment

Pecheone and Chung (2006) argue that performance assessments are a more authentic assessment than traditional paper-and-pencil measures of teaching knowledge and skills, because multiple sources of data are provided as evidence of teaching ability. They contend that TPAs have the potential to raise the profile of teacher education as PSTs demonstrate their teaching performance and ultimately their impact on student learning. Darling-Hammond and Hyler (2013) propose that TPAs represent the 'complexity of teaching and offer standards that can define an expert profession' (p. 13). Furthermore, research suggests that graduate teachers report that engaging in the TPA process has strengthened their teaching and has enhanced their ability to cater for the diverse needs of students (Kleyn et al., 2015; Liu & Milman, 2013).

Despite these claims, limited research has been conducted to determine whether TPAs have achieved the desired outcome of raising benchmark standards for entering

the teaching profession (Coniam & Falvey, 2018; Greenblatt & O'Hara, 2015) and raising student achievement levels. Newton (2010) found some positive evidence using a small pilot study of 14 beginning teachers over their first two years of teaching and determined that graduates' PACT literacy portfolio scores predicted student gain on the state English Language Arts test. In a larger follow-up study of 105 teachers, Darling-Hammond et al. (2013) examined the predictive validity of the PACT among 52 mathematics teachers and 53 reading teachers. They found that PACT scores on literacy and mathematics were significantly and positively related to later teaching effectiveness as evidenced by their students' performance on English Language, Arts, and Mathematics. In contrast, Goldhaber et al. (2017) in their longitudinal study of 200 mathematics and reading teachers in Washington between 2013 and 2014, found that while the edTPA was predictive of gaining employment in the state's public school system, evidence of the predictive relationship between edTPA scores and effective teaching was mixed, at best.

### 8.2.3 Limitations of the TPA

Students deserve capable, effective teachers in the classroom; however, the lived reality of imposing a fast-paced education reform with a relatively short implementation period such as the TPA is a cause for concern for ITE providers (Fitzgerald & Knipe, 2016). Buchanan et al. (2020) identified three potential limitations of TPAs in Australia, including under-problematisation of teaching and learning, of reflection, and of moderation. These three issues will now be briefly discussed.

First, the TPA is a simplified version of the longer-term, more complex aspects of teaching, and this more complex reality should be kept in mind by graduating teachers. Buchanan et al. (2020) argue that 'one 'teaching/learning cycle' cannot capture their expertise in its entirety' (p. 84). Parkes and Powell (2015) also noted similar issues with the edTPA. TPAs follows a linear path of teaching and do not reflect the complex interaction between the elements of planning, teaching, assessing and reflecting.

Second, it is plausible that the TPA defaults to a 'performance instrument' rather than a reflective one (Buchanan et al., 2020). Particularly in the production of videos of classroom teaching, PSTs may choose to focus on their own instruction-giving, which provides little insight into student learning and mis/understanding. Similarly, Liu and Milman (2013) acknowledged that the edTPA tasks promoted reflection; however, when it came to reflecting on their learners' cultural backgrounds and experiences in the classrooms, PSTs were more focused on finding 'the "right answer" rather than grounding their practice in educational ideals' (p. 133). Reflection is improvement-oriented in a way that performance is less likely to be. PSTs that take a more reflective approach may experience a greater sense of agency as they take a reflexive approach and look back at their teaching and consider what happened, what worked well and what did not (Willis et al., 2021). Making these crucial connections enables PSTs to effectively plan their teaching moving forward.

Third, in terms of moderation, PSTs' circumstances during professional experience placements vary vastly, with regards to student engagement, the quality and extent of supervision and supervising teacher support, school culture, knowledge capital and educational aspiration, critical incidents, student idiosyncrasies and the like (Buchanan et al., 2020). Au (2013) also reported that in meeting the standardised confines of the edTPA, some PSTs could not demonstrate what they were actually 'capable of' (p. 26) and that their lesson did not reflect how PSTs would prefer to approach teaching in their classroom because they were essentially 'teaching to the test' (p. 25) and developing materials specifically to meet the requirements of the edTPA. The edTPA appeared to restrict PSTs perceptions of what good teaching looked like in the classroom (Au, 2013). Consequently, moderation of TPAs even within, much less across, initial teacher education providers, is problematic. As a pass/fail mechanism, the TPA can probably bear the stress of confounding variables such as the school context in which the PST was placed, their relationship with their supervising teacher and class they were teaching—but such extenuating factors need to be borne in mind accordingly.

The imposition of a TPA arguably imputes a lack of skills and competence to graduating teachers. Proceeding from this, such policy reforms also risk tarring ITE providers as inadequate, untrustworthy, and in need of constant surveillance and monitoring. This, too, might serve to perpetuate the goal of compliance. As with PSTs working in vastly different contexts over which they have little control, ITE providers may find themselves, by proxy, accountable for aspects that they have little power to change. It was, therefore, important to explore in the present study whether PSTs' and teacher educators' sense of agency was impacted by the implementation of the TPA.

## 8.3 Method

### 8.3.1 ITE Providers

This chapter reports on data drawn from a 1-year study financed in 2018 by the Australian Technology Network (ATN) (Broadley et al., 2019), at a time where the evolution of the TPA agenda was in its infancy. The four ATN universities involved in this project were the Queensland University of Technology (QUT), the Royal Melbourne Institute of Technology University (RMIT), the University of South Australia (UniSA) and the University of Technology Sydney (UTS). Each ITE provider was in the process of responding to the AITSL's Program Standard 1.2 although each was at a different stage of TPA development at the time of the study. A description of each ITE provider's TPA is outlined.

#### 8.3.1.1   Queensland University of Technology

In 2018, QUT embarked on the TPA development process in consultation with industry and school partners, including the AITSL, the EAG, and the teacher regulatory authority Queensland College of Teachers (QCT). At the same time, QUT's Bachelor of Education (BEd) program was also due for reaccreditation and so there was a sense of urgency to gain endorsement for their TPA. This would ensure the new BEd program was accredited with each component of the TPA backwards mapped and strategically taught and assessed (formatively and/or summatively) in the newly imagined program.

For QUT, the endorsement process was lengthy, and all criteria were judged as having been met when QUT partnered with three additional ITE providers (Edith Cowan University, Murdoch University and University of the Sunshine Coast) in 2019 to implement the Quality Teaching Performance Assessment (QTPA) and engage in cross-institution moderation.

The QTPA comprises four components with Components A, B and C written components and Component D, an oral component. Component A comprises a personal teaching statement that requests candidates to reflect on how their current teaching beliefs and practices have been informed by relevant research and/or theory. Component B requires candidates to collect and interpret formative assessment data to determine student learning and achievement levels prior to enacting a teaching and learning sequence of four to six lessons. For Component C, candidates reflect on their impact on student learning upon completion of their teaching and learning sequence. Finally, component D is a 15 min oral in which candidates articulate to a panel of three assessors their judgements and reasoning that occurred across the planning, teaching and assessment cycle and reflect on their impact on student learning. The oral presentation concludes with the candidate responding to two reflective questions by the assessment panel.

#### 8.3.1.2   Royal Melbourne Institute of Technology University

At RMIT University, a TPA was initially developed in 2018 to suit their local context, and included a portfolio, mock job interview and a teacher mentor assessment. The portfolio was progressively produced by PSTs over the course of the program, and then formally assessed. In the portfolio, PSTs demonstrated knowledge and application of the Graduate Teacher Standards around the teaching cycle of planning, teaching, assessing and reflecting. The mock interview required PSTs to demonstrate their readiness to teach, through presenting and then responding to questions from a panel comprising a principal or school leader, a staff member and two peers. During the mock interview, PSTs presented to the panel a philosophy of teaching statement and evidence of their capacity to teach, including a classroom management plan and evidence of impact on student learning through a portfolio. The final Teacher Mentor report included the TPA and assessed student capacity to meet the standards around the teaching cycle. The present study reports on PSTs' perceptions

of the initial TPA tool. Ultimately, when AITSL mandated delivery of an endorsed TPA in 2019, the decision was made to join the ACU-led consortium and implement the GTPA.

### 8.3.1.3 University of South Australia

UniSA developed a local TPA informed by the AITSL and the Teachers Registration Board of South Australia. In 2020, it was still under review by the EAG for endorsement. The three TPA components included: a written inquiry of teaching practice, an annotated digital portfolio incorporating evidence-based demonstration of the 37 APST descriptors at Graduate Teacher Standard (AITSL, 2017), and a final placement professional experience report completed by the supervising/mentor teacher.

### 8.3.1.4 University of Technology Sydney

UTS initially developed a local TPA informed by AITSL and the New South Wales Education Standards Authority (NESA), the State's accrediting body. Their TPA included three written elements comprising planning and preparation for teaching; reflective analysis of teaching practice; and assessing the impact of learning. In 2019, rather than undergo the EAG endorsement process, UTS opted to join the consortium led by University of Melbourne to implement the A*f*GT. The A*f*GT comprises four components: planning a learning sequence and assessment tasks; analysing teaching practice using two unedited video excerpts of teaching; assessing impact on student learning through a summative assessment task and responding to two scenarios of teaching and learning.

Using a case study research approach (Yin, 2002), this study engaged a mixed-method design in which both quantitative (surveys) and qualitative (interviews, focus groups) data were collected to determine experiences of implementing a TPA for the first time. For the purposes of this chapter, the qualitative findings from focus group discussions with PSTs and teacher educators will be examined.

## 8.3.2 Participants

### 8.3.2.1 Queensland University of Technology

Individual interviews were conducted with BEd PSTs ($n = 4$) in the final semester of their teaching program. Three females and one male were interviewed with ages ranging between 21 and 26 years. Teacher educators responsible for assessing the QTPA ($n = 4$) were also interviewed to determine their perceptions of the QTPA as a

final year capstone assessment. The teacher educators comprised four females with 7–20 years' experience teaching in ITE programs.

#### 8.3.2.2 Royal Melbourne Institute of Technology University

Three focus groups with 10–12 participants each were conducted with Master of Teaching PSTs in the final semester of their 2-year Master of Teaching program ($n = 33$). The PSTs were planning to graduate as classroom teachers with either primary or secondary specialisations.

#### 8.3.2.3 University of South Australia

One focus group was conducted with BEd PSTs ($n = 8$) with early childhood, primary and secondary specialisations. All participants were in the final semester of their teaching program. Teacher educators responsible for assessing the TPA ($n = 4$) were also interviewed to determine their perceptions of the TPA.

#### 8.3.2.4 University of Technology Sydney

Three focus groups ($n = 15$) were conducted with final-semester BEd (Primary) and Master of Teaching (Secondary) PSTs. Two interviews were also conducted with the teacher educator responsible for administering and assessing the TPA.

### 8.3.3 Data Analysis

Focus groups and interviews of 30–40 min were conducted with PSTs and teacher educators from July–November 2018. The focus groups sought PSTs' views on the contribution of the TPA in their preparedness to teach. Similarly, teacher educators were asked about the TPA's contributions to the PSTs' professionalisation, and about aspects of its assessment and administration. Informed consent was obtained from all informants prior to their participation. Focus groups and interviews were transcribed and thematically coded (Braun & Clarke, 2019) for the analysis of recurring patterns and outlying responses. They were then cross-checked as a measure of inter-rater reliability.

## 8.4 Findings

This section presents the findings from two sources of data: PSTs (see Table 8.1)

**Table 8.1** Pre-service teachers' common perceptions of the TPA (n = 47)

| Common core themes | A sample of direct quotes | f |
|---|---|---|
| Workload | • I just think the course for this could be a lot longer to give us more time for each section, to spend time on each piece of evidence or sort of thing. (PST, RMIT)<br>• The volume of work was so overwhelming that the quality got lost within that and I think that's a shame. I almost felt like I couldn't enjoy my placement because I just had in the back of my head all this stuff I had to do. (PST, RMIT)<br>• I just gave up trying to contain it within the framework that was there, because the framework didn't fit. (PST, UTS)<br>• I thought this was going to take away from my time at school. I've done a lot of essays, I've done a lot of presentations. What's the point of doing one while I'm on my final most important practical? (PST, QUT) | 60 |
| Preparation for the TPA | • I definitely had lots of very good professional discussions with many of my lecturers, tutors at university during classes and my supervising teacher at prac, which I think helped and made me feel more confident with my knowledge. (PST, QUT)<br>• We've learned heaps of different teaching strategies at the university, we've learned how to do lesson planning, learned how to make rubrics, the importance of pre-assessment. The course has been pretty good in informing us of that, but it would've been more beneficial to have maybe some more assessment units around how to actually make judgements. (PST, QUT)<br>• It helped with analysing assessment and assessing more concretely. (PST, UTS)<br>• I definitely needed more time. I found those 2 days were, although the information was good, it was too rushed, too much, information overload and I just felt overwhelmed. (PST, RMIT)<br>• We were provided with lots of information from the university and lots of scaffolding, which really helped. (PST, QUT) | 24 |
| Supervisor/mentor support | • While uni has really broadened my expectations of teaching and of teachers, and certainly helped me develop some ideas, it was really that guidance from my mentor teacher that helped me. (PST, QUT)<br>• Look, I feel like I was really fortunate that the placement set me up really well to complete the TPA, but I've got to say that the big factor in that was the fact I had a great mentor. I feel like if you didn't have a mentor that was really dedicated, you're at a severe disadvantage to complete that TPA. (PST, RMIT)<br>• The mentor should have been contacted directly by the university and advised that they needed to complete this TPA as part of our course. (PST, RMIT) | 32 |

(continued)

**Table 8.1** (continued)

| Common core themes | A sample of direct quotes | f |
|---|---|---|
| School placement | • Depending on schools and where their schools, their classes, were at it could have been a hard time to actually see the overall impact that they had. Yeah, so for me I was lucky because I still had content to do in my classes, so I could see that impact. (PST, QUT)<br>• … the high absenteeism, something that unfortunately is out of your control but that ultimately affects how well you can analyse your impact as a teacher. (PST, UTS) | 33 |
| TPA as an authentic assessment | • This was probably the most beneficial assignment I've done in the last four years. (PST, QUT)<br>• Using it as a tool to remind me to be collecting the evidence of what I'd done in the classroom to show that I can identify students' needs, plan for those needs and then help them get to an agreed upon goal to show them that they have developed in that way and they have completed the learning. (PST, QUT)<br>• I really thought back on that teaching philosophy and really thought that actually means a lot to me. Everything I put down really did mean a lot (PST, QUT)<br>• I would say for me I could see that my students learnt something. (PST, QUT)<br>• I found that the information that was given to us prepared us well to go into the interview, and it simulated a real-life interview. (PST, RMIT)<br>• I just wanted to say that the interview itself was a fantastic opportunity to develop the skills and to reflect upon what was done well and what wasn't. So that was great. (PST, RMIT)<br>• So, it actually made me a lot more confident that I'd practised these things and I could talk about them. You know the standards back-to-front. It's probably the only way you're really going to, by the time you finish you know them in and out. (PST, RMIT) | 45 |

**Table 8.2** Teacher educators' common perceptions of the TPA (n = 6)

| Core theme | A sample of direct quotes | f |
|---|---|---|
| Assessor Training | • It gave us an opportunity to be together as a group, to think and talk through the TPA, and then our role as assessors. (TE, QUT)<br>• So, you know this is a new learning experience for everyone, so I think it just needs refining. It was a bit too complex I think, for the assessors and probably for the students' understanding as well. (TE, UniSA) | 11 |
| Impact of the TPA | • I can start seeing things which I'm going to improve in my own classes, those sorts of things. (TE, QUT)<br>• Because of the way the HALT [highly accomplished and lead teacher] is set up, these people are going to become leaders faster than their peers. It's the TPA for becoming a leader. They have to go through the same process. (TE, QUT)<br>• … a definite step in the right direction for turning out better quality graduates. (TE, UTS)<br>• Good roundness for fitting the purpose but needs refining. I don't really understand why the government needs an additional assessment on top of four years of assignments and assessment. (TE, UTS)<br>• Goalposts move all the time. It's doing LANTITE [Literacy and Numeracy Test for Initial Teacher Education], now TPA, the APSTs. There is a lot for them to have to manage. (TE, QUT)<br>• … we're the last barrier between school and these people and I think the TPA process says, we take this role seriously. (TE, QUT)<br>• I would think that this is an innovation that the whole sector should know about. We're all in it together, we're all preparing teachers. I think we have to be confident in our own, but we think very carefully with colleagues in other institutions. (TE, QUT)<br>• … ensure alignment in our course design, and then in the unit coordinators and those who are very close to the pre-service teachers, particularly in the new course, with incoming students as well as existing students. (TE, QUT)<br>• … you've got to be able to speak to your own information, you know what I mean? Some people were unprepared, and they fluffed around. If you can't do that as a teacher, or if you can't speak about your own practice as a teacher, when you know that you have to talk about it, I feel that you're probably not ready to be in the profession. (TE, QUT)<br>• The TPA's like a sophisticated job interview really. (TE, UniSA) | 13 |

and teacher educators (see Table 8.2) from the four identified ITE providers. The main themes derived from the analysis are discussed. The themes are not mutually exclusive.

## 8.4.1  Workload

The inclusion of a TPA resulted in PSTs expressing concern about the amount of work involved in completing the TPA during their final professional experience placement.

PSTs commented on the challenge of balancing multiple program requirements. One PST described this challenge as needing to constantly 'split their attention' (PST, QUT). Meeting the needs of their final professional placement as well as the TPA requirements caused particular concern for numerous RMIT students with fifty comments pertaining to workload. 'Expecting us to do all that while we're still expected to teach, plan lessons—you're just exhausted as it is, and it was just too much' (PST, RMIT).

Some RMIT PSTs commented about the time they devoted to finishing the assessment task and its corresponding components. Five participants suggested that it took over 100 h to complete the assessment. One PST reasoned that having more time would have resulted in better quality TPAs. 'All of us could have done probably better if we had more time and we weren't so overrun'. Another commented that they felt pressured by the workload. 'I couldn't enjoy my placement because I just had in the back of my head all this stuff I had to do'. For these PSTs, such feelings contributed to higher levels of stress and anxiety in their final semester at university.

### 8.4.2 Preparation for the TPA

PSTs reported mixed feelings on whether they felt prepared to undertake the TPA. It should be noted that when the TPA was initially implemented, final year PSTs had little time to learn about the TPA and its requirements before attending their final professional experience placement. Some acknowledged that they felt well prepared and were confident. For example, 'We were provided with lots of information from the university and lots of scaffolding, which really helped' (PST, QUT). Others, however, expressed views to the contrary, for example 'I probably think that two days weren't sufficient preparation for me' (PST, RMIT). Given that the TPA is an additional high-stakes assessment hurdle in the final semester of study, the components of the TPA had not necessarily been sufficiently embedded or previously assessed within ITE programs.

### 8.4.3 Supervisor/Mentor Support

At the time of the study, supervising or mentor teachers had received minimal information about the TPA. Given the recency of the TPA's inception, supervising teachers had little knowledge and understanding of how they could best support a PST to fulfil the TPA requirements. One PST noted that their supervising teacher simply 'did not agree with the TPA'. This comment led to increased anxiety for the relatively powerless PST for their placement and their TPA performance. At RMIT, one PST reported that their relationship with the supervising teacher deteriorated as a result of the TPA: 'I had a really great mentor relationship, and then towards the end, it became quite strained'.

### 8.4.4  School Placement

PSTs suggested that there was some variability in being able to successfully meet the TPA requirements depending on the school that they were placed or their teaching area.

> If you didn't have a good placement for that final, that last placement, you had no opportunity to gather evidence. So, there was so much pressure in that four weeks to be gathering enough evidence to cover not just three standards but all the sub-standards. (PST, RMIT)

Another QUT PST commented that 'the year level of students I taught during my placement impacted on my TPA performance'. PSTs reflected that teaching upper-level secondary students afforded them less opportunity to plan and deliver their teaching and learning sequence due to senior curriculum assessment-driven constraints.

### 8.4.5  TPA as an Authentic Assessment

The vast majority of PSTs believed that undertaking the TPA made them feel better prepared for teaching in the classroom. PSTs reported feeling more confident in their ability to deliver a full teaching and learning cycle. One noted:

> I suppose the main advantages for me was just getting a feel for how I should sequence the learning and how to pace the lessons. Just, you know, so you don't run ahead of schedule or behind schedule. Just keeping to a very set tempo from day to day, week to week probably helped me improve my organisation in that respect. (PST, UTS)

They could also see that their professional identity as a teacher had become more sophisticated and refined as a result of reflecting on their teaching beliefs and practices.

> We had to take some time to seriously reflect about our personal beliefs as a teacher because, as a prac student, you don't really get to have a say in your beliefs in teaching, you usually have to stick to what your teachers' beliefs are. I think it really helped us to reflect on who we are as a teacher, how our teaching practice is beneficial for our students and how we need to improve, which I definitely think prepares you for next year coming out as a first year. (PST, QUT)

The TPA assisted PSTs to think more deeply about the Australian Professional Standards of Teaching (APST) (AITSL, 2017) at a 'graduate' level. Three PSTs' statements reflected that the TPA prompted more meaningful analysis of the APSTs. PSTs valued the opportunity to work more independently and take responsibility for the learners in the classroom. By interpreting their formative assessment data and observing classroom discussions, PSTs saw that they were able to impact on student learning. One QUT PST commented that 'I could see from the data and from the formative assessment that I had set that I had impacted my students' learning'. Several others commented that fulfilling the TPA really 'boosted my confidence'. An

RMIT PST described it as a 'practice run' for teaching. Another PST from UniSA stated 'It will never capture the entirety of what teaching actually is, but it was a good leg up into what I can expect once I get into the classroom'.

### 8.4.6 Sense of Agency

Overall, the findings suggest that while PSTs were concerned about satisfactorily completing the TPA, their sense of agency grew as they began to understand and fulfil the task requirements. Their confidence and competence increased as they enacted the planning, teaching and learning, assessment cycle and reflected on their impact on student learning. For example, an RMIT PST noted: 'So, it actually made me a lot more confident that I'd practiced these things and I could talk about them. You know the standards back-to-front. It's probably the only way you're really going to, by the time you finish you know them in and out'. Another QUT PST found that the QTPA tasks were meaningful and helped consolidate they beliefs about teaching. 'I really thought back on that teaching philosophy and really thought that actually means a lot to me. Everything I put down really did mean a lot'.

Through their dialogues with teacher educators and their supervising teachers, PSTs saw the TPA as an authentic and valuable professional learning activity. One PST from QUT reflected:

> I definitely had lots of very good professional discussions with many of my lecturers, tutors at university during classes and my supervising teacher at prac, which I think helped and made me feel more confident with my knowledge.

It was evident that PSTs' sense of teacher agency was influenced by their own beliefs about their ability to undertake the TPA as well as the collective support that they received from their lecturers and supervising teachers.

### 8.4.7 Assessor Training

The impact of rigorous assessor training was essential for developing confidence in the TPA tool. For QUT teacher educators, attending assessor training prior to engaging with the TPA and the assessment and moderation process was useful for understanding the TPA requirements and ensuring consistency in marking. Teacher educators appreciated the opportunity to engage with their colleagues to ensure that everyone was 'on the same page'.

> It gave us an opportunity to be together as a group, to think and talk through the TPA, and then our role as assessors. It was helpful in allowing us to raise issues, anything methodological or design issues; we were free to do that, and that was really helpful. It was a free-flowing discussion, there was information that was shared with us, but there was also opportunity for us to ask questions, give our thoughts.

A UTS teacher educator, however, expressed concern about their lack of knowledge of the TPA and lack of assessor training, contending, 'it will be incumbent on any school of education to have a half a dozen staff at least trained in how to use the criteria sheet … it is only the staff that prepare PSTs for the TPA that are well informed about the TPA'. This suggests that knowledge about the TPA may vary among teacher educators.

### 8.4.8 Impact of TPA

#### 8.4.8.1 Authentic Assessment Tool

The TPA was considered to be an authentic assessment tool by the majority of teacher educators. First, it comprises a suite of tasks associated with teaching: 'It's reliable in so far it's designed as a part of a suite of evidence, and I think that's important'. Second, it enabled teacher educators to distinguish between PSTs performing at 'graduate' and 'below graduate' level. One teacher educator referred to the TPA as 'a step forward', with respect to authenticity, stating 'it's more authentic than typical assessment tasks to date'. Another teacher educator recognised the broader implications of the TPA for ITE providers. 'We're all in it together, we're all preparing teachers. I think in terms of the intellectual community, I think it would be really valuable …'.

#### 8.4.8.2 Identified Gaps in PSTs' Learning

One UTS teacher educator described the TPA as 'a definite step in the right direction for turning out better quality graduates'. An unanticipated benefit of implementing the TPA was the chance for teacher educators to assess how PSTs articulate their planning and teaching and impact on student learning in the final year of their study. Teacher educators were 'impressed at the quality of graduates'. However, some teacher educators indicated that the TPA also revealed where the preparation of PSTs could be further enhanced. In particular, the TPA appeared to hone PSTs' skills in assessment. The UTS teacher educator lamented, 'there has been a minimal approach to assessment in universities'. He mused that more 'front-end loading' of students with 'more systematic assessment procedures' is valuable. Generally, teacher educators reported that the TPA had a 'good roundness for fitting the purpose, but it needs refining'. The UTS teacher educator added that PSTs 'are able to articulate their personal teaching philosophy'; however, their ability to 'design, teach and assess a structured systematic summative assessment, is a different matter'.

### 8.4.8.3 Sense of Agency

The teacher educators involved in preparing and/or assessing PSTs' TPAs demonstrated an invested interest in the professional development of their graduates. This is not surprising given that each ITE provider in the present study began by developing their own TPA measure aligned to their ITE program context and needs. It was evident from the teacher educators' discussions that they believed that they had a central role in championing the TPA so that it became much more than a box-ticking exercise for ITE providers and PSTs. Understandably, teacher educators were initially sceptical of an additional assessment hurdle for soon-to-be graduating teachers. However, the findings suggested that their perceptions changed as they observed the impact of the TPA as a professional learning activity on graduate teachers' readiness to teach in the classroom. As one educator noted: 'We should learn from what we are seeing. We will graduate people who are good practitioners. We want our people to be good practitioners, you know what I mean?' Through their participation in the TPA assessment process, teacher educators strengthened their view of themselves as the rightful gatekeepers to the teaching profession.

> The TPA process says, we take this role seriously. Well, I take my responsibility as a teacher educator very seriously … I just think we have to have the last say on whether they go into the profession or not. We have to take that responsibility on ourselves. I think we just have to, because we're the ones qualifying them.

## 8.5 Conclusion

The implementation of TPAs in Australia is a policy response to rising public concern about the quality of teachers and declining student achievement levels on standardised tests. The underpinning assumptions that the TPA will leverage the quality of graduating teachers, as well as enhance public perception of ITE programs, are yet to be confirmed. The study's findings demonstrated that PSTs gained confidence from planning, teaching, assessing and reflecting on the impact on student learning. Darling-Hammond and Hyler (2013) argue that performance assessments are critical to the professionalisation of an occupation, others such as Cochran-Smith et al. (2013) suggest that TPAs may trivialise the complexity of teaching, and the time required to develop effective teaching practices.

In this study, PSTs felt somewhat prepared to undertake the TPA during their final professional placement. They acknowledged the advantages of enacting an intensive cycle of planning, teaching, assessing and reflecting on student impact prior to entering the profession. Despite concerns about the workload and time devoted to carrying out the TPA requirements, PSTs believed that the TPA facilitated their readiness for the classroom. They benefited from discussions about their teaching practice and impact on student learning with their supervising teachers and teacher educators. Overall, PSTs perceived the TPA to be an authentic assessment that supported their professional development of key teaching skills and competences and their overall sense of agency.

The study's findings also showed that the implementation of the TPA enhanced teacher educators' sense of agency. An unexpected benefit of the TPA was that teacher educators had the opportunity to engage in collegial dialogues about the TPA and develop a shared understanding of the teacher standards at graduate level. Their collective response to the obligatory assessment was strengthened by beliefs that the TPA could positively impact graduate teachers' classroom readiness. Although the TPA may have been initially met with scepticism by teacher educators, they also took responsibility for preparing PSTs for the TPA by reframing the assessment as a significant professional learning activity for consolidating teaching knowledge, beliefs, and practices and for reflecting on student impact. Our findings support (Biesta and Tedder's, 2006) proposition that agency is influenced by particular ecological conditions (e.g., values, beliefs, discourse and language) and is achieved through collective action (Biesta et al., 2015) where teachers educators, supervising teachers and PSTs worked together to make sense of the imposed policy.

In summary, the TPA shines a light on the quality of ITE providers' graduating teachers and is a vital feedback loop for addressing gaps in PSTs' professional learning. The TPA is a benchmarking tool for ensuring that graduate teachers entering the profession successfully meet the professional standards of teaching at 'graduate' level. Perhaps most importantly, the TPA requires PSTs to reflect on their impact on their students' learning. Surely impact on students' learning and lives is the ultimate hallmark of teacher agency and contribution.

### 8.5.1  Implications for Practice

The implementation of TPAs in Australia is a relatively recent response to education reform, which has significant accountability implications for ITE providers, PSTs and schools. Under national accreditation requirements, providers must use a TPA to measure pre-service teacher classroom readiness. Many providers have chosen to use the *AfGT* and GTPA funded by AITSL. However, it is critical that ITE programs maintain their agency of the TPA, to ensure that such a high stakes assessment meets their needs and the needs of PSTs and school communities. Without such agency, the TPA may become a 'one size fits all instrument' that does not reflect nor respond to the needs of those involved.

As ITE providers are beginning to better understand the cost of this policy initiative in regard to staff workload, consortia fees (where applicable) and reporting outputs, it is important that a 'cost–benefit analysis' of the TPA is considered. The educational value of the TPA, in relation to these costs, might be worthy of a national conversation by Australian ITE providers' Deans of Education. The impact on schools and supervising teachers should also be further considered, specifically relating to professional development around the TPA thus assisting supervising teachers to more effectively support PSTs on their final, and critical, professional experience placement. Ongoing collaborative, professional conversations between ITE providers and schools will also contribute to better developing and shaping the quality of teachers entering the profession and refinement of the tool.

# References

Adie, L., & Wyatt-Smith, C. (2018). Research-informed conceptualization and design principles of teacher performance assessments: Wrestling with system and site validity. In C. Wyatt-Smith & L. Adie (Eds.), *Innovation and accountability in teacher education: Setting directions for new cultures in teacher education* (pp. 115–132). Springer Nature. https://doi.org/10.1007/978-981-13-2026-2

Allard, A. C., Mayer, D., & Moss, J. (2014). Authentically assessing graduate teaching: Outside and beyond, neo-liberal constructs. *Australian Educational Researcher, 41*, 425–443. https://doi.org/10.1007/s13384-013-0140-x

Archer, M. (2003). Structure, agency and the internal conversation. *Cambridge University Press.* https://doi.org/10.1017/CBO9781139087315

Au, W. (2013). What's a nice test like you doing in a place like this? The edTPA and corporate education 'reform.' *Rethinking Schools, 27*(4), 22–27.

Australian Institute for Teaching and School Leadership. (2015). *Accreditation of initial teacher education programs in Australia: Standards and procedures.* AITSL. https://www.aitsl.edu.au/docs/default-source/national-policy-framework/accreditation-of-initial-teacher-education-programs-in-australia.pdf?sfvrsn=e87cff3c_28

Australian Institute of Teaching and School Leadership. (2017). *Australian professional standards for teachers.* AITSL. https://www.aitsl.edu.au/teach/standards

Biesta, G. J. J., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching, Theory and Practice, 21*(6), 624–640. https://doi.org/10.1080/13540602.2015.1044325

Biesta, G. J. J., & Tedder, M. (2006). *How is agency possible? Towards an ecological understanding of agency-as-achievement* (Working Paper 5). The Learning Lives Project.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Broadley, T., Spooner-Lane, R., Buchanan, J., Hardy, G., & Jordan, K. (2019). *A case study of teacher graduate preparedness: Developing a national capstone assessment (Final Report).* https://eprints.qut.edu.au/201752/

Buchanan, J., Harb, G., & Fitzgerald, T. (2020). Implementing a teaching performance assessment: An Australian case study. *Australian Journal of Teacher Education*, *45*(5), 74–90. https://doi.org/10.14221/ajte.2020v45n5.5

Cochran-Smith, M., Piazza, P., & Power, C. (2013). The politics of accountability: Assessing teacher education in the United States. *The Educational Forum*, *77*(1), 6–27. Taylor & Francis Group. https://doi.org/10.1080/00131725.2013.739015

Coniam, D., & Falvey, P. (2018). Introduction and background to high-stakes assessment. In D. Coniam & P. Falvery (Eds.), *High-stakes testing* (pp. 3–9). Springer Nature. https://doi.org/10.1007/978-981-10-6358-9_1

Darling-Hammond, L. (2010). *Evaluating teacher effectiveness: How teacher performance assessments can measure and improve teaching.* Center for American Progress.

Darling-Hammond, L., & Hyler, M. E. (2013). The role of performance assessment in developing a teaching profession. *Rethinking Schools, 27*(4), 10–15.

Darling-Hammond, L., Newton, S. P., & Wei, R. C. (2013). Developing and assessing beginning teacher effectiveness: The potential of performance assessments. *Educational Assessment, Evaluation and Accountability, 25*(3), 179–204.

Davies, B. (2000). *A body of writing*, *1990–1999.* AltaMira Press.

Dixon, M., Mayer, D., Gallant, A., & Allard, A. (2011). *Deakin authentic teacher assessment: Authentically assessing beginning teaching: Professional standards and teacher performance assessment.* Deakin University. https://hdl.handle.net/10536/DRO/DU:30048315

Dover, A., & Shultz, B. (2016). Troubling the edTPA: Illusions of objectivity and rigor. *The Educational Forum, 80*(1), 95–106. https://doi.org/10.1080/00131725.2015.1102368

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/10.1080/002 20620.2016.1210588

Goldhaber, D., Cowan, J., & Theobald, R. (2017). Evaluating prospective teachers: Testing the predictive validity of the edTPA. *Journal of Teacher Education, 68*(4), 377–393. https://doi.org/ 10.1177/0022487117702582

Greenblatt, D., & O'Hara, K. E. (2015). Buyer beware: Lessons learned from edTPA implementation in New York State. *Teacher Education Quarterly, 42*(2), 57–67.

Hébert, C. (2017). What do we really know about the edTPA? Research, PACT, and packaging a local teacher performance assessment for national use. *The Educational Forum, 81*(1), 68–82. https://doi.org/10.1080/00131725.2016.1242680

Heikonen, L., Pietarinen, J., Toom, A., Soini, T., & Pyhältö, K. (2020). The development of student teachers' sense of professional agency in the classroom during teacher education. *Learning: Research and Practice*, *6*(2), 114–136. https://doi.org/10.1080/23735082.2020.1725603

Kleyn, T., Lopez, D., & Makar, C. (2015). What about bilingualism? A critical reflection on the edTPA with teachers of emergent bilinguals. *Bilingual Research Journal: THe Journal of National Association for Bilingual Education, 38*, 88–106. https://doi.org/10.1080/15235882.2015.101 7029

Liu, L. B., & Milman, N. B. (2013). Year one implications of a teacher performance assessment's impact on multicultural education across a secondary education teacher preparation program. *Action in Teacher Education, 35*, 125–142. https://doi.org/10.1080/01626620.2013.775971

Newton, S. (2010). *Preservice performance assessment and teacher early career effectiveness: Preliminary findings on the performance assessment for California teachers.* Stanford Center for Assessment, Learning and Equity.

Parkes, K. A., & Powell, S. R. (2015). Is the edTPA the right choice for evaluating teacher readiness? *Arts Education Policy Review, 116*(2), 103–113. https://doi.org/10.1080/10632913.2014.944964

Pecheone, R. L., & Chung, R. R. (2006). Evidence in teacher education: The performance assessment for California teachers. *Journal of Teacher Education, 57*(1), 22–36. https://doi.org/10.1177/002 2487105284045

Priestley, M., Biesta, G. J. J., & Robinson, S. (2015). *Teacher agency: An ecological approach.* Bloomsbury.

Robinson, S. (2012). Constructing teacher agency in response to the constraints of education policy: Adoption and adaptation. *Curriculum Journal, 23*(2), 231–245. https://doi.org/10.1080/ 09585176.2012.678702

Ryan, C. (2013). What is behind the decline in student achievement in Australia? *Economics of Education Review, 37*, 226–239. https://doi.org/10.1016/j.econedurev.2013.08.008

Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions.* Jossey-Bass.

Stacey, M., Talbot, D., Buchanan, J., & Mayer, D. (2019). The development of an Australian teacher performance assessment: Lessons from the international literature. *Asia-Pacific Journal of Teacher Education, 48*(5), 508–519. https://doi.org/10.1080/1359866X.2019.1669137

Teacher Education Ministerial Advisory Group. (2015). *Action now: Classroom ready teachers.* https://www.dese.gov.au/teaching-and-school-leadership/resources/action-now-classr oom-ready-teachers-report-0

Thomson, S., De Bortoli, L., Nicholas, M., Hillman, K., & Buckley, S. (2010). *Challenges for Australian education: Results from PISA 2009.* Australian Council for Educational Research.

Willis, J., Churchward, P., Crosswell, L., Spooner-Lane, R., Wise, J., & Jessen, S. (2021). Recognising the impact of highly accomplished and lead teachers. *Australian Educational Researcher*. https://doi.org/10.1007/s13384-021-00453-9

Yin, R. K. (2002). *Case study research: Design and methods.* SAGE Publications.

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## Chapter 9
# Teacher Educators Preparing Assessment Capable Pre-service Teachers in Australia and New Zealand—Agents and Authors Within Assessment Policy Palimpsests

**Jill Willis and Bronwen Cowie**

**Abstract** This chapter explores the agency of teacher educators in assessment education. Agents mediate the causal powers of structures and cultures, and through organising and engaging in practical activity develop a continuous sense of self for themselves and (pre-service) teachers. Recently, in Australia and New Zealand, new assessment policies have been powerfully impacting the work of teacher educators and teachers. When teacher educators interact within these policy layers in practice contexts, discerning and deciding on assessment priorities, they are adding new layers of connections between assessment policy and practice. To analyse the roles of teacher educators, we bring together two theories: Archer's four quadrants of agentic identity development, and the metaphor of a palimpsest, or manuscript that is re-used, written over and showing residual traces of transformations and erasures over time. The agentic, author roles of teacher educators in assessment education in Australia and New Zealand are illustrated in two palimpsests. These stories illustrate how teacher educators do not make assessment education decisions based on each new policy alone but draw from layers of experiences. Teacher educators also author palimpsests of possible and productive assessment practices with their students. This chapter argues that teacher educators who teach assessment need to understand the importance of their own assessment palimpsests with their residual cultural and societal messages that are accumulated over time, to recognise the spaces for continued agency.

**Keywords** Assessment capable · Archer · Palimpsest · Assessment policy

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## 9.1   Introduction

Teacher educators are agents who author and authorise stories about what it means to be a teacher and assessor. This may seem an obvious statement, as teacher educators in Australia and New Zealand work within university structures where they make choices about what is taught and design assessment learning for pre-service teachers. Agency in assessment education is the capacity to make informed professional judgements about the design, practice and consequences of assessment with their learners (Willis & Klenowski, 2018). Yet the spaces for teacher educator agencies have recently changed and are in a state of uncertainty (Heck & Ambrosetti, 2018). The changing policy stories in Australia and New Zealand have more recently positioned teacher educators as implementers of policy, responding to imperatives, rather than generating or authoring the structures and cultures of teaching. Instead of teacher educators being responsible for providing quality opportunities for pre-service teachers to learn, that is focusing on the 'inputs' of education, new policy responsibilities increasingly position teacher educators as responsible for the 'outputs' that pre-service teachers can demonstrate (Pullin, 2017). Assessment is often the focus of these outputs, and assessment practices and assessment education have become an arena in teacher education settings in Australia and New Zealand, and we would suggest around the globe, where a lot of new activity takes place.

New teacher education policy roles have occurred at a time of increased work intensification for universities, and public interest in educational assessment as a policy instrument that is associated with quality assurance (DeLuca et al., 2019). In Australia, numerous reviews and media commentaries have represented teacher education in deficit terms, calling for reform (Hoyte et al., 2020). Teacher educators are more scrutinised, and how they prepare pre-service teachers to be assessment capable in Australia, has led to new structures like graduate assessment portfolios and national accountability measures, and cultures that emphasise compliance (Bourke et al., 2016). In New Zealand, teacher educators are responding to significant policy reforms such as requirements for their students to be 'ready' to teach as an experienced teacher might be albeit 'with support', at graduation (Teaching Council Aotearoa New Zealand, n.d.). Teacher educators are finding that they are busy mapping course outlines, reading the fine print of policy documents, responding to reviewers and generating evidence of the quality of their teaching. It can appear the agency, or opportunity for freedom and choices that teacher educators may have had in the past, has been eroded or erased. In this chapter, we argue that teacher educators continue to be important agents and authors who interpret and enact layers of assessment policies within and through their focus on assessment education. We draw on Archer's (2000, 2007) theory of agency that highlights how agency involves an interplay between personal and social roles and is always situated in changing sociocultural contexts to explore possibilities for teacher educator agency. The changes in the conditions and structures of teacher education are part of a palimpsest, that is, a story being written and rewritten over time with teacher educators as agentic authors. The palimpsest metaphor is used in this chapter to help us think about the

spaces for teacher educator agency in rapidly changing policy contexts, particularly as it relates to assessment education.

## 9.2   Palimpsest—A Metaphor Bringing Policy and Agency Together

A palimpsest was the name given to a medieval manuscript page, often made of parchment. As parchment was an important resource and was time-consuming to prepare, it was often re-used. Even when it was scraped clean, scribes were unable to obliterate all traces of the original writing. These traces remained visible and were evidence that ideas have a history. Palimpsests are now valued as artworks, as the history and layers form part of the beauty of them as objects. As a multi-layered text that is reinscribed over time, palimpsests provide a metaphor for capturing the past in the present and offer a way to understand the educational present as a layered story crafted over time (McLeod, 2017, p. 16). Carter (2012) identifies that a palimpsest is an apt metaphor to understand policy. Even as policies lead to new practices, these practices embed traces of previous policies. The cultural norms and languages, and the systems and structures created to enact older policies often persist. The practices of policy actors are shaped by enduring institutional structures and cultures, as well as their own histories and agentic choices. Tracing perceptions of a concern over time and identifying the residues of an idea can help authors see how social roles established by policies evolve, how the future has been and is imagined and how policies are interpreted and translated and transformed into practice by all potential stakeholders. The palimpsest metaphor enables policy to be read as an evolving history.

A palimpsest metaphor also accords the author or scribe agency. In clearing and inscribing, the author holds the past and present together. Multiple past experiences and identities are written over and over (Jenlink, 2014). The traces of past experiences and identities are sometimes highly visible, yet at other times only partially erased, or feature in more subtle or mutated ways. Bokhorst-Heng et al. (2014) describe the palimpsest layers that constitute pre-service teachers' literacy autobiographies. As they reflected on their past learning, these layers could be traced back to literacy events from their early childhood onwards. They shaped the teachers not only as literate beings but also as literate actors and educators (p. 360). Moss and Schreiber (2006) draw on the palimpsest metaphor to highlight how teacher beliefs that influence practice are layered accretions, that are 'natural, messy and conflicted', created through experiences of 'nature and culture, conception and production, imagination and relationships, and reality and ideality' (p. 10). The layering idea is also highly relevant to teacher educators as teacher educators often have first been classroom teachers.

Teacher educators not only draw on their previous experiences as students and school teachers to design assessment learning for pre-service teachers but also on

their experiences as researchers, university teachers and course designers. Teacher educators are constantly erasing and rewriting their understanding and beliefs about assessment and assessment education in response to new insights, new policies and new responses from pre-service teachers which in turn shapes how they approach and teach for assessment capability. Re-writing and re-reading our own histories as teachers and teacher educators is how teacher educators remain consciously aware of how their histories shape their thinking, in a process of epistemic reflexivity (Lunn et al., 2017). Such awareness is part of what sustains teacher educators as critical authors and agents, even as this process of always re-writing contributes to increased workloads, a common feature associated with the productivity and compliance focus in neoliberal educational institutions (Bourke, 2019; Spina et al., 2020). We propose that sustaining teacher educators' agency as they compose new texts, involves being able to distinguish the contradictory requirements and recon- cile incompatible elements in the structures in an institution, or the cultural rules and wider policy narratives of their context and country.

When agents draw on the cultural resources of the past as part of their interactions and authorings in the present, this can be what Archer (1996) calls a process of morphogenesis. This is a complex process of interchange that not only acknowledges that agents work within structures and cultures that shape their work overtime but also that these agents change the structures and cultures in that time. Archer's social realist framework enables an analysis of interactions between structure (institutions, roles and positions), culture (knowledge, beliefs, discourses and ideologies) and the stratified identities of agents (Westaway et al., 2020). Archer's (2000) stratified view of persons offers a holistic view of individual teacher educator agency situated within a broader policy story. Policies are structural and cultural resources that can be enabling or constraining resources for agents. Policies and the practices they invoke contain 'situational logics' that agents may or may not be aware of, but that will be resources that shape their practice as they adopt and adapt ideas (Archer, 1996, p. 304). The aim of this chapter is to highlight some of the policy and identity layers that agentic teacher educators write and rewrite as part of their role in preparing assessment-capable pre-service teachers. Rather than a linear story of cause and effect, or a series of separate policy design-and-enactment episodes, the layers that inform assessment capability are like the palimpsest, as:

> One writing interrupts the other, momentarily, overriding, intermingling, with the other; the old writing influences the interpretation of the imposed new writing and the new influences the interpretation of the old. But both still stand, albeit partially erased and interrupted. New discourse does not simply replace the old as on a new clean sheet. They generally interrupt one another; though they may also exist in parallel, remaining separate, undermining each other, but in an unexamined way. (Davis (1993) as cited in Boggs & Golden, 2009, p. 211)

Tracing the layers of influence in a teacher educator's views and practices over- time is important not only for critical scholarship but also for critically informed practice that holds the potential to support the development of agentic beginning teachers. Cochran-Smith (2005) argues that a priority for teacher education research is building a chain of evidence that links teacher preparation, teacher candidates' learning, their classroom practices and their pupils' learning. We concur with her

warning that 'each of these links is complex and challenging to estimate. When they are combined, the challenges are multiplied' (Cochran-Smith, 2005, p. 303). We also contend that unless teacher educators are equipped to see how their assessment education decision-making intersects and is informed and shaped by wider policies, they will not recognise the importance, value and potential of their roles.

## 9.3 Archer's Theory of Agents—I, Me, We, You

The potential power of an agent to enact change within wider social structures like policies and institutions is represented by Archer (2000) as a four-phase process (see Fig. 9.1). The quadrants are not linear but represent an ongoing dialectical relationship. Quadrant 1 acknowledges that we have a continuous sense of self—'I'—and we are situated within particular socio-cultural systems at birth. In Quadrant 2, humans take on the idea of 'me' as identities are formed around multiple social roles—me as a student, a teacher, a teacher educator. In Quadrant 3, role identities are enacted in public, as part of social collectives. Intersections of ideas and interests are mobilised becoming agreed practices to become part of what 'we' do here. This identity is situated and local, but also draws from trans-local policies and practices that also vary over time. Quadrant 4 reflects moments in time when an individual's identity becomes expressive of who they are in a society. In this quadrant, individuals often are in positions where they have a say in establishing the socio-cultural systems of the role. 'You' identify with a role, and through 'a continuous stream of unscripted role performances … over time [you] can cumulatively transform the role expectations' (Archer, 2000, p. 296). Archer proposes that while there is a cycle of development

| Quadrant 4: 'You' – The Actor develops a longstanding identity in a role, and creates, acts within and adapts the systems and norms attached to the role. | Quadrant 3: 'We' – Corporate agents having a say in the modelling and remodelling of the structure and culture of a group through public, social roles and collective action. |
|---|---|
| Quadrant 1: 'I' – Reflexive agents developing a continuous sense of self, situated in socio-cultural contexts. | Quadrant 2: 'Me' – Primary agents with multiple social roles, always defined within collectivities. |

**Fig. 9.1** Archer's (2000) four quadrants of a stratified view of agency

from Quadrants 1–4, it is iterative, moving back and forwards through the quadrants. Quadrants 3 and 4 are publicly performed roles, and Quadrants 1 and 2 are private roles. The person is always reflexively asking themselves, 'how much of myself am I prepared to give' of this self, and my time, energy and commitment to each identity role. Space for agency occurs as individuals actively juggle competing role requirements and strike their own balance by accommodation or prioritising commitments and concerns that help them live a 'modus vivendi' or life worth living.

We draw on Archer's quadrants to understand how teacher educators engage with multiple roles and identities as part of exercising agency within the context of assessment education. Two teacher educator data sets focused around assessment education are analysed, one focusing more on Quadrants 1–3, the other focusing on Quadrants 4–2. When combined with the palimpsest metaphor, we are able to represent the agency of the teacher educator as situated in various historical sociocultural contexts. We highlight that negotiations of role expectations and individual identities occur over time, with inscriptions, erasures and rewriting all leaving traces that inform action.

Assessment education has been selected as the focus as it is an excellent example of how concerns are highly durable; they persist over time and context although the extent and nature of their influence may wax and wane (Hill et al., 2010). The teacher educator's assessment education approach informs the layers of assessment learning available for pre-service teachers. As 'we' teacher educators learn to do assessment together, we are establishing expectations and visions that will inform what pre-service teachers do in the present and in their future classrooms. What is taught about assessment is important, as is how pre-service teachers are assessed as the modelled practice can inform their future repertoire with their own students. Additionally, assessment in university impacts an individual's future through accreditation and certification. The agency of teacher educators is an important focus as teacher educators are making choices and crafting commitments through all of these layers—of assessment curriculum, pedagogy, modelling best practice and producing assessment for certification and systemic accreditation purposes. By focusing on assessment education in this chapter, we are able to ask what kinds of identities—student teacher and subsequently teacher and student—are being crafted through ITE assessment education experiences and to consider the agentic roles the teacher educator plays in constructing these identities. We are also interested in teacher educators' personal assessment education identities and how these emerge their commitments and concerns ('self') and how the teacher educator views 'themselves in relation to their (social) contexts and vice versa' (Archer, 2007, p. 3; Westaway et al., 2020). Brought together in the palimpsest this analysis highlights how assessment practices and priorities can prescribe and ascribe a sense of self and agency—their identities.

The two assessment palimpsests in Sects. 9.4 and 9.5 are told from the perspectives of each author before both authors stand back and look at these layered stories side by side to discuss what is made visible in this approach.

## 9.4   I, Me, We—Five Layers from a Teacher Educator's Assessment Palimpsest

As a teacher educator who teaches pre-service teachers how to assess, I (Author 1) have an identity as an assessment actor, someone with a long history in a role. Through my research and teaching about assessment, I help to create some of the norms that shape the role of a teacher assessor—I have an identity as 'you'. Yet when I look back through some of my published works, I can see how often I was drawing on assessment activities that were part of my past, intermingling old assessment experiences with the new. In this palimpsest I interrogate a contemporary assessment educator's concern—how do I fit what is important into a crowded curriculum—by revisiting five layers of my assessment writing over time. I analyse how my teacher educator agency is connected by a push and pull between my 'I' and 'me' senses of self, and the 'we' of educating others, but how they informed some agentic decision making. They represent five different types of inscription:

1. (2007) PhD extract
2. (2011) Early career article
3. (2020) Leadership keynote address
4. (2018) Teaching resource
5. (2019) Personal reflections about being a teacher educator of an assessment course.

This first palimpsest layer is a reflection on assessment that started my PhD journey in 2007 that ultimately led to me becoming a teacher educator in a university. As evident in this extract from the thesis introduction, I was having difficulty reconciling the intersection between assessment literature and my assessment experiences as a teacher in schools. I was reflecting on an important disconnect between the way that 'we' teachers in a school were assessing, and the way 'we' teachers were being represented in research. It was the prompt for me to study and understand more about assessment beliefs.

> So it was with great excitement that I read Black and Wiliam's (2001) pamphlet 'Inside the Black Box; raising standards through classroom assessment' and their scholarly analysis (Black & Wiliam, 1998). Practices of sharing goals, strategic questioning, feedback, and peer and self assessment, were grouped as Assessment for Learning (AfL), and it was claimed these practices improved learning outcomes for all students, especially for those in the lowest performance bands. These practices were highly congruent with my own. Yet this was the moment of my second powerful dilemma. Having spent ten years working alongside teachers to improve their teaching and learning practices, I knew improved learning autonomy depended on more than just the application of techniques. (Willis, 2011, p. 3)

When I could see my social role as a teacher in a Queensland school against an emerging international story of assessment policy reform that was being generated by the work of the Assessment Reform Group (2002) from the United Kingdom, I could understand my teacher role in new ways. Some of the layers of my teaching palimpsest were laid down at a transnational level many years before I began to teach.

The social roles of a teacher, how 'we' are expected to do our role are informed by broad socio-cultural stories, even if I was unaware of them at the time. However, the effects of international policy did show up in my early practice as evidenced in my recall of a conversation I had with a more experienced colleague in my first year of teaching.

> I am remembering a story from my first year of teaching. I asked to see the unit test so I could design the learning activities to prepare students for it and I received a frosty look. I was asked, 'Isn't that like the tail wagging the dog?'. The message that I got was that assessment has its proper place after the learning takes place. (Klenowski & Willis, 2011, p 2)

This second layer was a reflection about my experience when I was an early career teacher. In my teacher education course, I learned about the important alignment between assessment and learning and letting students have clarity about the success criteria (Sadler, 1989), but this was not the approach in the school. In asking a question about the relationship between assessment and learning in testing, I was trying to make connections between 'me' as a teacher and also as a school colleague as I needed to fit my practice into what 'we' did in the social norms of the school. At the time, my early career teacher 'me' had stayed quiet, waiting until I gained more experience before starting to suggest ways 'we' might do things differently. It was only later, through academic readings like Gipps (1994) and Shepard (2000) that I could see how assessment policy has been shaped by social expectations, with assessment becoming increasingly associated with learning, rather than separate from learning. I was able to read back into my previous experiences and understand them in this new light.

Looking back further to see how my histories have informed my role as a teacher educator has helped me see how 'I' have a continuous assessor identity. My assessor identity reaches back to my experiences as a school student. I reflected on my experiences in a school exam from a keynote address.

> In a graphics test, my teacher stood near my drawing board, while we had our heads down, carefully drawing our year 10 angles in sharp pencils while trying not to sweat on the A3 paper in the November heat. We were half way through the lesson time, and he said to the class 'make sure you read the question carefully'. He then looked at me and looked at my page. I can remember the realization that I had been drawing an isometric instead of an oblique view, physically draining me from head to toe. I started rubbing out lines and rapidly redrawing, and he walked away saying to the class 'Take your time, and you can go into the lunch break if you need it.' Many of my beliefs about assessment have been shaped by that act. He extended to me the social good of time, and an identity as a capable learner. His invitation also taught me that assessment should be an opportunity for learners to show what we know, not to trick or to punish learners. This truth drives my research focus on inclusive assessment. (Public lecture, 2020)

My lived experience as 'me'—a student who experienced assessment anxiety that was allayed by a teacher's subtle support—has deeply informed later 'me' roles as a teacher, parent, researcher and teacher educator.

Archer's proposal is that an ongoing reflexive inner conversation enables an individual to identify what matters most and to pursue those concerns that matter in different situations and roles. Sometimes what matters most is only apparent over

time, or in the recurrence of a theme or an idea. I recognise now that in my teacher education role, I was drawing on all of these layers when I turned my personal experience into a teaching resource. I presented a version of my own experience to begin a discussion about fairness in assessment in a lecture for first-year pre-service teachers, beginning a course about assessment. The prompt on the slide read:

> A year 7 student is completing a unit test in class time. The bell goes for lunch and everyone else has finished, but this year & student is still writing. Do you allow the student to continue writing or say time is up? Why? What has informed your decision?

The pre-service teachers responded in one of three ways: some students saying it would not be fair to give someone extra time, others saying it would not be fair to stop the student and a smaller group saying, 'it depends'. From this prompt, I was able to introduce the history of assessment and the language of validity, reliability and equity as practical principles that are always in tension. A fundamental part of my practice as a teacher educator is a commitment to developing a shared language that stems from assessment policies and theories. Highlighting assessment as a social practice enables us to consider how 'we' might think differently about assessment. My other teacher educator commitments include the importance of a critical and reflexive approach to being an assessor, active participation and opportunities for discussion. I recognise all of these layers in this one PowerPoint slide, including layers of my past assessment identity as a student being assessed. Yet it is getting harder for me to maintain space for commitments that I value as important to learning about assessment in a course that is increasingly regulated by national policies.

Course designs in Australian teacher education have been heavily influenced by the *Accreditation of Initial Teacher Education Programs in Australia: Standards and Procedures* (Australian Institute for Teaching and School Leadership [AITSL], 2015) a response to the national Teacher Education Ministerial Advisory Group's (TEMAG) report *Action Now, Classroom Ready Teachers* (Australian Government, 2015). These policies have introduced new quality assurance language, in particular the idea of pre-service teachers demonstrating their impact, through evidence and assessment practices (Bourke, 2019; Churchward & Willis, 2019). In practice, this has meant that teacher educators have realigned courses to meet the program standards, often disrupting previous course commitments and creating a crowded curriculum. The final entry in my palimpsest was from an online reflection journal about the hard work of aligning my commitments with those the policy required. The reflections also represent the emotional work of supporting students to wrestle with new assessment ideas.

> Wed 17 Jul 04:17 PM I am about to commence semester 2 ... It is really challenging to design … [for this] crowded course ... I have to stop doing something else I value. Otherwise it is too overwhelming for the students ... What is important for them to know? How do I make space for them to be the creative ones, and not just the receivers?
>
> Mon 20 Aug 07:57 AM ... I am really excited to see students coming to points of learning that I wanted them to arrive at ... They are writing that they are thinking differently about assessment, that they didn't realise how many of their beliefs were going to be challenged, and they are thinking deeply about how they might do things differently for their students. This kind of uncomfortable threshold crossing is inevitably going to take time and be painful.

So the learning may not be easy to get there. I have to carry some of their disgruntled grumblings and reflections while they sort out their thinking. I know what is needed for them to be transformative teachers and it is starting to become visible. I just hope it sticks. (Reflections about teaching an assessment course)

These reflections are an expression of the constant processes of working out what is important, and how to teach—an ongoing process of erasure and rewriting that teacher educators will all recognise. Through this assessment education palimpsest, I can see how my assessment beliefs and experiences are persistent, and traces of experience from previous times still shape my ongoing action. Reading back through the layers, I can see for the first time how assessment research and policies have been important provocations, challenging my understanding of how 'we' do assessment. The second palimpsest highlights a more harmonious relationship with policy.

## 9.5 You, Me, We—An Assessment Policy Palimpsest Tracing the Student in New Zealand

In this second palimpsest, I, the second author, examine a number of Aotearoa New Zealand policy inscriptions alongside my own trajectory as an assessment actor. My reflections focus on Quadrant 4 as the context for my 'you' alongside inscriptions with some of the elements of my 'I-me-we' roles and commitments. In examining the wider policy context that influences Quadrant 4, my aim is to draw attention to the complexity—the situated, fluid and multifaceted nature of the policy context that shapes and frames agentic teacher educator roles and responsibilities. The palimpsest encompasses several layers of inscription, those in italics relating specifically to my assessment experiences:

1. (1840) Te Titiri o Waitangi
2. (1988) Crooks: *The impact of classroom evaluation practices on students*
3. (1993–1996) National curriculum and assessment documents
4. (1979–1998) *Learning in Science Projects (LISP): 1995–1996 LISP (Assessment)*
5. (2007) New Zealand National Curriculum (NZC)
6. (2008; 2009–2010) *Research into culturally responsive pedagogy and assessment*
7. (2011; 2018) Position papers on assessment
8. (2010–2013; 2014–2016) *Research into student teacher assessment literacy & mathematical thinking*
9. (2019) New Zealand Teachers Council professional code and standards

As a researcher and teacher, someone who has been a teacher educator and secondary teacher with a particular interest in assessment in STEM subjects, I have had experience in the role of assessor, assessment educator and school-based high-stakes assessment administrator. In crafting the Aotearoa New Zealand palimpsest

for assessment, my first task was to choose the parchment, the foundation on which assessment education policy and practice have been scribed. I have chosen the 1840 Te Titiri o Waitangi for this because it provides the foundation of Aotearoa New Zealand as a bicultural nation, and now a multicultural society. In relation to my own assessment palimpsest, the first inscription was the research review paper by Crooks (1988) titled *The Impact of Classroom Evaluation Practices on Students.* In this paper, Crooks identified that assessment critically impacts students and their learning:

> Classroom evaluation affects students in many different ways. For instance, it guides their judgement of what is important to learn, affects their motivation and self-perceptions of competence, structures their approaches to and timing of personal study (for example spaced practice), consolidates learning, and affects the development of enduring learning strategies and skills. It appears to be one of the most potent forces influencing education. (Crooks, 1988, p. 467)

The focus on students at the centre of classroom assessment has been scribed and overscribed in policy, professional development and practice in New Zealand since the early 1990s. The emphasis on assessment in the service of learning was clear in the National Curriculum Framework document (Ministry of Education, 1993). The subsequent separate curriculum learning area documents reiterated and reinscribed this focus. Government-funded professional development initiatives—the Assessment for Better Learning (ABeL) programme and the Assess to Learn (AtoL) project—focused on the development of teachers' assessment for learning practices. These initiatives were followed by a focus on the development of school leader understanding of assessment for learning in recognition that leaders set the tone and culture for assessment within a school.

My view of assessment, in particular, how 'we' as science teachers needed to approach assessment, was shaped by these documents and by developments in government-funded science education research over this period, specifically the Learning in Science Projects [LISP] (Bell, 2013). I joined the LISP team as the researcher for the LISP (Assessment) project (Bell & Cowie, 2001). The LISP (Assessment) project concluded that teacher formative assessment involved a combination of planned activities and interactions with students focused on 'noticing, recognizing and responding' to student ideas and actions during the teaching and learning process (Cowie & Bell, 1999). Within this project, I was able to explore, question and expand my commitments to student voice and teacher agency and to complete my PhD (Cowie, 2000). I was fortunate to experience the I–me–we–you dynamic as harmonious—the mandated curriculum, assessment policy and professional development focus were aligned in focusing on assessment for learning.

These two threads of policy—the importance of the Treaty of Waitangi, and students at the centre of assessment—continued with the 2007 national curriculum principles [NZC] (Ministry of Education, 2007). Teachers, and by implication teacher educators, needed to ensure all students have the opportunity to acquire knowledge of te reo Māori me ōna tikanga. Other principles relate to cultural diversity and inclusion which assert the need for the curriculum to ensure that the diversity of students' identities, languages, worldviews and their learning strengths and needs are recognised

and affirmed. The NZC includes a section on assessment that depicts it as a system process with multiple stakeholders. These messages are echoed in the 2011 Ministry position paper on assessment in the schooling sector (Ministry of Education, 2011a), which lists 'students at the centre' as the first principle for assessment. This document uses the notion of *ako* (reciprocal learning) to propose teachers and parents/whānau should be partners in the collaborative exchange of information with the goal of enhancing learning. Two government-commissioned reports (Absolum et al., 2009; Hipkins & Cameron, 2018) also locate students at the centre of their own learning and assessment. *Tātaiako. Cultural Competencies for Teachers of Māori Learners* (Ministry of Education, 2011b) is a key element in the New Zealand palimpsest guiding teacher thinking about teaching and learning and hence assessment and assessment education for Māori, and for all students. *Tapasaa* (Ministry of Education, 2018) provides a complementary set of competencies for teachers working with Pasficia students. Taken together, this set of documents asserts the centrality of relationships of care, respect and high expectations. They scribe and prescribe pedagogies of assessment that are rigorous *and* culturally responsive and sustaining as an influential layer on the Aotearoa New Zealand assessment palimpsest.

Looking across all of these policy layers, 'we' as teacher educators have the possibility to be influential in Quadrant 4 roles, shaping the policy context and how 'you' and subsequently how assessment education is experienced and assessment is viewed in the 'we' student teachers encounters as beginning teachers'. Unsurprisingly, the *Learning to Become 'Assessment Capable' Teachers* project (2010–2013) in which I participated concluded that primary and ECE initial teacher education students consider they are ready and able to begin using assessment to enhance children's learning, but further development is needed on how they might foster children's agency in assessment (Hill et al., 2010). The importance of discipline knowledge for assessment has been another strong focus with *Mathematical Thinking Across Initial Teacher Education* project (2014–2016) (Cooper et al., 2017) making the case for assessment education to pay attention to pre-service teacher mathematical and statistical understanding as part of (formative) assessment literacy (Cowie & Cooper, 2016).

My assessment palimpsest also includes inscriptions crafted through opportunities to research how to support the science learning of Māori students (Cowie et al., 2009) and research into culturally responsive pedagogy and assessment (Cowie et al., 2011). These Aotearoa New Zealand Ministry of Education funded projects, an imperative from the fourth Quadrant, opened up spaces for a new and different policy, teacher education and teacher action and authoring of 'we' for teachers and teacher educators. The importance of relationships was a feature of both projects coupled with the value of teacher attention to the multiplicity of languages, viewpoints and worldviews students in today's classrooms have to contribute to the curriculum (Cowie et al., 2018). For me, these projects were harmonious with and complemented earlier iterations of 'we' and 'me' and were congruent with my 'I' commitment to careful attention and respect for student ideas. They also served to highlight the complexity of the challenges teacher educators face in relation to the developing pre-service

teachers' assessment capability if they are to be responsive to student diversity whilst promoting student understanding of an increasingly complex curriculum.

Most recently, I have deliberately added an inscription related to the development, nature and implications of teacher data literacy for the use of standardised assessment data (Cowie et al., 2021). This project aligns with my 'I-me-we' commitments to responsiveness to students and empowering teachers and students through assessment. Looking back, what is made visible in this palimpsest is how policies can support a culture for agentic action. There are strong traces of ideas that are visible over time, both in the policy layers and personal concerns that point to respect for students and multiple entry points for learning. An expansive view of what is worth making visible through assessment, where assessment is regarded as a valued part of the curriculum and learning, has been continually authored and authorised. Policy commitments and teacher educator research can be harmonious and mutually informing.

## 9.6   Discussion

Archer's four-quadrant model has challenged each of us to consider our assessment and assessment educator experiences with policy and practice to find connections over time. In linking the context for 'you' in Australia and New Zealand, and analysing and reflecting on how 'we-me-I/ I-me-we', we have each been able to recognise persistent personal commitments to assessment in the service of students' learning, with the implications of these commitments still developing. Archer's theory is of a continuous sense of self—'I'—derived from where we are situated within socio-cultural systems at birth. It is through reflexive action that we navigate the multiple social roles we hold in society, meaning the past is always alive in the present even as we anticipate a different future (Archer, 2003). This idea very much fits with the palimpsest metaphor. Commitments carry over from one experience to the next, as illustrated in both palimpsest examples. The palimpsests illustrate that within the layering of experiences there are multiple spaces for the agency of teacher educators. However, these agentic actions are not necessarily bold or disruptive. As agents, we draw on the cultural resources of our own past, and from collective social roles as we reflect and interact in the present.

We propose that bringing together Archer's four quadrants and the palimpsest metaphor can be empowering for teacher educators as they work to accommodate often competing assessment education priorities. A shared language can help 'we' as a collective of teacher educators talk about how we are managing the 'I-me-we' boundaries as part of being a teacher educator. How each of us manages the 'I-me' dynamic can help us find space in the 'we' for the 'me' and the 'I'. This process of discerning our ultimate concerns from amongst the range of possible concerns requires reflexivity. Each of us has different histories that are informed by the layers of our experiences in different policy and practice contexts over time. Tracing the layers of our own assessment and assessment education commitments helped each

of us to think critically about what has stayed legible to our memories over time, and examine why it came about. This reflexive awareness has helped us maintain legibility over time, and recognise how disconnections have spurred us on to new investigations.

Palimpsests are not often coherent. The many layers of inscription often can be jarring. Looking outside of our own stories to understand how wider national and international policies have influenced our practices can help us find the spaces for agency. By putting our palimpsests side by side we recognised differences in national policy contexts, and how policies can be read as provocative or harmonious in the development of our assessment agency. Archer not only emphasises the 'me-we' connection but also that it is important to know about the 'you-we' connection to wider policy stories and our role in developing and maintaining systems and norms. Through these connections, we are better able to consciously monitor and critique the intended and unintended consequences of new policy and its interaction with what has gone before—what is desirable and less desirable. We propose that knowing what to scrape back, write over and how to find spaces to write in and plan for what is important in assessment education can help teacher educators feel empowered in what can seem like an overwhelming context. The palimpsest metaphor, combined with Archer's quadrants, helps agentic teacher educators attend to the shadows and sediments of the past in the present. This is especially important to recognise in assessment education, given that assessment beliefs are so persistent over time.

A palimpsest allows a temporal view, as it captures inscriptions over time. As such it is especially helpful for teacher educators as they are oriented towards the future, building on or off the past. Teacher educators are in the unique position of being responsible for ensuring novice teachers are ready and able to assist children from a diversity of backgrounds to pursue and achieve an expansive range of learning goals. In the day-to-day decisions that we make as teacher educators about course design, about activities, about how to respond to students, we are leaving traces that become part of ongoing assessment palimpsests for ourselves and our students who are future assessment colleagues. Often as people who have long-standing roles, as teacher educators, we are operating in the 'you/we' quadrants where it is possible to conceive of and initiate ways of doing things differently for the future. Teacher educators help establish how 'you' and 'we' engage in assessment. Spaces for agency are written into the role. Yet, concurrently new teacher education policies also are shaping our teacher educator identities. As policies demand different types of evidence around pre-service teacher readiness, including new forms of assessment in teacher education, they are also changing the way 'we' work as teacher educators. The assessment mapping and documentation are leading to new collaborations, negotiations and inscriptions. Stobart (2008) claims that assessment does not just measure what is there, but assessment makes up people. New assessment policies can be seen to be *making up a different kind of teacher educator.* We would suggest that together these metaphors of the palimpsest and Archer's quadrants, can help teacher educators to retain sight of their roles as authors and agents. The iterative dynamic between quadrants helps consider 'I-me-we' while keeping 'you' in mind.

## 9.7   Conclusion: Assessment Capability as a Layered Story

Teacher educators play an essential role in narrating the connections between assessment policy and practice but they need to be able to recognise the way the 'layering of previous policies and the interpretive practices that have arisen from their enactment, influence how any new policy is interpreted, resourced and embedded in action' (Ball & Junemann, 2012). This recognition and the reflexivity involved can assist teacher educators in identifying their commitments and concerns, that is 'to consider themselves in relation to their (social) contexts and vice versa' (Archer, 2007, p. 3). Ideally, this will assist teacher educators in keeping the discursive space open to new possibilities. By considering what their assessment practices and priorities presume, teacher educators can begin to identify the structural, cultural and agential conditions that enable or constrain the ways in which they express their roles as assessors and assessment educators.

The current challenge is how to layer recent moves to focus on 'outputs' into the longer story around responsiveness to pre-service teachers and to students as agentic teacher educators.

## References

Absolum, M., Flockton, L., Hattie, J., Hipkins, R., & Reid, M. (2009). *Directions for assessment in New Zealand*. Ministry of Education.

Archer, M. (1996). *Culture and agency: The place of culture in social theory.* Cambridge University Press.

Archer, M. (2000). *Being human: The problem of agency.* Cambridge University Press.

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

Archer, M. (2007). *Making our way through the world: Human reflexivity and social mobility.* Cambridge University Press.

Assessment Reform Group (2002). *Assessment for learning: 10 principles.* Assessment Reform Group.

Australian Government. (2015). *Australian Government response: Teacher education ministerial advisory group, action now: Classroom ready teachers.* Australian Government Department of Education and Training. https://docs.education.gov.au/node/36789

Australian Institute for Teaching and School Leadership (AITSL). (2015). *Accreditation of initial teacher education programs in Australia: Standards and procedures.* AITSL.

Ball, S. J., & Junemann, C. (2012). *Networks, new governance and education.* The Policy Press.

Bell, B. (2013). *Learning in science: The Waikato research.* Routledge.

Bell, B., & Cowie, B. (2001). *Formative assessment and science education.* Springer.

Boggs, M., & Golden, F. (2009). Insights: Literacy memories of pre-service teachers self-reported categories of impact. *The Reading Matrix, 9*(2), 211–223.

Bokhorst-Heng, W. D., Flagg-Williams, J. B., & West, S. (2014). The palimpsest layers of pre-service teachers' literacy autobiographies. *Pedagogies: An International Journal, 9*(4), 343–364.

Bourke, T. (2019). The changing face of accreditation for initial teacher education programs in Australia. In J. Fox, A. Gutierrez, & C. Alexander (Eds.), *Professionalism and teacher education: Voices from policy and practice* (pp. 27–45). Springer.

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.

Carter, P. (2012). Policy as palimpsest. *Policy & Politics, 40*(3), 423–443. https://doi.org/10.1332/030557312X626613

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.

Cochran-Smith, M. (2005). Studying teacher education: What we know and need to know. *Journal of Teacher Education, 56*(4), 301–306.

Cooper, B., Cowie, B., Furness, J., Peter, M., & Bailey, J. (2017). *Mathematical Reasoning and Knowledge in Initial Teacher Education (MARKITE)*. Teaching and Learning Research Initiative.

Cowie, B. (2000). *Formative assessment in science classrooms [Unpublished PhD]*. University of Waikato.

Cowie, B., & Bell, B. (1999). A model of formative assessment in science education. *Assessment in Education, 6*(1), 101–116.

Cowie, B., & Cooper, B. (2016). Exploring the challenge of developing student teacher data literacy. *Assessment in Education, 24*(2), 147–163. https://doi.org/10.1080/0969594X.2016.1225668

Cowie, B., Edwards, F., & Trask, S. (2021). Explicating the value of standardized educational achievement data and a protocol for collaborative analysis of this data. *Frontiers in Education, 6*. https://doi.org/10.3389/feduc.2021.619319

Cowie, B., Glynn, T., & Otrel-Cass, K. (2009). Let it rip—Patero at its best! *SET: Research Information for Teachers, 3*, 29–35.

Cowie, B., Harrison, C., & Willis, J. (2018). Supporting teacher responsiveness in assessment for learning through disciplined noticing. *The Curriculum Journal, 29*(4), 464–478. https://doi.org/10.1080/09585176.2018.1481442

Cowie, B., Otrel-Cass, K., Glynn, T., & Kara, H. (2011). *Culturally responsive pedagogy and assessment in primary science classrooms: Whakamana tamariki, Summary*. Teaching and Learning Research Initiative.

Crooks, T. (1988). The impact of classroom evaluation practices on students. *Review of Educational Research, 58*(14), 438–481.

DeLuca, C., Willis, J., Cowie, B., Harrison, C., Coombs, A., Gibson, A., & Trask, S. (2019). Policies, programs, and practices: Exploring the complex dynamics of assessment education in teacher education across four countries. *Frontiers in Education, 4*. https://doi.org/10.3389/feduc.2019.00132

Gipps, C. V. (1994). *Beyond testing: Towards a theory of educational assessment*. Psychology Press.

Heck, D., & Ambrosetti, A. (2018). Reclaiming educator professionalism in and for uncertain times. In D. Heck & A. Ambrosetti (Eds.), *Teacher education in and for uncertain times* (pp. 1–13). Springer.

Hill, M., Cowie, B., Gilmore, A., & Smith, L. F. (2010). Preparing assessment-capable teachers: What should pre-service teachers know and be able to do? *Assessment Matters, 2*, 43–64. https://doi.org/10.18296/am.0085

Hipkins, R., & Cameron, M. (2018). *Trends in assessment: An overview of themes in the literature*. New Zealand Council for Educational Research.

Hoyte, F., Singh, P., Heimans, S., & Exley, B. (2020). Discourses of quality in Australian teacher education: Critical policy analysis of a government inquiry into the status of the profession. In J. Fox, C. Alexander, & T. Aspland (Eds.), *Teacher education in globalised times* (pp. 159–177). Springer.

Jenlink, P. M. (2014). Learning our identity as teacher: A palimpsest writ large in life. In P. M. Jenlink (Ed.), *Teacher identity and the struggle for recognition: Meeting the challenges of diverse society* (pp. 247–257). R&L Education.

Klenowski, V., & Willis, J. (2011). Challenging teachers' assumptions in an era of curriculum and assessment change. *Primary and Middle Years Educator, 9*(1), 1–9.

Lunn, J., Ferguson, L., & Ryan, M. (2017). Changing teachers' epistemic cognition: A new conceptual framework for epistemic reflexivity. *Educational Psychologist, 52*(4), 242–252.

McLeod, J. (2017). Marking time, making methods: Temporality and untimely dilemmas in the sociology of youth and educational change. *British Journal of Sociology of Education, 38*(1), 13–25. https://doi.org/10.1080/01425692.2016.1254541

Ministry of Education. (1993). *The New Zealand curriculum framework*. Learning Media Ltd.

Ministry of Education (2007). *Ka Hikitia—Managing for success: The Māori Education Strategy 2008–2012.* Ministry of Education, New Zealand. http://www.minedu.govt.nz/theMinistry/PolicyAndStrategy/KaHikitia.aspx

Ministry of Education (2011a). *Ministry of Education Position Paper: Assessment (Schooling sector).* Ministry of Education, New Zealand.

Ministry of Education (2011b). *Tataiako: Cultural competencies for teachers of Māori learners.* Ministry of Education, New Zealand.

Ministry of Education. (2018). *Tapasā: Cultural competency framework for teachers of Pacific learners.* Ministry of Education, New Zealand.

Moss, C. M., & Schreiber, J. B. (2006). *The palimpsest: A conceptual framework for understanding teacher beliefs* [Conference paper]. In Annual Meeting of the American Educational Research Association, San Diego, USA.

Pullin, D. (2017). What counts? Who is counting? Teacher education improvement and accountability in a data-driven era. In J. Nuttall, A. Kostogriz, M. Jones & J. Martin (Eds.), *Teacher education policy and practice* (pp. 3–13). Springer. https://doi.org/10.1007/978-981-10-4133-4_1

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

Shepard, L. A. (2000). The role of assessment in a learning culture. *Educational Researcher, 29*(7), 4–14.

Spina, N., Harris, J., Parfitt, A., & Yue, Y. (2020). Quality in an audit society: The work of teacher-educators. In M. A. Peters (Ed.), *Encyclopedia of teacher education* (pp. 1–6). Springer.

Stobart, G. (2008). *Testing times: The uses and abuses of assessment*. Routledge.

Teaching Council Aotearoa New Zealand. (n.d.). *ITE programme approval, monitoring and review requirements: Frequently asked questions (Technical).* https://teachingcouncil.nz/assets/Files/ITE/ITE-Requirements-FAQs-Technical.pdf

Westaway, L., Kaiser, G., & Graven, M. (2020). What does social realism have to offer for research on teacher identity in mathematics education? *International Journal of Science and Mathematics Education, 18*(7), 1229–1247.

Willis, J. (2011). *Towards learner autonomy: An assessment for learning approach [PhD].* Queensland University of Technology.

Willis, J., & Klenowski, V. (2018). Classroom assessment practices and teaching learning: An Australian perspective. In H. Jiang & M. F. Hill (Eds.), *Teacher learning with classroom assessment: Perspectives from Asia Pacific* (pp. 19–37). Springer.

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# Chapter 10
# Method as an Opportunity for Collaborative Agency: An Australian Delphi Inquiry Into Teacher Educators' Priorities in Assessment Education

**Jeanine Gallagher, Jill Willis, and Nerida Spina**

**Abstract**  Developing pre-service teacher assessment capability is a priority for the initial teacher education policy. Yet the collective expertise of teacher educators is difficult to access. This chapter addresses a persistent structural challenge—how to enable the expertise of teacher educators to inform policy—by exploring the Delphi approach. A Delphi research process enables individual experts to contribute to collective knowledge building. In the first phase, the development of Delphi statements occurred through a collaborative analysis of policy and research. This set the foundation for collective inquiry in the second and third stage through a process of consensus seeking. This chapter does not report on the survey outcomes, instead scoping the full range of assessment capacities developed in phase one from policy and research that teacher educators recognised as essential for pre-service teacher learning. This extensive list highlights the important role of teacher educators as agentic policy actors whose choices and priorities among a crowded field of possible assessment priorities impacts on the learning of pre-service teachers. The chapter concludes with an analysis of the challenges and the opportunities for teacher educators to collaborate in robust evidence creation efficiently and effectively using a Delphi process.

**Keywords**  Delphi · Agentic opportunity · Assessment capability

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## 10.1 Introduction

What teacher educators emphasise about the practices and principles of assessment has a profound impact on the professional preparation of pre-service teachers, and in turn their future students, and the education systems that will be impacted by their assessment practices. Teacher educators teach about assessment and its relationship with curriculum and pedagogy, enabling pre-service teachers to engage with theoretical critique about the social impacts of assessment policy. As teacher educators assess the work of pre-service teachers, including their assessment designs, they model best practice and shape the identities of the new teachers as they give feedback about their assessment understanding. Importantly for teacher educators, assessment is also a focus of increasing policy regulation in teacher education. Assessment is a powerful influence in education. This chapter proposes that assessment education in initial teacher education is an under-researched and complex topic, and teacher educators are experts who should be leading the discussions that inform assessment policy and practice. We outline some of the challenges of collecting and collating the views of teacher educators to inform policy, and propose that the Delphi survey—as exemplified here to explore the field of assessment education—is a methodology that values collective teacher educator agency and expertise.

## 10.2 Teacher Educators—Silent Experts

Given the global rise of testing and assessment cultures in education (Smith, 2016) and the impact of teacher educators on the assessment practices of pre-service teachers, it is surprising that there has been little research about teacher educator assessment priorities and practices (Coombs et al., 2020; Hill et al., 2010, 2014). The lack of research and recognition of teacher educator expertise prompted an international study to investigate pre-service teacher assessment education in Canada, New Zealand, England, and Australia (DeLuca et al., 2019). Alongside a sampling of initial teacher education course outlines, the Australian team of researchers considered how they might gather nuanced assessment data from teacher educators who teach about assessment. This was more challenging than we anticipated. As White (2019) notes, teacher educators in Australia are a diverse group working in hybrid spaces. As well as making it challenging to find teacher educators, White notes that the diffuse boundaries that surround the role can lead to a 'lack of self-ownership [that] has left teacher educators (whether they identify or not) open to reformist agendas which sideline the voices of those who have long worked in the field of teacher education' (p. 209). These concerns are shared internationally, such as in England where policy changes have led to the de-professionalisation of teacher education towards instrumental or prescribed professionalism (Vanassche et al., 2019). Teacher educators can speak authoritatively with legitimate knowledge that is more than what is 'prescribed by the contours of the current political or practice landscape, but as what is *enacted* by

teacher educators, as engaged in their professional activities' (p. 485). Rather than focus on the individual agency of teacher educators that is heavily constrained by the wider policy reforms, we take up the challenge from Nuttall and Brennan (2016) to consider a new material practice that enables teacher educators as a collective to make their work visible.

This chapter focuses on how the assessment perspectives and preferences of Australian teacher educators were gathered through surveys using the Delphi method (Linstone & Turoff, 1975; Ziglio, 1996) to answer the research question: *What do Australian teacher educators prioritise when teaching assessment to pre-service teachers?* While the Delphi method is an established process for using expert opinions to build knowledge and has been used to determine international assessment priorities for teachers (Pastore & Andrade, 2019), the design process is not well explained in educational contexts. This methodology has potential to enable teacher educators to represent their collective expertise on a number of topics. It is well suited to the topic of assessment as it is a complex and ill-defined field that depends on the agency of teacher educators.

## 10.3 Agentic Teacher Educators in a Complex Field

Assessment is defined in this chapter as an academic performance that is evaluated to provide information about learning. While the person being assessed should benefit from the evaluation and the information, the reach of the information extends beyond the individual. It is an influential driver of education as assessment is used to regulate student learning in schools (Perrenoud, 1998), govern teachers' and school leaders' work (Spina, 2020), and structure and monitor teacher preparation programmes through external accreditation requirements (Craven et al., 2014). Assessment practices are part of the cultural and structural situations that enable and constrain the work of teachers and teacher educators, and they are also a site where educators make agential evaluations to determine their course of action (Archer, 2003). Agentic teacher educators have important roles in this policy relay as they work with pre-service teachers to create foundations for ethical and professional assessment practice. They equip pre-service teachers to themselves be agentic and informed policy actors and critics who are able to shape the assessment cultures in which they will work.

Pre-service teacher assessment capacity is represented as a complex set of knowledge, practices, and beliefs. It is defined by DeLuca et al. (2019) as involving 'situated professional judgement, that is the ability to draw on learning and assessment theories and experiences to purposefully design, interpret, and use a range of assessment evidence in the service of student learning' (p. 5). Research about teacher assessment has focused mainly on classroom teachers and their assessment literacies and identities (Looney et al., 2018), knowledge and skills (Alonzo, 2016; DeLuca, 2012) and how these are enacted in practice (Adie, 2013). Teachers have to draw on multiple types of assessment knowledge as they enact everyday classroom assessment, moderate with peers, and respond to system-wide assessment data (Willis et al.,

2013). There is international recognition that assessment education is an ongoing need for teachers (Jiang & Hill, 2018). Yet there has been little research internationally with teacher educators to identify what is needed to prepare teachers in their teacher education programmes (Hill et al., 2010; Xu & Brown, 2016), or how teacher educators prioritise the teaching assessment capabilities in pre-service programmes.

In their scoping literature review of 100 papers, Xu and Brown (2016) identified that teacher preparation courses need to include: (a) a strong foundation of assessment knowledge and skills; and (b) opportunity to make connections between knowledge and practice in a variety of supportive contexts to develop their conceptions of assessment. There also needs to be (c) opportunity for pre-service teachers to understand their conceptions and emotions as they learn to be assessors; and (d) be involved in learning communities where they can continue to develop their identities as assessment professionals. Hill et al., (2010, 2017) additionally note that pre-service teachers need to learn how to reflect on their values and encourage their students' agency in assessment through metacognitive strategies for self-regulation. Teacher educators are the agents who bring these goals to life in their courses. These courses or programmes are the focus of increasing regulation, which has dramatically changed the opportunities for teacher educators to make expert decisions and shape the field.

## 10.4 Teacher Educators' Assessment Agency: An Increasingly Regulated Space

In Australia, as in many other countries, discourses of standardisation, accountability, and quality have changed how schools approach assessment and led to increasing regulation of teacher educators' work. Teacher educators prepare new teachers for contexts that include an increasing emphasis on data and accountability in school systems (e.g., Ball, 2018) via the proliferation of large-scale, standardised assessment programmes at the national and global levels (Stobart, 2008). Internationally, the Programme for International Student Assessment (PISA), which is run every three years by the Organisation for Economic Co-operation and Development (OECD), has reshaped national education policy and practice. In Australia, PISA data were used to justify the introduction of a nationally mandated standardised assessment programme, NAPLAN (National Assessment Program—Literacy and Numeracy), in 2008. The impacts of this assessment programme on teachers' work such as intensifying workloads and the focus on standardised test data driving curriculum choices have been well documented (Spina, 2020). Smith (2016) has argued that a global testing culture has emerged in which high-stakes standardised testing is now accepted (and sought after) as a foundational education practice.

Assessment is also used to monitor the quality of graduating pre-service teachers through quality teaching assessment capstone requirements. Such assessment regimes enable comparisons, the creation of reference societies that are used as

a quality benchmark for other nations (Sellar & Lingard, 2013), and perceptions that initial teacher education programmes need greater standardisation and regulation. Teacher educators in Australia have had their assessment teaching influenced by a review conducted by the Teacher Education Ministerial Advisory Group (TEMAG), which produced a report: *Action Now: Classroom Ready Teachers* (Craven et al., 2014). The report includes the requirement for a 'robust assessment of graduates to ensure classroom readiness' (Craven et al., 2014, p. 8) to be monitored through a national literacy and numeracy assessment programme, and the introduction of a Teacher Performance Assessment (TPA). The TPA is an assessment of reflective practice including the teaching and learning cycle of which assessment and evidence is a central component, that pre-service teachers prepare in their final year (Australian Institute for Teaching and School Leadership [AITSL], 2017). Additionally, recommendation 15 of the TEMAG report required 'Higher education providers equip pre-service teachers with data collection and analysis skills to assess the learning needs of all students' (Craven et al., 2014, p. xiii). To meet national accreditation programme standards, initial teacher education providers in Australia were required to have a TPA in place by 2019. This new regulatory requirement has rapidly created a focus on assessment in pre-service teacher education programmes.

TPAs have been used internationally (notably in the USA and Canada) for some time as a mechanism for monitoring pre-service teacher quality and gatekeeping entry into the profession via teacher licensure and programme accreditation. Australia's adoption of TPAs can be seen as a form of policy borrowing (Lingard, 2010), with one of the recommendations provided to the Australian Institute for Teaching and School Leadership (AITSL) being to adopt the dominant TPA model in the USA known as the EdTPA (Louden, 2015). However, there remain significant differences between the Australian and U.S contexts, including how TPAs have been developed and implemented in Initial Teacher Education (ITE) programmes. One of the key differences is that Australian teacher educators have retained some agency in how they prioritise assessment both in preparing students for the TPA, and in how they teach students to be assessment capable beginning teachers.

Agency occurs when teacher educators determine practical courses of action that establish the opportunities for pre-service teachers to learn how to be assessors. Archer (2003) proposes that agentic individuals adjust and adapt practices through an ongoing process of reflexivity. Reflexivity involves weighing up concerns within social contexts and 'mediating the effects of our circumstances upon our actions' (Archer, 2012, p. 6). Reflexive deliberation is imperative in an ITE environment that is constantly changing and when guidelines may conflict with one another. For example, teacher educators reflexively evaluate situations like course outlines and policy demands, class sizes, and their personal preferences as they decide how to teach about assessment. There is no opportunity to satisfy all the priorities, and little guidance that points towards one best way to proceed. The agent holds 'the scales of worth and establishes her own weights and measures, which tilt the balance one way or the other' (Archer, 2003, p. 137). We set out to find out more about those scales of worth, and how Australian teacher educators balance the competing assessment priorities.

## 10.5   Delphi: An Agentic Choice

The Delphi design enabled teacher educators to have their expertise valued, as they identified their priorities, and articulated other influences and views that shaped their thinking and decision making. Delphi's distinct phases are designed to build consensus and establish priorities about complex issues amongst experts that are geographically dispersed (Linstone & Turoff, 1975; Ziglio, 1996). Delphi has been used to gather expertise in domains of health, education, social policy, and public health policy. This study builds on Pastore and Andrade's (2019) use of a Delphi process to study perspectives of theories of teacher assessment literacy from international educational assessment experts in research. In our case, the focus was on *pre-service* teachers' assessment capabilities and the experts were teacher educators in Australia.

At the crux of the Delphi method is the collaboration of experts through sharing their opinions and expertise about a subject area, policy, or practice, to generate new knowledge on complex issues that do not lend themselves to precise analytical techniques. An expert is defined as someone with established professional credibility because they possess relevant knowledge and experience (Ziglio, 1996). It is through the collaboration of experts that subjective judgements are made, often about an incomplete theory, to improve the exchange of information (Rotondi & Gustafson, 1996). Sequential questionnaires and survey rounds, interspersed with feedback, enable incomplete theories to be tested, contested and ultimately, to emerge as a coherent proposal. The consensus process is anonymous, so all voices can be heard and equally be valued.

The first phase is an exploration and an understanding of the subject. This includes a small group of experts reaching an understanding of how the group views the issue, which also includes clarification of language and terminology and defining the criteria for what type of expertise is needed to participate in the process. The second phase is the development of the first round of statements or questions for the survey. In this second phase, feedback is gathered from the expert group about their responses to the first survey to inform the refinement of questions for next round. In the third phase, differences of opinion are explored and evaluated (see Fig. 10.1). This chapter focuses primarily on the first phase (Delphi exploration and planning) as very few Delphi studies have described the research processes undertaken as part of this phase, which means that the way in which complex sets of knowledge are synthesised and used to generate a survey for experts has not been well documented. We believe that providing a detailed outline of this process will enable teacher educator collectives to research additional topics of concern. The comprehensive list of capabilities synthesised from different knowledge sources also highlights the important role and agency of teacher educators as it made visible the multiple knowledge teacher educators weigh up, as they teach assessment to pre-service teachers. Ethical approval was granted by a university ethics committee.
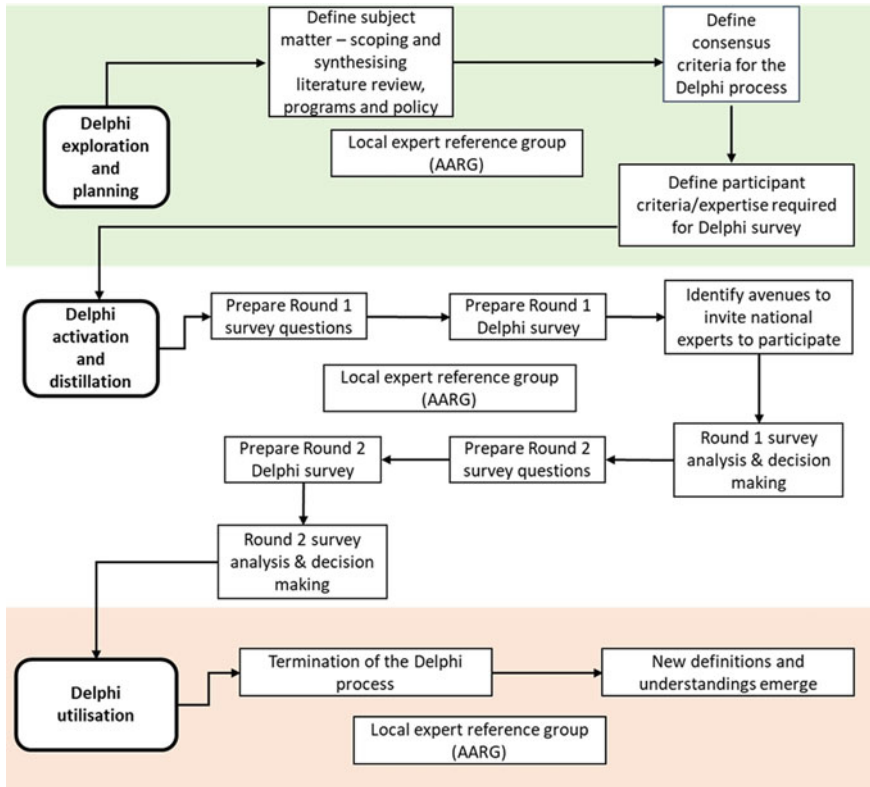
**Fig. 10.1** Phases of Delphi research ( adapted from Boulkedid et al., (2011), Pastore and Andrade (2019))

### 10.5.1   Delphi Exploration and Planning

The first Delphi phase was designed to answer the following question:

> What do Australian teacher educators think is important for pre-service teachers to learn to be assessment capable?

Archer (2003) identifies this first step of reflexivity one of 'discernment', where priorities are logged and noted. It is only after discerning, that agents deliberate, or weigh up various options before dedicating towards action. These deliberations and dedications are often invisible, being an internal conversation. In the Delphi survey, we invited teacher educators who work in distributed locations to make their discerning and deliberations visible as a collective. The democratic process for collecting the reflexive thoughts of teacher educators begins with a local expert reference group. In this case, six teacher educators from one university who were involved in researching assessment and teaching assessment to pre-service teachers conducted (a) an extensive review of Australian teacher education programmes; (b) a

review of research literature about Australian pre-service teacher assessment literacy; and (c) an analysis of the Australian Professional Standards for Teachers (APSTs) as part of an overview of assessment knowledge sources. This scoping step enabled the research team to establish and define the initial list of capabilities for the Delphi study.

### 10.5.1.1   Mapping Unit Outlines

We commenced our investigation of assessment offerings in Australian ITE courses by examining unit outlines from university websites. To maintain consistency with a larger international project in which this research is situated (DeLuca et al., 2019), we narrowed our search to Master of Teaching secondary units conducted in 2017 and 2018. The Master of Teaching is a graduate entry initial teacher education programme that typically takes two years of full-time study. To manage the size of the data sample, we selected the largest initial teacher education (ITE) providers from each state and territory to ensure representation of courses from across Australia, and all the ITE providers in one state, to enable an in-depth review and variation to be considered. This resulted in 15 university ITE providers' programmes being identified for analysis. Any unit outline that mentioned assessment in the title or public-facing description of the focus was identified for analysis. Eighty-nine units were identified from 2017, and 353 units from 2018 were identified for analysis. A unit refers to a portion of a student's study, typically taking 13 weeks to complete. A Master of Teaching course might typically consist of 16 units.

Collected data included the unit code; unit title; unit description; pre-requisites; assessment tasks; whether the assessment focus was embedded as part of a professional experience practicum placement, a curriculum unit, or was a standalone assessment focused unit; and where the unit was located as part of course progression. Initial codes were developed by two researchers who analysed a random sample (approximately 10%) of the data, by classifying and inductively coding the assessment priorities that were being taught in Master of Teaching units. Inductive coding is a 'process of breaking down data into segments or data sets which can then be categorized, ordered and examined for connections, patterns and propositions that seek to explain the data' (Simons, 2009, p. 117). The researcher pairs refined the codes and definitions to create a codebook. These codes were further developed and checked by three research team members for inter-rater agreement by: first, independently coding all data; and second, moderating coding. This process was important in ensuring differences could be addressed through discussion to further clarify definitions and reach agreement on coding (Garrison et al., 2006). For example, there was a high degree of consensus around assessment that features as part of the teaching and learning cycle. A code that had initial uncertainty was 'Assessments', as this term is only starting to gain use in Australian discourse communities as more digital, standardised assessment tools are used. Any discrepancies in coding were discussed by the team, and refinements were made to the definitions in the code book. The codes and definitions are listed in Table 10.1.

**Table 10.1** Codebook developed for analysis of Master of Teaching (Secondary) unit outlines

| Code—assessment as related to | Definition |
| --- | --- |
| Assessments | Where the focus is on the Standardised tools that act as assessment agents, that is, the decision making is encrypted in the tool. Decision making is opaque, and often is calculated at a distance from the teachers and students. There is a high trust in tools. E.g., Progressive Achievement Tests (Australian Council for Educational Research) |
| Data | Teacher skills in assembling and interpreting student data. Data analysis. Collecting evidence. Look for patterns of impact. Measuring changes in learning, for example using effect size, evidence of impact, or terminology such as 'clinical teaching' |
| Reporting | Interviews, reports to parents and system, consideration of parents |
| Accountability | Being governed by policy and professional standards; undertaking assessment as a disciplined professional self. Also pertains to being a critical inquirer, responsible to the profession |
| Teaching and learning cycle | Assessment is situated as a part of the teaching and learning process, often being mentioned at the end of a cycle such as 'planning, teaching, and assessment cycle' |
| Strategies/skills | Focus on learning how to do specific assessment strategies, such as questioning, feedback, rubrics |
| Diverse learners | Mentions adjustments or consideration of learners with cultural diversity, English as an additional language or dialect, students with disability or emphasising student voice |
| Formative assessment | Exploring formative assessment purposes, principles, and skills such as setting goals, sharing success criteria, peer and self-evaluation and feedback. Sometimes referred to as AfL or Assessment for Learning |
| Summative assessment | Exploring summative assessment purposes, principles, and skills, that is designing tasks and criteria to be used for grading purposes |
| Diagnostic assessment | Assessment that occurs at the beginning of a teaching cycle to identify learner gaps in knowledge. Assessment serves the purpose of identifying an individual learner's position within a trajectory of learning or a normed sample. Sometimes associated with references to clinical teaching |
| Assessment theory | Inclusion of assessment theories and research |
| Moderation | Learning to make and confirm judgements, being an assessor, working collaboratively to ensure consistent judgement |

A striking finding was the substantial increase in the number of units from 2017 to 2018. For example, at one major Queensland university, an additional three units in the Master of Teaching covered assessment in 2018 (compared with 2017), with greater detail included around assessment practices in many units.

As can be seen from Fig. 10.2, the coded results highlight a sharp increase in the number of courses that mentioned assessment within the teaching and learning cycle. In 2017, 51 units were coded under 'teaching and learning cycle', while in 2018, that figure jumped to 290. Similarly, there was an increase in the number of units that included a focus on summative assessment (2017: 14; 2018: 39). Table 10.2 provides an example of the same professional experience unit's description in 2017 and 2018. A new emphasis on assessment data collection and portfolio evidence is highlighted in bold.

One explanation for the renewed focus on assessment in 2018 is the introduction of TPAs, and universities including material that aligned with TPA requirements in discipline or professional experience units and changed course accreditation and teacher registration requirements. This sharp increase indicates the increasing prominence of assessment as an area of focus. The rapid introduction points to the importance of establishing the full range of possibilities across the profession, given that many teacher educators in curriculum specialities who may not have considered the range of assessment knowledge as a field, would now be teaching about assessment.
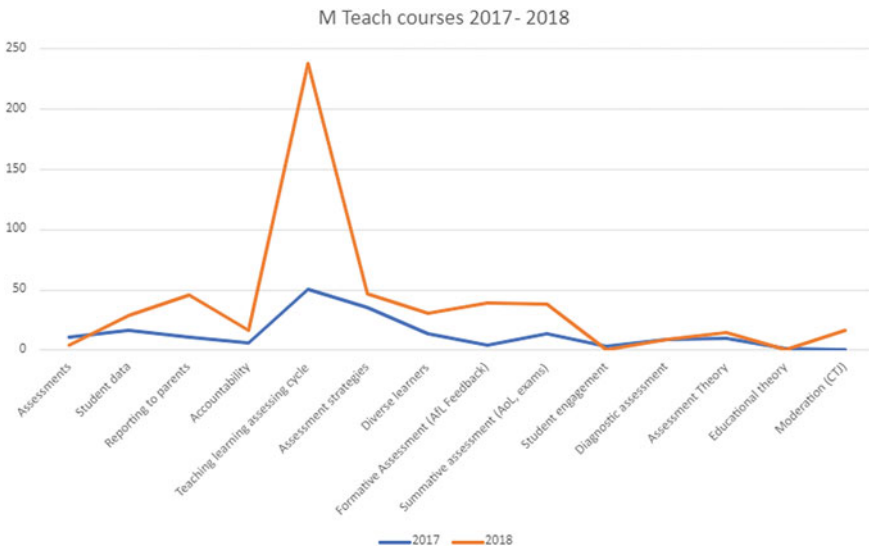


**Fig. 10.2** Changes of focus towards assessment as part of teaching and learning cycles (2017–2018)

**Table 10.2** Comparison of professional practice final semester unit outline in 2017 and 2018

| 2017 | 2018 |
|---|---|
| The unit focuses on enhancing your understandings of learners; creating curriculum; documenting and assessing learning; providing learners with feedback; and, planning for learners in alignment with individual and group needs and interests, as well as curriculum and professional expectations | This unit further develops your knowledge, skills, and understanding of professional practice in the field. The unit focuses on enhancing your understandings of learners; creating curriculum; documenting and assessing learning; providing learners with feedback; and, planning for learners in alignment with individual and group needs and interests, as well as curriculum and professional expectations. The unit extends on your research skills to include action research in the field and you will use data collection and analysis to inform your teaching practice. The unit incorporates a 20-day professional experience placement that will enable you to develop further teaching skills as well as evidence for your professional portfolio. This is a research unit as part of AQF-level 9 |

### 10.5.1.2 Mapping the Literature

The next stage of analysis involved conducting a literature review of Australian assessment capabilities. A search of Australian peer-reviewed book chapters, journal articles, reports, and theses published between 2010 (when the national curriculum began to influence teacher education) to 2018 (when data was collected) focused on pre-service teachers and assessment. Twenty search term combinations such as 'beginning teachers AND assess* competence' and 'pre-service teachers AND assessment' were generated using keywords from key papers and synonyms, with searches across A + Education, Informit, Eric + , Ebscohost, PsychInfo databases. Only 10 papers from Australian research were identified. Ten papers were then reduced to a final set of 7 after 3 were excluded when the data was about pre-service teachers from nearby Pacific countries. The small number of papers identified highlights the need for more Australian research about pre-service teachers and learning to assess.

From the literature, recommendations related to what pre-service teachers need to learn to be assessment capable were identified. Alonzo (2016) noted that teachers enact several assessor identity positions as assessors, pedagogy experts, student partners, motivators, teacher learners, and stakeholder partners. Not only do pre-service teachers need to be prepared for these, but they need to be modelled by teacher educators. Teacher educators importantly also need to teach about the creating academic trust with students to facilitate feedback and enable students to ask questions (Davis & Dargusch, 2015). Pre-service teachers need to examine their own preconceptions about their assessment practices, and critically examine the philosophical assumptions that underpin contrasting paradigms in assessment (Scarino, 2013). Grainger and Aide (2014) highlighted that pre-service teachers rarely have the opportunity

to learn how to grade assessment or moderate with colleagues, even during their professional experience.

The importance of disciplinary knowledge to assist pre-service teachers to identify relevant assessment and learning strategies to meet their student's needs was raised by Glogger-Frey et al. (2018). Aligning disciplinary knowledge, assessment theory and practice was recommended by a review for the Queensland College of Teachers (University of Queensland School of Education, 2012). Additionally, the report advocated for pre-service teachers to engage in personal and critical reflection about the implications of equity and ethics in assessment, especially for groups who have historically experienced disadvantage. The importance of using the APSTs to guide reflection was noted by Wyatt-Smith et al. (2017). They also note that ITE programmes need to provide greater opportunity for pre-service teachers to engage with authentic student assessment data and learn to think in terms of evidence that connects students' learning to their teaching. Across the published research, there was an emphasis on integrating personal and professional knowledge, and for consistency across ITE learning, school-based practices, policy, and theory. For such an ambition to be realised, the field needed to be represented clearly. As a step towards that scoping, these insights from literature were brought together with concepts from the programme overviews and the statements in the APSTs.

### 10.5.1.3 Extrapolating from the Australian Professional Standards for Teachers

Next, the APSTs were contextualised by the research team as they would apply to assessment practices. The familiar APSTs were contextualised using assessment knowledge types that had been generated within the host international SSHRC project, *Preparing Assessment Capable Teachers* (DeLuca, Cowie, Harrison, Willis 2018–2021):

- **Epistemic capabilities (EP)**: included references to assessment theory—validity, reliability, fairness, discipline knowledge, assessment policy fairness;
- **Experiential capabilities (EX)**: included practical skills, learning through professional experience and school cultural knowledge;
- **Embodied capabilities (EM)**: included the socio-emotional and physical aspects of teacher assessment practice, including professional identities, managing emotions and time; and,
- **Ethical Capabilities (ET)**: included professional ethics and values, an inclusive focus that included a critical, social justice orientation.

Researchers worked in pairs and developed statements of assessment capabilities for each relevant APST using the four definitions as a stimulus. They drew on their expertise as assessors and teacher educators to discuss what assessment knowledge would be needed by a pre-service teacher at graduate level to fulfil each APST statement. An illustrative example of coding of APSTs is provided in Table 10.3.

**Table 10.3**  Example of APST coding using the Assessment Capability Taxonomy

| Australian professional standard | Implications for pre-service teacher learning | | | |
|---|---|---|---|---|
| | (EP) epistemological | (EM) embodied | (EX) experiential | (ET) ethical |
| APST 1.5 Differentiate teaching to meet the specific learning needs of students across the full range of abilities | APST 1.5[EP] Knowledge of Universal Design for Learning principles; Knowledge of common assessment accessibility issues experienced by learners. Knowledge of how to extend students through critical and creative assessment strategies; Knowledge of the general capabilities and common pedagogic frameworks | N/A | APST 1.5[EX] Practice in designing differentiated assessment strategies to meet students' needs | APST 1.5[ET] Believes that assessment should meet learning needs for the full range of abilities, (including extending students) |

### 10.5.1.4   Synthesising the Statements from Courses, Literature and the APSTs

To bring the list of assessment capabilities together for the Delphi survey, the results from the literature review were also coded to reflect the four theoretical codes around assessment capability. Each paper was coded (e.g., LIT YEAR AUTHOR INITIAL) and then recommendations or findings from the literature were also assigned a theory code. For instance:

**LIT 2013SD2 [ET]:** 'Ethical knowing' is a kind of assessment knowledge that extends beyond the knowledge base and capabilities of teachers to include their values and dispositions.

The same process was used to code the course outline statements (CO). For example, a course outline statement that was coded for embodied [EM] assessment knowledge was:

**CO 1 [EM]** Confidence in making decisions about selecting when and how to use standardised assessment tools to advance student learning.

From these codes, a list of statements related to each of the four theory categories was created, collated from the analysis of the units, literature and APSTs into a spreadsheet. In pairs, researchers reviewed the lists, refining them into short statements. A further validation step occurred where pairs of researchers provided feedback to another pair about the clarity of the wording of the statements, and where repetitions could be removed. These statements were numbered and formed the basis of the Delphi survey. For example:

(EM 3) Pre-service teachers feel confident in professional conversations about assessment.

(EX 6) Pre-service teachers demonstrate practical skills in marking and moderation.

(EP 3) Pre-service teachers know the assessment principles of validity.

(ET 22) Pre-service teachers seek opportunities to engage with parents and students to discuss student progress and assessment.

The list of statements is provided in the appendix and provides a broad framework for teacher educators to consider in their design of teaching about assessment.

## 10.5.2   Delphi Activation and Distillation

In a Delphi methodology, a group of expert participants are invited to complete the surveys. Once the statements were prepared, teacher educators who taught about assessment were invited through an email sent through the Australian Teacher Education Association (ATEA) network, through the Assessment and Evaluation special interest group of the Australian Association of Educational Research (AARE), and finally through email sent directly to academics who were named as coordinators of assessment units in their university websites. The authors are grateful to the anonymous contributors who took the time in the midst of the COVID-19 disruptions of 2020 to respond, and for the support of the professional associations who distributed the surveys.

### 10.5.2.1   Delphi Survey 1: What is Important?

Delphi Survey 1 contained 124 items and was focused on the first research question: *What do Australian teacher educators think is important for pre-service teachers to learn to be assessment capable?* In this Delphi survey, 37 teacher educators participated in round one.

As recommended in Delphi methodology, participants were asked to use a Likert scale of 1–9 to identify how important they regarded each of the statements ($0 =$ no response; $1 =$ very unimportant—$9 =$ very important). There was also opportunity for participants to add comments about each statement. Demographic questions about years of experience as a teacher educator, location in Australia and type of teacher

education programme were also collected. Although participants were anonymous, they were asked to indicate whether they wished to be contacted for Survey 2 by leaving their email address, which was stored separately from their responses.

Qualitative responses enabled us to refine statements where participants indicated some confusion, or suggested statements that might better encapsulate important ideas about assessment in pre-service teacher education. For instance, a participant in Survey 1 suggested that the statement: 'Pre-service teachers manage their own emotions during assessment conversations' could be changed to 'Pre-service teachers consider and reflect upon their emotions when making complex assessment decisions'. The research group agreed that the revised wording better-encapsulated expectations of pre-service teachers. The item was re-presented in Survey 2 using the suggested wording.

Once round one surveys were returned, the team of six researchers met to analyse survey responses and develop Delphi Survey 2. The teacher educators had rated all the statements to be of some importance, so a relatively high threshold of consensus was decided for inclusion in Survey 2. Items with 70% or more agreement, that is, where 24 or more respondents out of 37 selected the same category, were marked as having a high degree of consensus. Importantly, we note that this included consensus where a statement was not considered a very important priority by respondents. All consensus statements (n = 48) were presented back to participants in Delphi Survey 2 in random order to further refine the Australian Pre-service Teacher Assessment Capabilities.

### 10.5.2.2  Delphi Survey 2—A Process of Reaching Consensus

The second survey was launched in February 2020. Participants were provided with the 48 statement survey and invited to prioritise these. They were asked to select the top 12 statements of priority for each of the categories. Given that soon after launching the survey, Australian teacher educators (like others around the world) were thrust into the disruptions associated with the coronavirus pandemic, we extended the response timeline, and accepted a smaller number of responses than initially planned.

There were 14 teacher educator responses in round two. We acknowledge that there are more teacher educators in Australia who have expertise gained from teaching about assessment, yet it is challenging to locate teacher educators to invite them into collective activities when these activities are localised. It is also usual for fewer surveys to be completed in a second round (Pastore & Andrade, 2019) invited 60 international assessment experts to participate in their survey, which yielded 35 participants in round one, and 27 in round two. The Delphi method does leave open the possibility of engaging a broader audience of teacher educators in a further round of consultation and consensus seeking.

### 10.5.3 Delphi Utilisation—Discussions for New Understandings

Analysis of teacher educator responses showed that overall; there was strong agreement among participants about the importance of assessment across each of the domains. The statements with the highest levels of agreement in each domain were:

- Pre-service teachers effectively explain summative assessment requirements to students (EM 22).
- Pre-service teachers apply ethical principles to assessment practices (EX 1).
- Pre-service teachers reflect on the ethical implications of assessment (EP 27).
- Pre-service teachers provide a safe and secure learning environment for all students when conducting assessment (ET 16).

While further, detailed analysis of the data is occurring (at the time of writing this manuscript), we regard such high levels of agreement as evidence that a democratic methodology such as Delphi can enable teacher educators to confidently express a collective view of their priorities. It was perhaps not surprising that teacher educators most frequently prioritised assessment statements linked to practice dimensions and the teaching–learning-assessment cycle. It is a reflection that in Australia assessment is most often taught in embedded curriculum programmes. Archer identifies that in reflexive deliberations—weighing up what matters—agents prioritise what fits with their priorities as well as what is possible in practice.

Teacher educators make practice-based decisions about what and how to teach assessment within the cultural and structural constraints of their institutional contexts. Agents adjust and adapt practices as they consider what has a better chance of realisation (Archer, 2003, p. 134). Their practice is shaped by the material culture, in this case, the policy and pragmatic programme contexts of ITE. As the representations of assessment capacity were sourced from public policy documents, published university unit outlines, and published literature they represent a range of ideas that may have incompatible elements. Yet these authoritative sources—research, policy, and programmes—represent the structural and cultural properties that are the 'action situations' for teacher educators (Archer, 1996, p. 304). The range of assessment capabilities that was generated for the Delphi survey was a long list of what pre-service teachers 'should' learn. It was extensive (see appendix) and would require that programmes in initial teacher education would give over a substantial amount of time for a teacher educator to enact all of them. This expectation is not realistic given that assessment is only one area of expertise that pre-service teachers are expected to master. Teacher educator agency is essential where the list of 'all' that needs to be learned is too great for the time, so teacher educators exercise agency to resolve priorities and any incompatibilities. As agentic teachers make choices and prioritise some elements over other, they also shape the codified future knowledge, in this case, what pre-service teachers will go on to emphasise in their design and enactment of assessment with their students.

We anticipate that this chapter's detail about the Delphi design will be utilised in several ways. The idea of scanning unit outlines can help establish the degree to which a field is being enacted, or how it is represented discursively over time. In this case, it showed that assessment has increasingly been given higher priority in teacher education courses in Australia, most often integrated in curriculum studies. These findings may be utilised to advocate for more support teacher educators who teach assessment in integrated curriculum studies, who may not have specialist assessment knowledge. The Survey 1 statements (appendix) might also be used to assist teams of teacher educators within their institution to collectively prioritise and map assessment capacities can across units. The mapping has also led to international conversations about what cultural and structural assumptions about assessment inform teacher education programmes in different countries, and how agentic teacher educators respond.

The Delphi method is an accessible methodology to promote the collective agency of teacher educators, as it enables diverse groups of teacher educators who are situated in tertiary education settings around Australia to rank, and sort and comment on their priorities and practices. Delphi was a useful means of inquiring into assessment education across the nation and confirming the priorities of teacher educators in multiple sites. Cochran-Smith et al.'s (2015) review of teacher education literature found that most studies in the teacher education field are small-scale investigations in which university-based teacher educators undertake research that inquiries into their own programmes. There have been numerous calls (e.g., Cochran-Smith & Zeichner, 2005; Sleeter, 2001) for an expansion of research that is multi-site, and examines the practices and views of multiple stakeholders. As Cochran-Smith et al. (2015) rightly point out, such an expansion needs to overcome pragmatic challenges of infrastructure, access to multiple sites, and resourcing. We believe that analysing publicly available national data (both policy and institutional data on university websites) was an important step in building up a picture of assessment practices and priorities in teacher education. Larger-scale research using a Delphi method for other areas of interest has the potential to bring together and amplify the highly complex work of teacher educators in a range of institutions.

## 10.6 Conclusion

This chapter provides a detailed overview of the Delphi survey methodology that enabled teacher educators to work together to identify shared knowledge and expertise, even when they are geographically distributed across a large continent. There is potential to engage in this methodology with pre-service teachers, mentor teachers, even school leaders about their expectations around assessment capacity. There is also potential for this approach to be used by teacher educators to generate collective evidence for other areas of interest. The importance of teacher educator choices is highlighted by the wide range of important assessment capacity statements, and the need for teacher educators to prioritise some over others in the time constraints of their

programmes. It is hoped that the collection of possible ideas will be a resource for teacher educators, to help them discern how their choices about assessment priorities can build the capacity of pre-service teachers know about, and work with, assessment.

## Appendix: Survey 1 Delphi Statements

| | |
|---|---|
| 1. | EM 1 Take responsibility for adapting assessment for diverse learners |
| 2. | EM 2 Develop confidence in monitoring progression of students at different points in their learning |
| 3. | EM 3 Develop confidence in professional conversations about assessment |
| 4. | EM 4 Apply 21st century skills in assessment practice |
| 5. | EM 5 Feel confident in locating assessment in the curriculum |
| 6. | EM 6 Integrate theoretical knowledge about assessment with practical experience |
| 7. | EM 7 Reflect on how Australian Professional Standards for Teachers (APSTs) interacts with teacher identity |
| 8. | EM 8 Reflect on how policy interacts with teacher identity |
| 9. | EM 9 Reflect on how legislative requirements interact with teacher identity |
| 10. | EM 10 Appreciate importance of respectful communication about assessment |
| 11. | EM 11 Manage emotions of assessment communications with sensitivity |
| 12. | EM 12 Build trust so students can openly seek advice about assessment |
| 13. | EM 13 Appreciate the professional value of marking and moderation |
| 14. | EM 14 Engage in critical reflection about personal responses, preconceptions and beliefs about assessment |
| 15. | EM 15 Awareness of the socioemotional factors that influence feedback |
| 16. | EM 16 Recognition of the role of assessment before, during and after learning |
| 17. | EM 17 Assess and teach diverse learners |
| 18. | EM 18 Assess for a specific content area |
| 19. | EM 19 Assess individuals and the whole class |
| 20. | EM 20 Readiness to document student learning |
| 21. | EM 21 Report of student learning program and achievement |
| 22. | EM 22 Effectively explain summative assessment requirements to students |
| 23. | EM 23 Effectively explain formative assessment requirements to students |
| 24. | EM 24 Use formative assessment to target diverse additional educational needs |
| 25. | EM 25 Prepare students for the demands of summative assessment |

(continued)

| 26. | EM 26 Use a range of accessible assessment strategies for diverse students |
|---|---|
| 27. | EM 27 Use assessment for learning data to inform the teaching and learning cycle |
| 28. | EM 28 Design assessment activities that are aligned with the relevant curriculum |
| 29. | EM 29 Document student learning improvement |
| 30. | EM 30 Use assessment to track student learning |
| 31. | EM 31 Manage emotions when working with complex assessment decisions and tasks |
| 32. | EM 32 Understand summative assessment principles (e.g., validity, norm-referencing) |
| 33. | EM 33 Use assessment to diagnose student misconceptions |
| 34. | EM 34 Use ICTs as part of assessment strategies |
| 35. | EM 35 Manage workload associated with assessment |
| 36. | EM 36 Feel confident in seeking assessment decisions |
| 37. | EM 37 Feel confident to seek feedback from colleagues and peers about professional practice |
| 38. | EM 38 Have respect for diversity when undertaking assessment practices |
| 39. | EM 39 Have respect for Indigenous peoples when undertaking assessment practices |
| 40. | EM 40 Feel responsible for improving student learning |
| 41. | EM 41 Have a strong sense of professional identity |
| 42. | EX 1 Apply ethical principles to assessment practices |
| 43. | EX 2 Design assessment that is aligned to the curriculum |
| 44. | EX 3 Integrate theoretical knowledge about assessment with practical experience |
| 45. | EX 4 Meet requirements of Australian Professional Standard for Teachers, policy and legislation |
| 46. | EX 5 Communicate in professional ways about assessment |
| 47. | EX 6 Demonstrate practical skills in marking and moderation |
| 48. | EX 7 Engage in critical reflection about assessment practices |
| 49. | EX 8 Ensure student safety including following school policies in assessment activities |
| 50. | EX 9 Create accessible assessment |
| 51. | EX 10 Enact quality feedback |
| 52. | EX 11 Use formative assessment as part of teaching cycle |
| 53. | EX 12 Write learning intentions and success criteria |
| 54. | EX 13 Use a range of assessment practices to support student learning |
| 55. | EX 14 Analyse and use quantitative assessment data |
| 56. | EX 15 Integrate culturally sensitive resources into formative and summative assessment designs |
| 57. | EX 16 Use assessment strategies to diagnose and support students with literacy and numeracy difficulties |
| 58. | EX 17 Assess literacy and numeracy within content domains |
| 59. | EP 1 Know the assessment principle of equity |
| 60. | EP 2 Know the assessment principle of reliability |

(continued)

| 61. | EP 3 Know the assessment principles of validity – content, construct and consequential validity |
|---|---|
| 62. | EP 4 Know that sometimes an assessment is reliable and not valid |
| 63. | EP 5 Know that sometimes assessment is valid but not equitable |
| 64. | EP 6 Understand assessment priorities have changed over time |
| 65. | EP 7 Understand learning theories have changed over time |
| 66. | EP 8 Understand how assessment informs the teaching and learning cycle |
| 67. | EP 9 Understand how student agency is enacted through assessment practices |
| 68. | EP 10 Communicate assessment expectations |
| 69. | EP 11 Understand assessment for learning |
| 70. | EP 12 Understand assessment as learning |
| 71. | EP 13 Understand assessment of learning |
| 72. | EP 14 Articulate how assessment policies influence education |
| 73. | EP 15 Understand how assessment can have social and emotional consequences for students |
| 74. | EP 16 Broad knowledge of how students from Aboriginal and Torres Strait Islander backgrounds have historically experienced schooling and assessment |
| 75. | EP 17 Know how to differentiate assessment for accessibility |
| 76. | EP 18 Understand that equitable assessment means that some students will do assessment in a different way at a different time |
| 77. | EP 19 Apply local assessment policy and reporting procedures |
| 78. | EP 20 Know how to use student assessment data to evaluate teaching programs |
| 79. | EP 21 Know how to use student assessment data to communicate student progress to stakeholders (i.e., student, parents, faculty) |
| 80. | EP 22 Demonstrate an awareness of how technology influences assessment reporting |
| 81. | EP 23 Understand strengths and limitations of standardized assessment to inform teaching |
| 82. | EP 24 Apply moderation processes to support consistent judgements of student learning |
| 83. | EP 25 Apply policies and practices about ethical assessment |
| 84. | EP 26 Demonstrate understanding of the role of teacher as assessor |
| 85. | EP 27 Reflect on the ethical implications of assessment |
| 86. | EP 28 Participate in ongoing professional learning about assessment |
| 87. | EP 29 Know how to use student assessment data to analyse and evaluate student understandings |
| 88. | EP 30 Know how to collect and interpret standardized assessment data |
| 89. | EP 31 Use a shared professional language of assessment |
| 90. | EP 32 Understand how to use assessment data to inform teaching and learning cycle |
| 91. | EP 33 Design assessment that complies with a range of policies and legislation |
| 92. | EP 34 Engage with organisations and external assessment partners (i.e., teacher associations) |

(continued)

| | |
|---|---|
| 93. | EP 35 Know how assessment paradigms are changing with new technologies |
| 94. | EP 36 Support their students to act ethically in assessment (i.e., academic integrity, cyberbullying) |
| 95. | EP 37 Understand how disciplinary domains inform assessment |
| 96. | EP 38 Know the assessment requirements of curriculum documents |
| 97. | EP 39 Know how to use curriculum documents to design assessment that will guide the next steps for student learning |
| 98. | EP 40 Know how to design precise and aligned learning intentions and success criteria that cater to the assessment needs of diverse learners |
| 99. | EP 41 Use child/adolescent development to inform assessment practice |
| 100. | EP 42 Use general capabilities and pedagogic frameworks when designing assessment to extend students |
| 101. | EP 43 Know about common assessment accessibility issues experienced by learners |
| 102. | EP 44 Apply the theoretical underpinnings of effective feedback |
| 103. | ET 1. Intentionally design assessment for learning opportunities that are responsive to each student in their class |
| 104. | ET 2. Understand systemic causes of why some groups of students underachieve |
| 105. | ET 3. Maintain ethical behaviour in relation to ensuring assessment is equitable and meets national goals around equity |
| 106. | ET 4. Designs assessment that considers diverse student backgrounds (Indigenous culture, gender, sexuality, ethnicity, religion, disability) |
| 107. | ET 5. Make assessment decisions |
| 108. | ET 6. Use knowledge of local contest to make assessment decisions |
| 109. | ET 7. Understand the wider social justice consequences of assessment, specifically in relation to Aboriginal and/or Torres Strait Islander students and communities |
| 110. | ET 8. Know how to adjust assessments to ensure participation of all students, including students with challenging behaviours |
| 111. | ET 9. Engage and collaborate with colleagues to ensure assessment opportunities deliver just outcomes for all students |
| 112. | ET 10. Engage and collaborate with local communities to ensure assessment opportunities deliver just outcomes for all students |
| 113. | ET 11. Intentionally design accessible assessment for students with disability |
| 114. | ET 12. Intentionally design accessible assessment for culturally and linguistically diverse students |
| 115. | ET 13. Adopts an ethical approach to designing assessment that allows all students to access assessment in curriculum areas regardless of their literacy skills |
| 116. | ET 14. Design assessment that extends gifted students allowing them to demonstrate what they know and can do |
| 117. | ET 15. Know how to design and deliver assessment instructions to support full access and participation in the assessment |
| 118. | ET 16. Provide a safe and secure learning environment for all students when conducting assessment |

(continued)

(continued)

| | |
|---|---|
| 119. | ET 17. Understand the potential impact of assessment on student wellbeing in order to provide support |
| 120. | ET 18. Seek out professional learning in the APSTs to improve assessment practice, such as how to adapt assessment for individual needs |
| 121. | ET 19. Understand, comply with and implement policies and legislation relevant to assessment (i.e., Disability Standards for Education (DSE), Nationally Consistent Collection of Data on School Students (NCCD)) |
| 122. | ET 20. Display appropriate and ethical professional conduct when participating in assessment (i.e., moderation, grading, feedback to students) |
| 123. | ET 21. Know how to align assessment theory and practice with professional expectations and requirements |
| 124. | ET 22. Seek opportunities to engage with parents and students to discuss student progress and assessment |

# References

Adie, L. (2013). The development of teacher assessment identity through participation in online moderation. *Assessment in Education: Principles, Policy and Practice: Moderation Practice and Teacher Judgement, 20*(1), 91–106. https://doi.org/10.1080/0969594X.2011.650150

Alonzo, D. (2016). *Development and application of a teacher assessment for learning (AfL) literacy*. University of New South Wales.

Archer, M. S. (1996). *Culture and agency: The place of culture in social theory* (2nd ed.). Cambridge University Press.

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

Archer, M. S. (2012). *The reflexive imperative in late modernity.* Cambridge University Press.

Australian Institute for Teaching and School Leadership (AITSL). (2017). *What is a teaching performance assessment?* https://www.aitsl.edu.au/deliver-ite-programs/teaching-performance-assessment

Ball, S. J. (Ed.). (2018). *Governing by numbers: Education, governance and the tyranny of numbers.* Routledge.

Boulkedid, R., Abdoul, H., Loustau, M., Sibony, O., Alberti, C., & Wright, J. M. (2011). Using and reporting the Delphi method for selecting healthcare quality indicators: A systematic review. *PLoS ONE, 6*(6). https://doi.org/10.1371/journal.pone.0020476

Cochran-Smith, M., Villegas, A. M., Abrams, L., Chavez-Moreno, L., Mills, T., & Stern, R. (2015). Critiquing teacher preparation research: An overview of the field, part II. *Journal of Teacher Education, 66*(2), 109–121.

Cochran-Smith, M., & Zeichner, K. M. (2005). *Studying teacher education: The report of the AERA panel on research and teacher education.* Taylor & Francis.

Coombs, A., DeLuca, C., & Macgregor, S. (2020). A person-centered analysis of teacher candidates' approaches to assessment. *Teaching and Teacher Education*, *87*, https://doi.org/10.1016/j.tate.2019.102952

Craven, G., Beswick, K., Fleming, J., Fletcher, T., Green, M., Jensen, B., Leinonen, E., & Rickards, F. (2014). *Action now: Classroom ready teachers.* Teacher Education Ministerial Advisory Group. https://www.aitsl.edu.au/docs/default-source/default-document-library/action_now_classroom_ready_teachers_accessible-(1)da178891b1e86477b58fff00006709da.pdf?sfvrsn=9bffec3c_0

Davis, S. E., & Dargusch, J. M. (2015). Feedback, iterative processing and academic trust—teacher education students' perceptions of assessment feedback. *Australian Journal of Teacher Education (online), 40*(1), 177–191.

DeLuca, C. (2012). Preparing teachers for the age of accountability: Toward a framework for assessment education. *Action in Teacher Education*, *34*(5–6), 576–591. https://doi.org/10.1080/01626620.2012.730347

DeLuca, C., Willis, J., Cowie, B., Harrison, C., Coombs, A., Gibson, A., & Trask, S. (2019). Policies, programs, and practices: Exploring the complex dynamics of assessment education in teacher education across four countries. *Frontiers in Education (Lausanne)*, *4*. https://doi.org/10.3389/feduc.2019.00132

Garrison, D. R., Cleveland-Innes, M., Koole, M., & Kappelman, J. (2006). Revisiting methodological issues in transcript analysis: Negotiated coding and reliability. *The Internet and Higher Education, 9*(1), 1–8. https://doi.org/10.1016/j.iheduc.2005.11.001

Glogger-Frey, I., Deutscher, M., & Renkl, A. (2018). Student teachers' prior knowledge as prerequisite to learn how to assess pupils' learning strategies. *Teaching and Teacher Education, 76*, 227–241. https://doi.org/10.1016/j.tate.2018.01.012

Grainger, P., & Adie, L. (2014). How do pre-service teacher education students move from novice to expert assessors? *Australian Journal of Teacher Education*, *39*(7), 1–18. https://doi.org/10.14221/ajte.2014v39n7.9

Hill, M. F., Cowie, B., Gilmore, A., & Smith, L. F. (2010). Preparing assessment-capable teachers: What should pre-service teachers know and be able to do? *Assessment Matters, 2*, 43–64.

Hill, M. F., Ell, F. R., & Eyers, G. (2017). Assessment capability and student self-regulation: The challenge of preparing teachers. *Frontiers in Education*, *2*, https://doi.org/10.3389/feduc.2017.00021

Hill, M. F., Gunn, A., Cowie, B., Smith L. F., & Gilmore, A. (2014). Preparing primary and early childhood initial teacher education students to use assessment in teaching. *Assessment Matters*, *7*, 4–23. https://doi.org/10.18296/am.0123

Jiang, H., & Hill, M. F. (2018). Teacher learning and classroom assessment. In H. Jiang & M. F. Hill (Eds.), *Teacher learning with classroom assessment perspectives from Asia Pacific* (1st ed., pp. 1–17). Springer. https://doi.org/10.1007/978-981-10-9053-0

Lingard, B. (2010). Policy borrowing, policy learning: Testing times in Australian schooling. *Critical Studies in Education, 51*(2), 129–147.

Linstone, H. A., & Turoff, M. (1975). Introduction. In H. A. Linstone & M. Turoff (Eds.), *The Delphi method: Techniques and applications* (pp. 3–12). Addison-Wesley.

Looney, A., Cumming, J., van Der Kleij, F., & Harris, K. (2018). Reconceptualising the role of teachers as assessors: Teacher assessment identity. *Assessment in Education: Principles, Policy and Practice, 25*(5), 442–467. https://doi.org/10.1080/0969594X.2016.1268090

Louden, W. (2015). *Standardised assessment of initial teacher education: Environmental scan and case studies. A paper prepared for the Australian Institute for Teaching and School Leadership.* https://www.aitsl.edu.au/tools-resources/resource/standardised-assessment-of-initial-teacher-education-environmental-scan-and-case-studies

Nuttall, J., & Brennan, M. (2016). Teacher education as academic work: The affordances of a materialist analysis. *Asia-Pacific Journal of Teacher Education, 44*(4), 364–378. https://doi.org/10.1080/1359866X.2016.1144712

Pastore, S., & Andrade, H. L. (2019). Teacher assessment literacy: A three-dimensional model. *Teaching and Teacher Education, 84*, 128–138. https://doi.org/10.1016/j.tate.2019.05.003

Perrenoud, P. (1998). From formative evaluation to a controlled regulation of learning processes. Towards a wider conceptual field. *Assessment in Education: Principles, Policy and Practice*, *5*(1), 85–102.

Rotondi, A., & Gustafson, D. (1996). Theoretical, methodological and practical issues arising out of the Delphi method. In M. Adler & E. Ziglio (Eds.), *Gazing into the oracle: The Delphi method and its application to social policy and public health* (pp. 34–55). Jessica Kingsley Publishers.

Scarino, A. (2013). Language assessment literacy as self-awareness: Understanding the role of interpretation in assessment and in teacher learning. *Language Testing, 30*(3), 309–327.

Sellar, S., & Lingard, B. (2013). Looking East: Shanghai, PISA 2009 and the reconstitution of reference societies in the global education policy field. *Comparative Education, 49*(4), 464–485. https://doi.org/10.1080/03050068.2013.770943

Simons, H. (2009). *Case study research in practice.* SAGE publications.

Sleeter, C. E. (2001). Preparing teachers for culturally diverse schools: Research on the overwhelming presence of whiteness. *Journal of Teacher Education, 52*(2), 94–106. https://doi.org/10.1177/0022487101052002002

Smith, W. (Ed.). (2016). *The global testing culture: Shaping education policy, perceptions, and practice.* Symposium Books.

Spina, N. J. (2020). *Data culture and the organisation of teachers' work: An institutional ethnography.* Taylor & Francis.

Stobart, G. (2008). *Testing times the uses and abuses of assessment* (1st ed.). Routledge.

University of Queensland School of Education. (2012). *An investigation of best practice in evidence-based assessment within pre-service teacher education programs and other professions: Report of research commissioned by the Queensland College of Teachers 2012.* Queensland College of Teachers.

Vanassche, E., Kidd, W., & Murray, J. (2019). Articulating, reclaiming and celebrating the professionalism of teacher educators in England. *European Journal of Teacher Education, 42*(4), 478–491. https://doi.org/10.1080/02619768.2019.1628211

White, S. (2019). Teacher educators for new times? Redefining an important occupational group. *Journal of Education for Teaching, 45*(2), 200–213. https://doi.org/10.1080/02607476.2018.1548174

Willis, J., Adie, L., & Klenowski, V. (2013). Conceptualising teachers' assessment literacies in an era of curriculum and assessment reform. *The Australian Educational Researcher, 40*(2), 241–256. https://doi.org/10.1007/s13384-013-0089-9

Wyatt-Smith, C., Alexander, C., Fishburn, D., & McMahon, P. (2017). Standards of practice to standards of evidence: Developing assessment capable teachers. *Assessment in Education: Principles, Policy & Practice, 24*(2), 250–270. https://doi.org/10.1080/0969594X.2016.1228603

Xu, Y., & Brown, G. T. L. (2016). Teacher assessment literacy in practice: A reconceptualization. *Teaching and Teacher Education, 58*, 149–162. https://doi.org/10.1016/j.tate.2016.05.010

Ziglio, E. (1996). The Delphi method and its contribution to decision-making. In M. Adler & E. Ziglio (Eds.), *Gazing into the oracle: The Delphi method and its application to social policy and public health* (pp. 3–33). Jessica Kingsley Publishers.

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# Part V
# Developing an Agentive Professional Self? Supporting the Next Generation of Teachers

# Chapter 11
# Learning the 'Emotional Rules' of Teaching: Constructing the Emotionally Authentic Professional Self

Saul Karnovsky and Peter O'Brien

**Abstract**  The authors of this chapter have significant professional experience within the field of pre-service teacher emotional experiences. Both authors have worked as teacher educators for a substantial part of their careers, which has afforded several insights into the emotional life worlds of pre-service teachers. Acting as facilitators for professional experience units has provided a space for witnessing the ways pre-service teachers come to explore a constellation of feelings associated with learning to teach. The central argument of this chapter has emerged from the reflexive practice of the authors, predicated upon a profound dissatisfaction with the context of reform impacting on teacher education courses and schools generally in Australia. Numerous critics have argued that in Australia, as in the United Kingdom and the United States, teacher education courses have been subsumed by a 'technocratic instrumentalism'. This new paradigm has reshaped what is of value in education, namely, rational performance-based targets achieved via the standardisation of curriculum, teaching methodologies and large-scale testing regimes. In line with these priorities, teacher education has been reshaped in profound ways. Increasingly, technical skills take precedence over context sensitivity or insights gained through the constructed nature of language, culture, identity and the historical assemblage of the teaching profession itself.

**Keywords**  Foucault · Ethics · Pre-service teachers · Emotions

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## 11.1  Introduction

Emotions play a central role in teaching (see Bellocchi, 2019). Many education researchers (Grandey, 2000; Hongbiao et al., 2018; Schutz & Zembylas, 2009; Tsang, 2019) have argued that teaching demands significant emotional labour as it is 'intensely emotional work' (Bullough, 2009, p. 33). Indeed, most practising teachers, we would suggest, would not be surprised by Isenbarger and Zembylas' (2006) research finding that teachers 'actively participate in enhancing, faking and/or supressing emotions' (Isenbarger & Zembylas, 2006, p. 121). Despite the centrality of emotions in teaching, learning emotional rules and norms of professional practice is *not* the subject of calculated direction and oversight by regulatory authorities and governments, as are most other aspects of their professional practice. National programmes that seek to influence, shape and regulate teaching in Australia, for instance, have very little or nothing to say about emotions in teaching. The *Australian Professional Standards for Teachers* (Australian Institute for Teaching and School Leadership [AITSL], 2014)—a national regulatory programme that seeks to 'define the work of teachers and make explicit the elements of high quality, effective teaching in twenty-first century schools' (AITSL, 2014, p. 2)—does not address emotions in teaching in its many pronouncements about standards of teacher professional knowledge, practice and professional engagement.

The *Australian Charter for the Professional Learning of Teachers and School Leaders* (AITSL, 2012) is also quiet about emotions in teaching. This is not to say that programmes seeking to manage professional conduct do not have implications for teachers' emotional conduct; they do. The *Australian Charter for the Professional Learning of Teachers and School Leaders*, for instance, with its expectation that teachers are to be 'active learners' within a mandated 'professional learning culture characterised by … risk taking … [and] collective responsibility for improving practice' (AITSL, 2012, p. 3) could be said to be engineering a culture of permanent and relentless mobilisation in which 'risk-taking' promotes rashness and 'collective responsibility' only makes classroom teachers more liable. The implications of such an enterprise culture for teacher emotions may extend, as Bröckling (2016) suggests, to feelings of chronic insufficiency, despair and even depression. The point to underline here, however, is that in the absence of national or state-level prescriptions on teachers' emotions, teachers have a greater room of manoeuvre—a space of action—to fashion their professional emotional conduct. Teachers have, in other words, a greater freedom to act upon themselves and construct what we argue in this chapter to be a more authentic professional emotional persona within the techniques and practices of power, knowledge and the self which presuppose and seek to act upon it (cf. Dean, 1994). How teachers do this—how they endeavour to constitute themselves as a professional subject of their own actions; in relation to what personal, professional and societal norms; and with what goal in mind and what outcome—is the object of this chapter.

In this chapter, we advance our argument by analysing and discussing data drawn from an empirical, longitudinal study of pre-service teachers as they sought

to construct a professional emotional persona over the course of their graduate programme in initial teacher education at a large, metropolitan Australian university. We do so in terms of four aspects of such practice: first, the particular facet of their professional self that the pre-service teachers considered problematic or in need of attention; second, the ways in which the pre-service teachers were enjoined or encouraged to recognise an obligation for such conduct; third, the means by which they sought to change themselves and their emotional conduct; and, fourth, the aim or goal or ideal kind of self that is being cultivated by such an undertaking. It will be seen that the professional emotional personas that pre-service teachers sought to create for themselves were perhaps more distinctive and independent—although never systematic or coherent—than the professional persona envisaged within their course of teacher education. We argue that initial teacher education courses are given expression and direction by the prevailing rational notion of emotional control and the widespread ethos of entrepreneurialism (Gordon, 1991).

We suggest pre-service teachers in the study may be said to have engaged in what Archer (2007) refers to as a 'regular exercise' of 'reflexivity' about their professional emotional conduct as they 'consider themselves in relation to their social contexts' of learning to teach (Archer, 2007, p. 4). This work of self-formation occurs at the intersection of both officially sanctioned discourses—such as a course of teacher education—as well as informal and less sanctioned discourses, such as popular culture. As a first step in the discussion, however, the chapter reviews previous research into teacher emotions before positing an alternative approach within which the research in this chapter may be said to be located.

## 11.2 Previous Research into Teacher Emotions

Researchers from a variety of different perspectives and approaches have attempted to grapple with the role of teachers' emotions in modern schooling contexts and, in doing so, have framed the 'problem' in particular ways. The two most widespread and recognised approaches to understanding emotions in the lives of teachers are the psycho-biological and the social constructionist. A significant field of literature that seeks to address emotional dimensions of teachers' work are studies that conceptualise emotions as predominately private psycho-biological phenomena, grounded in a liberal, humanist and universalist orientation to human emotions (Chokr, 2007; Gross, 2006). Foregrounded in this approach is a perspective that 'typically follows a common-sense assumption that emotions are first and foremost reactions of individual subjects' (Zembylas, 2007, p. 60) with numerous studies focused upon the extent to which teachers engage in rational regulation or management of their emotional states, both within and outside their professional contexts (Fried et al., 2015; Hoy, 2013; Sutton, 2005; Sutton & Wheatley, 2003).

A significant problem with the psycho-biological approach is that these studies tend to negate the possible complications brought on by confounding variables of all kinds, including culture, language, gender and so forth (Zembylas, 2007). The

emphasis on emotion regulation strategies that this perspective foregrounds is also problematic due to an adherence of binary thinking. When emotion regulation is suggested as a strategy that can be developed as a functional and instrumental pedagogical tool, emotion and cognition are problematically taken to be separable entities (Zembylas & Fendler, 2007). What typically comes to matter in these scholarly interpretations is that emotions are universal, instantaneous, individual experiences of teachers that happen to mostly passive receivers who may or may not be able to control how they feel. Within this discourse, emotions become 'atomistic experiences' (Zembylas, 2007, p. 61) rather than relational, communicative, interactional expressions that unfold over time and are intricately embedded in social and cultural contexts.

Opposing a universalist psycho-biological approach to understanding emotions, a range of social theorists posit that our emotions are highly dependent upon social contexts (Williams, 2001). Taking emotions to be 'social constructions, not genetically determined' means accepting the idea that emotions are much more about 'improvisations, based on an individual's interpretation of a particular situation' and 'part of a dynamic, continuously fluctuating system of meaningful experiences' as opposed to universalist approaches that tend towards a functional and structural focus (Zembylas, 2007, p. 61). Foregrounded in this approach to emotions is their situatedness, primarily as cultural artefacts that convey myriad sociocultural messages (Zembylas, 2007).

Sociological studies of beginning and experienced teachers' lives (Hargreaves, 2001; Kelchtermans, 2011; McKenzie et al., 2019) conceive of emotions as socially or culturally constructed in the group dynamics of social situations in schools. In relation to initial teacher education, Meyer (2009) argues that learning to be a teacher occurs in a 'highly controlled environment' in which individuals must learn how to meet an expectation that they should carefully manage emotions to 'conform to professional expectations' (p. 74). The attempts by pre-service teachers to either separate emotions from, or join them with, their teaching practices as they seek to construct a professional persona has important implications which this chapter works to address. Whilst foregrounding the importance of social relationships, it is crucial to examine the ways teachers 'also exercise invisible aspects of emotion work that impose certain emotional norms' (Zembylas, 2005, p. 15).

## 11.3   An Alternative Research Approach Into Teacher Emotions

An *interactional and performative approach* (Zembylas, 2007) is more useful to the study of emotions than the universalist and social-constructionist orientations because it challenges the assumed divisions between the purely individual or the social forces shaping emotions. Emotion is understood in this approach as having both a social *and* psychic dimension of experience as an entanglement (Zembylas, 2014),

in much the same way as Archer's (2007) critical realist theory views reflexivity. This understanding of emotion draws upon post-structural, feminist and Foucauldian concepts to theorise how thinking, feeling and acting work as multidimensional 'complexes' shaped by cultural *and* embodied forces linked to diverse kinds of power relations (Zembylas, 2007, p. 63).

The authors of this chapter take the position that emotions are *not* merely inherent, instinctive, or that they comprise pan-cultural bodily responses to stimuli as dominant psychological discourses posit. Our position acknowledges that physiological components attributed to emotions exist as bodily states but emphasises that what is foregrounded are performative cultural practices of emotion *and* embodied sensations, both inflecting one another so that they 'flow together in the same mould' (Fineman, 2000, p. 11). This approach disturbs the assumed culture/nature and interior/external binaries that are often present in popular representations of emotions. This chapter draws on the interactional-performative approach to argue that the discourses pre-service teachers employ to know the 'truth' about their own and others' emotions guides and shapes the contours of their emotional conduct in learning to teach.

This chapter is interested in examining the practices of self-formation by which pre-service teachers construct themselves as professional and competent practitioners. We argue that this is 'intertwined with the power relations that sustains such conduct' (Zembylas, 2005, p. 59). This conception of emotion theorises that the ways an individual performs emotions, particularly in the public sphere, occurs within a socio-historical context of one's culture and institutional location, whilst also being dependent upon those discourses that define the rules, rituals and habits of allowable and nonallowable emotional expressions. A professional teaching persona, therefore, is taken to be 'embodied, enacted and performed within circuits of power' (Boler, p. x in Zembylas, 2005) that constitutes school culture and a pre-service teacher's emergent concept of 'self'.

This chapter aims to advance a conversation about professionally normalised practices of emotional conduct within initial teacher education in the current political moment. We agree with Phelan (2015) that if teacher education is to be more than simply normalisation whereby aspiring teachers simply repeat and reaffirm the requisite knowledge, skills and attitudes of 'what already is … [then] each new teacher must have the opportunity to question, to define what matters to her, and what she rejects' (Phelan, 2015, p. 1). This is particularly important as many teachers struggle with the 'anti-educational forces' (Phelan, 2015, p. 3) of standardisation, performativity and accountability—those policies that are often set against teachers' ethics of care, professional autonomy and collegiality (Holloway & Brass, 2018). The chapter looks to provide both conceptual and theoretical tools by which teacher educators may allow space for pre-service teachers to think 'otherwise' about emotional norms in the profession. This thinking otherwise can allow the possibility of transformative practices in which dominant emotional norms are questioned and the exercise of institutional power is problematised, as has been argued by Chubbuck and Zembylas (2008).

## 11.4   Using a Theoretico-Methodology

A key objective of the chapter is to provide an examination of the 'regimes of truth' (Foucault, 1990, p. 60) that comes to shape norms of emotional conduct within pre-service teacher self-formation. Such an examination is sensitive to the social and historical forces that shape how emotions and their public expressions can become the sites of work upon the teacher self. The position that this chapter takes is that the kinds of truths that are taken-for-granted in education practice do not exist prior to their naming and are therefore not essential or absolute; rather, they are created and maintained every day by people—forming what Foucault (1991, p. 75) calls a 'regime of practices'. In the data that will be presented, pre-service teachers suggest how *good* teachers ought to conduct themselves emotionally using an 'agglomeration' of technical skills or procedures for 'doing things' (Kendall, 2011, p. 72) with their emotions. The teaching *self* that is evoked by participants—a 'contingent, transitory, piecemeal and above all, technical' fabrication—is one that is primarily formed through the playing out of appropriate 'ways of comporting oneself in public life' (p. 72).

Foucault's notion of power is that it is best understood as a kind of movement. It is not the property of one class, person or institution, but rather a product of strategies, manoeuvres, tactics and techniques that are socially, culturally and historically contingent (Davies, 2004). Foucault's (2002, p. 52) notion of power, operating through discourse as 'discursive practices' helps to conceive emotional conduct as 'operating according to rules which are quite specific to a particular time, space, and cultural setting' (O'Farrell, 2005, p. 80). Thus, the discursive practices, or conduct of emotion, is not simply about one's psychic phenomena but rather 'deals with a field of objects, which are things presented to thought and are the occasion or the matter on which thought is exercised' (O'Farrell, 2005, p. 80).

Foucault (1997b, p. 292) stressed that, unlike 'domination', power relations are only possible when the 'subjects are free'; power comes 'into play' 'in every social field', in other words, because 'there is freedom everywhere'. Foucault regarded power as a *relation* because, in the exercise of freedom, one guides the behaviour of others or is enticed to modify the behaviour oneself. As O'Farrell (2005, p. 109) notes, 'conduct happens through a complex interplay of choice, action and constraint' in response to power relations. Power relations are always 'mobile, reversible, and unstable' (Foucault, 1997b, p. 292) and, in turn, there is no reason why this manner of power working in modern societies should not ultimately have results which are positive or even valuable (Bess, 1988).

For Foucault, productive power does not necessarily mean that all outcomes are always positive; rather, it means that the exercise of power is generative of certain behaviours, knowledge, structures or events that can be manifested in a range of possibilities, some of which may be dangerous (Bourke et al., 2015). As Foucault (1980, p. 39) describes, power can be understood as operating in a 'capillary form of existence', reaching 'into bodies' and inserting itself into 'actions and attitudes', 'discourses, learning processes and everyday lives'. Accordingly, not everything

is visible and sayable. Rather, operating as a discourse of authority for action, a set of behavioural norms, which are culturally, historically and socially contingent determines what can be said, written, communicated or felt as legitimate knowledge about emotions in the work of teaching (Peters & Burbules, 2003; Sidhu, 2003).

In taking on this nuanced conception of power dynamics, playing out in the course learning of within initial teacher education, the authors adopt a post-structural theorisation of the *self*. This theorisation conceives the *self* not as a stable, fixed or linear process, but rather as an 'emergent and contingent' form (O'Brien, 2018, p. 230)—an 'accumulation of the many changing subject positions that are taken up and shape a person' (Harding & Pribram, 2002, p. 414). For Foucault (1997a), 'the kind of relationship you ought to have with yourself, *rapport a soi*, [which Foucault calls] ethics, and which determines how the individual is supposed to constitute himself (sic) as a moral subject of his (sic) own actions' (p. 263) has four major aspects. Foucault elaborates on the *four aspects* comprising the relationship the self seeks to have with itself as follows: (1) the ethical substance or facet, (2) the mode of subjectification, (3) self-forming activities and (4) telos. Each of these aspects of self-formation will be unpacked in Sects. 11.5, 11.5.1, 11.5.2 and 11.6 of the chapter. This chapter utilises this fourfold to analyse the professional emotional selves that the pre-service teacher participants sought to construct. Importantly, the chapter takes the approach that the four 'axes interrelate, overlap and mutually shape one another' (Clarke & Hennig, 2013, p. 82).

The research methods[1] used in the study were deliberately selected for their ability to generate data in relation to each of Foucault's aspects of self-formation. It was also important that they differed from the 'so-called value-free scientific knowledge' of positivism and its quantitative data collection methods (St. Pierre, 2013, p. 648). Methods of data collection used in previous scholarly work on teacher emotion that drew from a social constructionist or post-structural theoretical approach were used as inspiration, including open-ended interviews, questionnaires, self-reporting diaries, emails and arts-based activities. Such methods were selected to bring to light the social and cultural nature of emotional conduct at a tertiary education setting in a holistic and longitudinal way. The data generated by the use of qualitative methods, such as interviews, was ideal in the search for themes, patterns and insights related to pre-service teacher emotional conduct (Willis, 2007).

Participants were drawn from two Graduate Diploma in Secondary teaching cohorts in 2015–2016 in a large Western Australia university. A smaller group of (N = 7) pre-service teachers participated in a range of extended research activities over their course learning including 2 h long semi-structured interviews, focus groups and self-reporting diaries. These data collection methods predominately posed questions about their previous assumptions and understandings of the role emotions played in the work of teaching as well as their own emotional experiences learning to teach.

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[1] Note: Research methods are referenced according to 'Interview' being a 1-h semi-structured interview with eight participants conducted in 2014 and 2015; 'Focus-groups' being 2–5 person semi-structured focus groups with the same participants conducted in 2015; and 'Questionnaire' being an open-ended two-page questionnaire given to participants in 2016.

A larger number of participants (N = 94) participated in anonymous questionaries which posed similarly themed questions to elicit open-ended responses and visual representations of the role emotions played in their professional learning during the course.

## 11.5 The Ethical Aspect

The primary aspect of their professional self that pre-service teachers 'worked upon' (Foucault, 1997a, p. 263) was a specific form of emotional conduct in the context of teaching. Specifically, the aspect of ethical work upon the self that pre-service teacher participants conceived as needing cultivation was the creation of a distinct disposition, outlook and demeanour in relation to emotional expression as a practising teacher. This ethical facet of self-creation is constituted in diverse practices or forms of emotional conduct. Certain forms of emotional conduct are rendered problematic in the data as inappropriate, unprofessional, undesirable or ineffective for teachers. One pre-service teacher (Isabelle)[2] stated that a teacher must *never show any negative emotion, unless you want that negative emotion to be shown.*[3] In interview Isabelle had come to the realisation that there was an *unspoken rule* in schools that *you never allow kids to see your (emotional) weakness* because students can *smell your fear* and if you were to *cry* or *get too angry* in front of them, they would *lose respect* for you and they will *attack* you (Interview, 2015).

A substantial feature that emerged from the data collected in the research is that pre-service teachers often proposed a requirement for teachers to practise self-discipline and self-mastery by *controlling*, *regulating*, *tailoring* or *managing* problematic emotions (Questionnaire, 2016). This is the ethical facet that is to be governed differently because teachers who are unable to master these emotional rules (Zembylas, 2005) are seen to be, as one participant response put it, *not right for the job* (Questionnaire, 2016). In describing this specific kind of desirable teacher, pre-service teachers noted that this meant having the right *temperament* for the role, namely, one that is *stable*, *balanced*, *in check*, *composed* or *measured* (Questionnaire, 2016). Furthermore, the *correct use of emotions* for teachers is understanding that *personal and professional (emotions) are different* and that *appropriate* emotional conduct in teaching is a *skill* or *ability* to be developed (Questionnaire, 2016).

The ethical facet of concern or problem for the participants' emotional conduct is further illustrated in a questionnaire response from a pre-service teacher who wrote that appropriate emotional conduct for teaching was not letting *exterior emotions dominate your demeanour* as this particular practice would *dictate*—presumably to others—*what type of teacher you will be* (Questionnaire, 2016). A significant part of the ethical facet that is suggested as a problem of self-governance by participants is that teachers must ensure *private* or *personal* emotions are *maintained, managed,*

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[2] Participants who contributed interview data have been given pseudonyms to protect their identities.

[3] Note that all participant data is shown in italics throughout the chapter.

*controlled, guarded or channelled* (Questionnaire, 2016) in particular ways from or by public expression in the school context. A private/public dynamic of emotional conduct is represented in Fig. 11.1 (Questionnaire response, 2016), where a clear line of division marks the practice of self-discipline, the aspect of the work being that teachers must not publicly show every emotion. This drawing suggests that the self comes to fashion a desirable emotional disposition as a teacher through practical embodied techniques of targeted work upon the self. The work to fashion acceptably ethical and professional emotional conduct entails the acquisition of 'mental or physical practices' (Ball, 2007, p. 449), 'trainings and other activities that one must undergo in relation these ethical problems' (Kendall, 2011, p. 74). Such problems arise from a nexus of social fields, or the mode of subjectification that participants are learning within, a concept that will be explored in Sect. 11.5.1.

### 11.5.1  Mode of Subjectification/Context

As Sect. 11.5 showed, pre-service teachers sought to work upon their emotional conduct to establish ethical, appropriate and professional relations with others in their social field. This occurred as pre-service teachers encountered a mode of subjectification that incorporated discourses of education theory, policy, expert teacher mentorship as well as of folk wisdom and advice. Through their course learning the work of shaping ethical-professional emotional conduct became focused upon the 'technical and practical know-how' (Ball, 2008, p. 19) of the pre-service teachers' experiences in school and university settings. As the pre-service teachers sought to configure their emerging professional selves, they did so through the discourses that produced 'available understandings of teachers and teaching' that they encountered (Clarke, 2010, pp. 146–147).
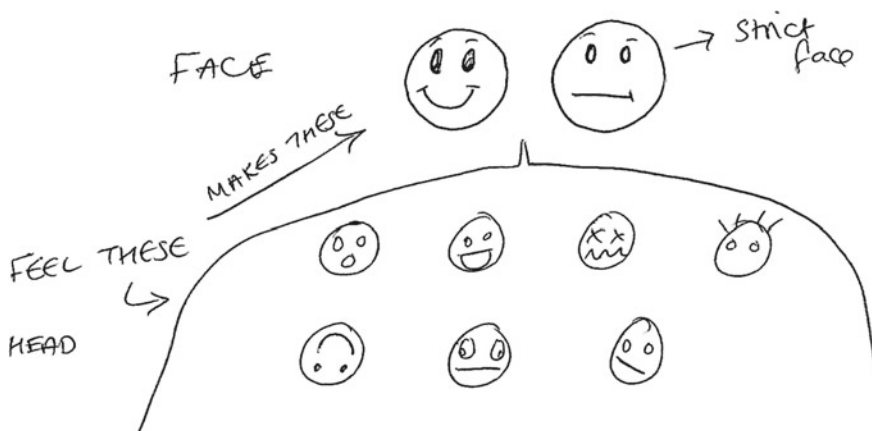


**Fig. 11.1**  Feel these head—face—make these—strict face (Questionnaire 1, 2016)

For example, the pre-service teachers were immersed in the discourse of 'effective' instructional skills, articulated in theoretical course work materials such as Marzano (2007) *The Art and Science of Teaching: A Comprehensive Framework for Effective Instruction.* The participants had also undergone training in the psychology of learning and child developmental in the text *Educational Psychology* (Woolfolk & Margetts, 2007).[4] This element of their course learning provided pre-service teachers with ways of structuring their thinking and behaviour—especially in relation to their professional experience—'thereby presenting them with ways of understanding' (Ball, 2008, pp. 56–57) themselves, their professional conduct and how they interacted with the world of teachers and teaching.

Both course learning texts take a psycho-biological view of human emotion functioning. Such a view rests upon the assumption that one's cognitions can rationally and intelligently control emotional impulses, especially in relation to the way teachers achieve positive outcomes in their work with learners and professional others. This point cannot be understated: their trajectory of learning to be teachers was configured 'under the positive conditions of a complex group of relations' (Foucault, 2002, p. 46) established between the institution of the university and the school, and the expected behavioural patterns, series of norms and mental and bodily techniques of professionally ascribed emotional practice (Meyer, 2009).

Whilst it became clear that these individuals sought to be recognised as a teacher through the discourses made available to them in myriad social and discursive encounters during the course learning of their professional preparation, the data also intimated that the pre-service teachers were responsive to other informal discourses that are less likely to be sanctioned by their course in initial teacher education. One such discourse is comprised of teachers who are represented in films, novels and television programmes from popular culture. Filmic representations of teachers draw upon and, in turn, reinforce 'cultural myths' about teachers' work and lives that offer a 'set of ideal images, definitions and justifications' for learning to become a teacher (Britzman, 2003, p. 30). For example, the pre-service teachers in the study cited one such teacher, Mr Keating, from the film *Dead Poet's Society* (Weir, 1989) as: *beautiful, influential and inspiring*, eliciting feelings of *love, happiness and joy* (Questionnaire, 2016), with one participant stating *Mr Keating is a real inspiration for me, he gives so much of himself*, *I really want to be like this teacher* (Interview, 2015). This is evidence of how the self-sacrificing cultural myth of the good teacher is 'taken up as measures for thought, affect, and practice' (Britzman, 2003, p. 30) by these participants.

We can also see that these individuals are connecting in a highly emotional way, to as Archer (2007, p. 303) terms it, an 'order of reality' in becoming a teacher. Importantly, this order of reality sits outside of the officially sanctioned discourse of course accreditation concerns. This is because at the present moment teacher standards do not encompass anything to do with a teacher, or a pre-service teacher's emotional experiences. Within both informal and sanctioned discourses, the participants learn

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[4] Texts were essential reading in core course units: 'EDSC5002 Theories of Learning' and 'EDSC5001 Reflective Teaching'.

to practise certain self-forming activities to transform themselves into the teachers they seek to become. One way that this ethical work takes shape is the crafting and channelling of emotional conduct according to the professional norm of emotion management.

## 11.5.2   Ethical Work

The ethical work of controlling emotions in teaching was described by pre-service teachers as the ability to *compartmentalise* and *isolate negative emotions*, or by practising *extensive conditioning* and focusing *on not becoming overly emotional* (Questionnaire, 2016). A pre-service teacher wrote that they use *techniques such as CBT (cognitive behaviour therapy)* in order to achieve self-control over emotions. Another way this aspect of ethical work was described by pre-service teachers was suggesting an injunction to master particular *skills* with regard to one's emotions such as being *thick skinned* or learning to *switch off* as *if you can hide them (emotions) it'll make the job easier* (Questionnaire, 2016). According to another participant, *teachers need to maintain a controlled façade to effectively teach* whilst another noted that they were naturally suited to teaching (from an emotional perspective) as they were able to *maintain professional detachment due to my personality type* (Questionnaire, 2016). The ethical work undertaken or being suggested as necessary was located upon the cultivation of *strategies* to *deal* with, *remove* or *ignore* problematic emotions in learning to teach (Questionnaire, 2016).

Two other descriptions of this ethical work in questionnaire responses highlight the stark contrast between the domains of private-inside and public-outside emotional conduct in teaching. A pre-service teacher suggested that teachers could *panic internally* but must practise being *cool, calm and collected externally*, whilst another wrote teachers are likely to be *controlled under pressure, but stressed behind closed doors* (Questionnaire, 2016). This ethical work is represented in Fig. 11.2, where the pre-service teacher depicts the control of one's emotions as an illustration of important work for teachers. This work is located upon *the ability to control* emotions by maintaining a *façade* in the public sphere of the school space despite the broiling nature of emotions underneath the surface (Questionnaire, 2016).

When the pre-service teachers explain about controlling emotions in these ways, they replicate those discourses that view emotions as natural, dangerous, irrational



**Fig. 11.2** Paddling like hell underneath (Questionnaire 1, 2016)
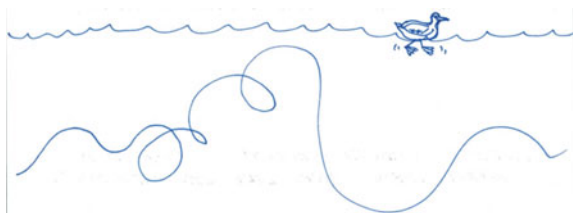
and physical (Jagger, 1989; Lutz, 1990). Such discourses reinforce binary thinking and artificial boundaries where some feelings are perceived as not belonging in certain situations or that emotions can only get in the way of clear-headed, logical thinking. These boundaries or rules become the edges over which emotions that are uncontrolled can spill and it is these spillages that threaten the social orders in which these individuals seek to work and, importantly those social orders that ensure the goals to become a teacher are met.

In their lives outside of the initial teacher education program, participants engaged in various kinds of activities to manage and support their emotional conduct whilst learning to become teachers. This included: *going to the beach, meditation and positive self-talk* (Alanna, Interview, 2014), a *daily routine of journal writing* (Steven, focus-group, 2015), *going to church and spending time with my worship group* (Sheng, focus-group, 2015), *doing cos-play* [popular culture costume wearing] (Isabelle, focus-group, 2015) and *spending time with friends and family* (Lorene, Sharla, Jodi, Maddison, focus-group, 2015). For one participant, Alanna, although she was outwardly working on her professional emotional *façade* within the initial teacher education course, when she encountered feelings of *helplessness and hopelessness* during first her professional experience she went to her parents, rather than her tutors for advice on how best to proceed in dealing with these problematic emotions:

> I remember going home to mum and dad and telling them what happened, and they said you can't dwell on that. It sucks, but you can't let that affect you. I feel like I grew in a way that I've learnt you leave your issues, the issues at school, you don't take them home and it is as black and white as that, it doesn't mean that I will be able to do it, but that is what I have to learn to do. (Interview, 2014)

In these examples of ethical work upon their emotional conduct, we see preservice teachers engaged in various mental and physical techniques for buffering, channelling and controlling emotions in their course learning experiences. This work certainly carries some dangers, specifically in terms of taking on the onerous nature of deliberate and sustained emotional management can be exhausting. As the literature on emotional labour in teaching has shown (Beatty, 2000; Blackmore, 1996, 2011; Colley, 2006; Isenbarger & Zembylas, 2006; O'Connor, 2008). In obligation to the position held out to them, pre-service teachers sought to govern themselves in relation to the established professional rules and norms of emotional conduct (Dean, 1996).

Importantly, these discourses are taken to represent power in its strategic, productive, positive and practiced form. So, rather than simply repressing or dominating the emotions of pre-service teachers, the discourse of emotional control functions to make a socially cohesive form of emotional conduct visible and sayable within an initial teacher education course (Kendall & Wickham, 1999). The pre-service teachers are thoroughly active in producing themselves within their given 'field of possibilities' (Foucault, 2000, p. 341) by which one may inscribe oneself as a teacher in their present socio-cultural context. In the ongoing creation and recreation of their professionally appropriate emotional selves, the participants can be seen to have engaged with 'both games of truth and practices of power'—this is 'inevitably political as well as ethical work' (Clarke, 2009, p. 189).

The examples cited in this section of our chapter demonstrate that in learning to teach these participants are indicating the manner in which they are largely 'are playing a large part in their own control' (Zembylas, 2005, p. 55) and are evidence of how 'technologies of the self' (Foucault, 1988) align with the institutional and culturally prevalent discourses of teacher professionalism. The actions of emotional conduct suggested or described as being enacted by the pre-service teachers happens 'within' the various discourses that have penetrated initial teacher education and is 'always positional', occurring 'through a subject position inhabiting a space between the two poles of knowledge, the discursive and the non-discursive' (Kendall & Wickham, 1999, p. 53).

## 11.6  Self as Telos

Foucault termed the goals that are sought out through the work upon the self as the 'telos [*tileologie*]' (Foucault, 1997a, p. 265). Foucault articulates that there are 'privileged techniques related to each telos' (p. 268); thus, as is the case in the research of this chapter, one can explore the unique kinds of desirable emotional attributes, skills, characteristics or states of being that pre-service teachers seek to achieve in their course learning, tracing lines of connection between such goals and the work upon the 'self' that results. Britzman (1994, 2003) advises that the object of study in analyses of practices of professional self-formation needs to be upon the 'relations of power' that 'have to do with inscriptions of the self' (1994, p. 56). Such relations, according to Britzman, constitute the 'underside' of teaching; in them are to be found the 'dynamics, tensions, exclusions, and inclusions' engendered by the activity of learning to teach itself (Britzman, 2003, p. 25). Attention to this lived world of human calculation, ambition, control, action and counter-action is what will provide the greatest insight into how and with what motivations and aspirations pre-service teachers learn emotional practice as they construct themselves whilst also being constructed by others. The primary case upon which this section will focus to illustrate these themes is that of Lorene (Interview, 2015).

At the end of her course learning, Lorene came to question her initial *aspirations* as a teacher—specifically she felt being able to *do some good for the children* was *harder* and more *challenging* than she initially thought. Lorene's *ambition to be a great teacher* had been *tempered by reality* after her second professional experience. She explained that her ideal of being a *good teacher* was at odds with the kind of emotional disposition that she was expected to cultivate, namely, that of a *really outgoing, vibrant person* who can *get the students' interest*. Lorene described that not being able to achieve *what other people necessarily think would be a good teacher* was her *big downfall* (Lorene, Interview, 2015). When asked about the source of this *emotional model* of the *good teacher*, Lorene spoke about certain expectations and obligations offered up to her during her course learning. She stated that *the supervisors and the teachers that are the mentors*, as well as the *lecturers* and *tutors* at university, communicated this *picture* to her (Lorene, Interview, 2015).

These authorities and experts suggested to her a 'proper way of acting' (Ball, 2007, p. 457) as a teacher—*this is what you have to be, you're going to be much better if you've got lots of positivity and charisma* (Lorene, Interview, 2015). Lorene's mentor teacher and university supervisor noted that she *appeared to lack enthusiasm* or seemed *tired* as opposed to a *fun, excited, bright performer*. Lorene was encouraged to work towards this explicitly defined telos of a *good teacher* by adopting 'specific practices' (Ball, 2007, p. 457) such as *getting out there and performing*, *maintaining her enthusiasm* and by cultivating *her teacher voice* which she described as *horrible to start with* and *difficult to control to sound enthusiastic* (Lorene, Interview, 2015).

On a theoretical level, Lorene's dilemma in this regard points to the agonism at the intersection of Lorene's endeavour to shape her professional emotional self according to her aspirations, on the one hand, and the endeavours by teacher education authorities to shape Lorene's professional emotional self according to institutional and broader governmental criteria on the other. Specifically, Lorene's emotional aspirations or emotional telos as a teacher to *do some good for the children* (Lorene, Interview, 2015) can be seen as a goal of hers, premised on a mode of subjectification which may be said to privilege humanitarian ideals. In Lorene's case, such ideals clashed with the institutional and governmental telos of the 'good teacher', namely, the teacher of charisma, positivity and performance—favoured by university and school staff. These professional others in Lorene's social field seek to manage her according to specific rationalities and practices of government informed by positive psychology, human resource development and a more widespread ethos of entrepreneurialism.

For Lorene, this challenging aspect of the professional experience created a sense of insecurity in her ability to assume the role of a competent teacher. Lorene explained she felt *not confident* in herself, and that she tended to get *really frustrated* when she *didn't get things right*. This caused her the *most angst* leaving her *emotionally fragile* and *at the bottom* of her *jug* by the end of the placement (Lorene, Interview, 2015). Her ongoing vulnerabilities are evident in the following statements she made during the interview:

> You ask yourself; do I really want to teach? Am I able to do this?

> If I can't get the handle on this, then should I be a teacher? Because am I just putting another bad teacher out into the workforce, that isn't going to be helpful.

> (Lorene, Interview, 2015)

Despite her 'mistakes' and 'conflicts' Lorene is far from paralysed by her experiences; rather, these 'gifts of error' have become 'crucial to the stuff' of her self-formation as she explains the various 'adjustments and insights' she has made from these events (Britzman, 2003, p. 2). With a degree of optimism, she described that she felt it *would be very sad if we only ever had one type of teacher* because she believed that *you can turn some kids off by being too in their face* and had made the decision that she was *never going to be a performer as such* because that didn't *sit well* with her (Lorene, Interview 2, 2015). Here Lorene recognises there are many ways of being a teacher and, in coming to grips with this notion, she has experienced powerful emotions. For Lorene, this involved crafting teaching practices that

remained closer to who she believed herself to be—a teaching persona that was *gentler* and *more reserved* and who is capable of forging *meaningful connections* with students (Lorene, Interview, 2015).

Lorene crafts 'new thoughts' from her efforts as she works to 'think about becoming a teacher' (Britzman, 2003, p. 2). Specifically, Lorene explained that *given time* she could *build* on what she had already learnt on professional experience. She notes that her preference was to *build relationships with students slowly and carefully* and that she was *going to be enthusiastic, with a certain amount of performance and fun to what I do.* Lorene felt *towards the end* of the placement she was *getting a lot better* in assuming a persona that *was excited*, as she was able to *relax* and *stopped getting worried about it all*, and in turn knew that she was *going to have a lot of fun with* her classes (Lorene, Interview, 2015).

In resisting one established meaning of being a teacher, Lorene is renewing her professional sense of self as a 'partial presence, as almost the same, but not quite the same as the professional others' (Phelan et al., 2015, p. 45) in the social field of the professional experience. Her teaching self has emerged as an articulation between the lines of expectation from others and as such both 'against the rules and uttered within them' (Bhabha, 1994 as cited in Phelan et al., 2015, p. 45). Lorene predicted that her course learning would bring *chaos* as well as *tears and fear* (Lorene, Interview, 2015). In her final interview, she has clearly encountered the additional burden of a 'culture shock' at the 'realization of the overwhelming complexity' of a teacher's emotional work and the 'myriad ways this complexity is masked and misunderstood' (Britzman, 2003, p. 27).

Lorene has confronted the idea that learning to teach requires the 'taking up' of a performance in which she must become someone she is not. In that emotional tension, she can be understood as ethically forming herself (Britzman, 2003, p. 27). This is because in her concern for others, she has not forgotten her quest for a personal and professional freedom—as one always attenuated by institutional and governmental imperatives. Lorene has decided not to sacrifice seeking an alternative emotional mode of being a teacher to 'live fully and authentically while giving care to others' (Infinito, 2003, p. 156). This notion—that 'one must care for oneself in order to *be* a self' as Infinito (2003, p. 156) elegantly puts it—is of central importance to our argument. Lorene's story helps to shine a light on that which is too often hidden in an initial teacher education course. Namely, that learning to teach is not a straightforward project—it is replete with error and mis-steps, tension and conflict (Britzman, 2003). For some, the end point can be an emotionally precarious time as these newly minted professionals begin their formal working careers. Such stories are important to tell, despite counterposing the ideal image of the graduate teacher inscribed in professional standards and the glossy course handbooks and prospectuses published by university marketing departments.

## 11.7  Conclusion

In this chapter, we have analysed and discussed practices of professional emotional ethical self-formation in teaching. We drew upon a rich array of data obtained from an empirical, longitudinal study of pre-service teachers as they sought to construct a professional emotional persona during their course of initial teacher education. Using the Foucauldian four-part schema to interpret the data, a significant finding discussed in the chapter is that participants learn to accept that they must craft their emotional conduct through a range of mental and physical practices according to the norm of rational emotional control. The chapter showed that as participants encounter both sanctioned discourses of course learning and informal discourses of teachers' work, a number of rules for emotional conduct become the accepted 'truths' inscribed upon their professional subjectivities as educators.

In response to a range of proscribed and tacit ethical obligations, the participants constituted themselves according to various models of appropriate conduct for their emotions. In the face of these outcomes, the authors of this chapter argue that teacher education requires 'reconsideration and reform', particularly in relation to how we 'theorize about becoming a teacher' emotionally (Sinner, 2010, p. 28). This theorisation is founded upon the subjective expression of emotional experiences within the culture of learning to teach: That pre-service teacher subjectivity should be conceived as 'a process of becoming', as 'both rational and emotional, discursively shaped in-between purposeful acts and embodied knowing' (Sinner, 2010, p. 28).

## References

Archer, M. S. (2007). *Making our way through the world human reflexivity and social mobility.* Cambridge University Press.

Australian Charter for the Professional Learning of Teachers and School Leaders. (2012). Education Services Australia.

Australian Professional Standards for Teachers. (2014). Australian Institute for Teaching and School Leadership. https://www.aitsl.edu.au/australian-professional-standards-for-teachers/standards/list

Ball, M. (2007). The construction of the legal identity: 'Governmentality' in Australian legal education. *Law and Justice Journal,7*(2), 444–463.

Ball, M. (2008). *The construction of the legal identity: 'Governmentality' in Australian legal education [PhD].* Queensland University of Technology.

Beatty, B. R. (2000). The emotions of educational leadership: Breaking the silence. *Theory and Practice,3*(4), 331–357. https://doi.org/10.1080/136031200750035969

Bellocchi, A. (2019). Emotion and teacher education. In G. W. Noblit (Ed.), *Oxford research encyclopedia of education.* Oxford University Press.

Bess, M. (1988). Power, moral values, and the intellectual. *History of the Present*, *4*(Spring), 1–13. https://www.michaelbess.org/foucault-interview/

Blackmore, J. (1996). Doing 'emotional labour' in the education market place: Stories from the field of women in management. *Discourse,17*(3), 337–349. https://doi.org/10.1080/0159630960170304

Blackmore, J. (2011). Lost in translation? Emotional intelligence, affective economies, leadership and organizational change. *Journal of Educational Administration and History,43*(3), 207–225. https://doi.org/10.1080/00220620.2011.586455

Bourke, T., Lidstone, J., & Ryan, M. (2015). Schooling teachers: Professionalism or disciplinary power? *Educational Philosophy and Theory,47*(1), 84–100. https://doi.org/10.1080/00131857.2013.839374

Britzman, D. (1994). Is there a problem with knowing thyself? Towards a poststructuralist view of teacher identity. In T. Shanahan (Ed.), *Teachers thinking teachers knowing: Reflections on literacy and language* (pp. 53–75). National Council of Teachers of English Press.

Britzman, D. (2003). *Practice makes practice: A critical study of learning to teach* (Revised ed.). State University of New York Press.

Bröckling, U. (2016). *The entrepreneurial self: Fabricating a new type of subject*. Sage.

Bullough, R. (2009). Seeking eudaimonia: The emotions in learning to teach and to mentor. In P. Schutz & M. Zembylas (Eds.), *Advances in teacher emotion research: The impact on teachers' lives* (pp. 33–54). Springer.

Chokr, N. N. (2007). On a genealogy of the emotions from a rhetorical perspective. *ephemera: Review Essays*, *7*(2), 381–394. http://www.ephemerajournal.org/contribution/genealogy-emotions-rhetorical-perspective

Chubbuck, S. M., & Zembylas, M. (2008). The emotional ambivalence of socially just teaching: A case study of a novice urban schoolteacher. *American Educational Research Journal,45*(2), 274–318. https://doi.org/10.3102/0002831207311586

Clarke, M. (2009). The ethico-politics of teacher identity. *Educational Philosophy and Theory,41*(2), 185–200. https://doi.org/10.1111/j.1469-5812.2008.00420.x

Clarke, M. (2010). Doing 'identity work' in teacher education. In A. E. Mazawi & R. G. Sultana (Eds.), *World yearbook of education 2010: Education and the Arab 'world': Political projects, struggles, and geometries of power* (pp. 145–162). Routledge.

Clarke, M., & Hennig, B. (2013). Motivation as ethical self-formation. *Educational Philosophy and Theory,45*(1), 77–90. https://doi.org/10.1080/00131857.2012.715386

Colley, H. (2006). Learning to labour with feeling: Class, gender and emotion in childcare education and training. *Contemporary Issues in Early Childhood,7*(1), 15. https://doi.org/10.2304/ciec.2006.7.1.15

Davies, B. (2004). Introduction: Poststructuralist lines of flight in Australia. *International Journal of Qualitative Studies in Education,17*(1), 1–9. https://doi.org/10.1080/0951839032000150194

Dean, M. (1994). *Critical and effective histories: Foucault's methods and historical sociology*. Routledge.

Dean, M. (1996). Foucault, government and the enfolding of authority. In T. Osborne, N. Rose, & A. Barry (Eds.), *Foucault and political reason: Liberalism, neo-liberalism, and rationalities of government* (pp. 209–229). Routledge.

Fineman, S. (2000). Emotional arenas revisited. In S. Fineman (Ed.), *Emotion in organizations* (pp. 1–24). SAGE Publications.

Foucault, M. (1980). *Power-knowledge: Selected interviews and other writings, 1972–1977*. Harvester Press.

Foucault, M. (1988). Technologies of the self. In L. Martin, H. Gutman, & P. Hutton (Eds.), *Technologies of the self: A seminar with Michel Foucault* (pp. 16–49). University of Massachusetts Press.

Foucault, M. (1990). *The history of sexuality*. Pantheon Books.

Foucault, M. (1991). Questions of method. In G. Burchell, C. Gordon, & P. Miller (Eds.), *The Foucault effect: Studies in governmentality: With two lectures by and an interview with Michel Foucault* (pp. 73–86). The University of Chicago Press.

Foucault, M. (1997a). On the genealogy of ethics: An overview of a work in progress. In P. Rabinow (Ed.), *Ethics: Subjectivity and truth* (Vol. 1; pp. 253–280). Penguin Books.

Foucault, M. (1997b). The ethics of the concern of the self as a practice of freedom. In P. Rabinow (Ed.), Ethics: Subjectivity and truth (Vol. 1; pp. 281–301). Penguin Books.

Foucault, M. (2000). The subject and power (R. Hurley, Trans.). In P. Rabinow (Ed.), *Power: The essential works of Foucault 1954–1984* (pp. 326–348). New Press.

Foucault, M. (2002). *The archaeology of knowledge.* Pantheon Books.

Fried, L., Mansfield, C., & Dobozy, E. (2015). Teacher emotion research: Introducing a conceptual model to guide future research. *Issues in Educational Research,25*(4), 415–441.

Gordon, C. (1991). Governmental rationality: An introduction. In G. Burchell, C. Gordon, & P. Miller (Eds.), *The Foucault effect: Studies in governmentality: With two lectures by and an interview with Michel Foucault* (pp. 1–52). University of Chicago Press.

Grandey, A. A. (2000). Emotion regulation in the workplace: A new way to conceptualize emotional labor. *Journal of Occupational Health Psychology,5*(1), 95–110.

Gross, D. M. (2006). *The secret history of emotion: From Aristotle's rhetoric to modern brain science.* University of Chicago Press.

Harding, J., & Pribram, E. D. (2002). The power of feeling: Locating emotions in culture. *European Journal of Cultural Studies,5*(4), 407–426. https://doi.org/10.1177/1364942002005004294

Hargreaves, A. (2001). Emotional geographies of teaching. *Teachers College Record,103*(6), 1056–1080. https://doi.org/10.1111/0161-4681.00142

Holloway, J., & Brass, J. (2018). Making accountable teachers: The terrors and pleasures of performativity. *Journal of Education Policy,33*(3), 361–382. https://doi.org/10.1080/02680939.2017.1372636

Hongbiao, Y., Shenghua, H., & Lijie, L. (2018). A multilevel analysis of job characteristics, emotion regulation, and teacher well-being: A job demands-resources model. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.02395

Hoy, A. W. (2013). A reflection on the place of emotion in teaching and teacher education. In M. Newberry, A. Gallant, & P. Riley (Eds.), *Emotion and school: Understanding how the hidden curriculum influences relationships, leadership, teaching, and learning* (pp. 119–140). Emerald.

Infinito, J. (2003). Ethical self-formation: A look at the later Foucault. *Educational Theory,53*(2), 155–171. https://doi.org/10.1111/j.1741-5446.2003.00155.x

Isenbarger, L., & Zembylas, M. (2006). The emotional labour of caring in teaching. *Teaching and Teacher Education,22*(1), 120–134. https://doi.org/10.1016/j.tate.2005.07.002

Jagger, A. (1989). Love and knowledge: Emotion in feminist epistemology. *Inquiry,32*(2), 151–176.

Kelchtermans, G. (2011). Vulnerability in teaching: The moral and political roots of a structural condition. In J.C.-K. Lee & C. Day (Eds.), *New understandings of teacher's work: Emotions and educational change* (pp. 65–82). Springer.

Kendall, G. (2011). Foucauldian approaches to the self. In A. Elliott (Ed.), *Routledge handbook of identity studies* (pp. 67–82). Routledge.

Kendall, G., & Wickham, G. (1999). 'My head is spinning; doesn't history have to be more orderly than this?' In G. Kendall & G. Wickham (Eds.), *Using Foucault's methods* (pp. 21–56). Sage Publications.

Lutz, C. (1990). Engendered emotion: Gender, power, and the rhetoric of emotional control in American discourse. In C. Lutz & L. Abu-Lughod (Eds.), *Language and the politics of emotion* (pp. 69–91). Cambridge University Press.

Marzano, R. (2007). *The art and science of teaching: A comprehensive framework for effective instruction.* Association for Supervision and Curriculum Development.

McKenzie, J., Olson, R. E., Patulny, R., Bellocchi, A., & Mills, K. A. (2019). Emotion management and solidarity in the workplace: A call for a new research agenda. *The Sociological Review,67*(3), 672–688. https://doi.org/10.1177/0038026118822982

Meyer, D. K. (2009). Entering the emotional practices of teaching. In P. A. Schutz & M. Zembylas (Eds.), *Advances in teacher emotion research: The impact on teachers' lives* (pp. 73–91). Springer.

O'Brien, P. (2018). The adaptive professional: Teachers, school leaders and ethical-governmental practices of (self-) formation. *Educational Philosophy and Theory,50*(3), 229–243. https://doi.org/10.1080/00131857.2017.1339585

O'Connor, K. E. (2008). 'You choose to care': Teachers, emotions and professional identity. *Teaching and Teacher Education,24*(1), 117–126. https://doi.org/10.1016/j.tate.2006.11.008

O'Farrell, C. (2005). *Michel Foucault*. SAGE.

Peters, M., & Burbules, N. (2003). *Poststructuralism and educational research*. Rowman & Littlefield.

Phelan, A. (Ed.). (2015). *Curriculum theorizing and teacher education*. Routledge.

Phelan, A., Sawa, R., Barlow, C., Hurlock, D., Irvine, K., Rogers, G., & Myrick, F. (2015). Violence and subjectivity in teacher education. In A. M. Phelan, *Curriculum theorizing and teacher education* (pp. 41–58). Routledge.

Schutz, P., & Zembylas, M. (Eds.). (2009). *Advances in teacher emotion research: The impact on teachers' lives*. Springer.

Sidhu, R. (2003). *Selling futures: Globalisation and international education [PhD]*. University of Queensland.

Sinner, A. (2010). Negotiating spaces: The in-betweeness of becoming a teacher. *Asia-Pacific Journal of Teacher Education,38*(1), 23–37. https://doi.org/10.1080/13598660903474171

St. Pierre, E. (2013). The posts continue: Becoming. *International Journal of Qualitative Studies in Education,26*(6), 646–657. https://doi.org/10.1080/09518398.2013.788754

Sutton, R. E. (2005). Teachers' emotions and classroom effectiveness: Implications from recent research. *Clearing House: A Journal of Educational Strategies, Issues and Ideas,78*(5), 229–234.

Sutton, R. E., & Wheatley, K. F. (2003). Teachers' emotions and teaching: A review of the literature and directions for future research. *Educational Psychology Review,15*(4), 327–358. https://doi.org/10.1023/A:1026131715856

Tsang, K. K. (2019). *Teachers' work and emotions: A sociological analysis*. Routledge.

Weir, P. (Director). (1989). *Dead poets society* [Film]. Touchstone Pictures.

Williams, S. J. (Ed.). (2001). *Emotion and social theory: Corporeal reflections on the (ir)rational*. SAGE.

Willis, J. (Ed.). (2007). *Foundations of qualitative research: Interpretive and critical approaches*. Sage Publications.

Woolfolk, A., & Margetts, K. (2007). *Educational psychology*. Pearson.

Zembylas, M. (2005). *Teaching with emotion: A postmodern enactment*. Information Age Publishing.

Zembylas, M. (2007). Theory and methodology in researching emotions in education. *International Journal of Research and Method in Education,30*(1), 57–72. https://doi.org/10.1080/17437270701207785

Zembylas, M. (2014). Making sense of the complex entanglement between emotion and pedagogy: Contributions of the affective turn. *Cultural Studies of Science Education,11*(3), 539–550. https://doi.org/10.1007/s11422-014-9623-y

Zembylas, M., & Fendler, L. (2007). Reframing emotion in education through lenses of parrhesia and care of the self. *Studies in Philosophy and Education,26*(4), 319–333. https://doi.org/10.1007/s11217-007-9042-6

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# Chapter 12
# Innovative Approaches Used to Prepare Pre-service Teachers to Activate Learning with Digital Technologies

**Shaun Nykvist, Michelle Mukherjee, and Christopher N. Blundell**

**Abstract**  This chapter explores the innovative approaches employed within core subjects of two initial teacher education degrees, where the emphasis has been on the connection of pedagogy, digital technologies, collaborative learning, team teaching and learning spaces to activate pre-service teacher learning. Whilst the specific focus of the subjects is to prepare pre-service teachers to be educators who embrace digital technologies as a tool to support learners and enhance learning, it is the informal reflexivity espoused within new team teaching approaches that cater to novel ways of engaging with the challenges associated with digital pedagogies. The chapter will draw upon several years of research, and the experiences of teacher educators in the field of digital pedagogies, whilst highlighting how an approach that embodies creative inquiry has enabled pre-service teachers to connect with their prior learning experiences to form new understandings of the role of digital technology in their future classrooms. It is the agentic actions of the authors that drive the innovative approaches in learning design and pedagogical practices associated with these subjects.

**Keywords**  Digital technologies · Teacher education · Creative inquiry · Team teaching · Innovative pedagogies · Digital pedagogies

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## 12.1  Introduction and Background

Digital technologies can be considered the 'backbone' of the current information society (Aslan & Zhu, 2015); their use has grown exponentially and has become subsumed into almost all aspects of everyday routines. Digital technologies have become so 'deeply ingrained in our lives' (McDonald & Smith-Rowsey, 2018, p. 6) that it is imperative that each and every individual has the ability to engage with them at varying levels of competence, to actively participate in and contribute to today's society (Australian Curriculum and Assessment Authority [ACARA], 2013). However, arguments about the positives and the negatives arise around every innovation, and it is important to note that 'every technology is both a burden and a blessing; not either-or, but this-and-that' (Postman, 1992, pp. 4–5).

Educators can no longer ignore the importance of digital technologies and must embrace them as an essential pedagogical tool. In Australia, educators are required to use digital technologies in learning (ACARA, 2013) and they are an essential component of initial teacher education (ITE) degrees (Australian Institute for Teaching and School Leadership [AITSL], 2020; Moran et al., 2013). Similarly, a growing number of other countries are implementing policies and embarking on large digital technology projects with the aim to digitally transform education (Darling-Hammond et al., 2005; König et al., 2020; Ministry of Education Singapore, 2015; Steinar et al., 2018; Tamim et al., 2015; Tezci, 2011; U.S. Department of Education, 2016). It is in this sense that the need for digital transformation has seen governments and education departments invest heavily in infrastructure and other initiatives (Gill et al., 2015; König et al., 2020). However, whilst the need to prepare future teachers to adopt approaches to using digital pedagogies in their future classrooms is an expectation of teacher training institutions (Sweeney & Drummond, 2013; Voogt et al., 2014), there are varying views on how this should be undertaken (Starkey, 2019). Consequently, multiple strategies have been employed by teacher training institutions to prepare future teachers to 'develop pre-service teachers' competencies to use technology and harness its potential to enhance teaching and learning' (Tondeur et al., 2018, p. 32). However, graduate teachers often find themselves teaching in educational institutions that have not yet embraced the important role that digital pedagogies can play in educating today's students.

Whilst many would argue that there is a need for digital transformation within our educational systems, and that it is clearly being pursued globally, the ideology behind this investment is fraught with many challenges and concerns. In the schooling system there is a concern that whilst there have been pockets of innovation, evidence of the impact of digital technologies on teaching and learning is limited and widespread adoption seems to be lacking (Bate et al., 2013; König et al., 2020; Tamim et al., 2015). In parts of Europe, there is further evidence that many schools and systems lag behind with regard to digital transformation, and progress in this area has been slow to date (Bildungsberichterstattung, 2020; Fraillon et al., 2019). Despite continuing investments in digital technologies, the high hope of digital transformation has not yet been realised in many parts of education.

There is no doubt that the role of an educator is both complex and challenging and with the continually evolving nature of digital technologies there is a concern that current knowledge and skills associated with rapidly changing and outdated technologies will not serve educators as they look towards new pedagogical approaches for connecting and engaging with students (Koehler et al., 2013). Finding effective approaches to developing pre-service teachers' (PSTs') generic and teaching specific digital competencies remains an ongoing research priority in ITE (Starkey, 2019). Even though many of the recent teacher education graduates have grown up with digital technologies and have been immersed in a culture that relies on them for many functions, many recent graduate teachers do not feel confident in using them in the classroom (König et al., 2020; Tondeur et al., 2013). Preparing teachers to use digital technologies effectively in the classroom, where they have the capabilities to adapt them to new ways of teaching and learning is a challenge (Aslan & Zhu, 2015; OECD, 2015) for ITE programmes. Many educational institutions spend a large proportion of their budget on digital technologies and infrastructure, however, 'simply providing access to digital technologies does not mean they will be used with good effect in teaching and learning' (Nykvist et al., 2019, p. 401).

Given the importance in preparing PSTs to agentically leverage the dynamic and protean nature of digital technologies, this chapter will focus on two initial teacher education subjects where the emphasis has been on the connection of pedagogy, digital technologies, collaborative learning, team teaching and flexible learning spaces to activate PST learning. In particular, the authors draw upon research data collected over a period of eight years, and their collective experiences, to adopt and create new pedagogical approaches that can respond to the changing needs of today's students, where digital technologies will play a critical role (Fullan, 2013). The authors utilise an innovative learning design which is focussed on digital learning and digital pedagogy (see Sect. 12.2.1). The learning design is referred to as creative inquiry (CI) and it is the interconnected play between pedagogy (creative inquiry and team teaching), learning spaces (virtual and physical) and PSTs' prior experiences in the form of digital identity that has been a unique, yet innovative approach to the development of knowledge and skills associated with digital technologies. The subjects have been taught with a mix of blended, online and at times, hybrid modes of teaching and learning, and this has prepared students well for recent changes in teaching and learning where they have had to rapidly respond to new ways of teaching and learning.

The term digital technologies are used in this chapter to 'collectively describe hardware and software, including current and emerging technologies, for example: information and communication technologies, digital media tools, robotics, coding, virtual and augmented reality technologies, and wearable technologies' (Nykvist et al., 2019, p. 400). It is the role of the teacher educator to ensure that pre-service teachers can competently and effectively use digital technologies within and beyond the classroom. 'Digital technologies can be used across all learning areas to activate, enable, support and enhance learning, promote engagement, connect with the real world, and provide feedback in new, previously inconceivable ways' (Nykvist et al., 2019, pp. 400–401).

A number of other terms associated with the field of initial teacher education and digital technologies are used in this chapter. For the sake of clarity and understanding, these terms are defined here for the reader. The term 'students' refers to learners in both school and early childhood settings and the term 'teachers' refers to educators in school and early childhood settings. The term 'teacher educator' refers to a person who teaches pre-service teachers in initial teacher education courses, such as higher education academics, lecturers and tutors. The term 'educators' is used in this chapter as a collective term for both teachers and teacher educators.

## 12.2   Changing Times, Changing Approaches

The changing nature of digital technologies and how they are used in society will continually present challenges for educators. However, if educators are equipped with new ways of thinking about digital technologies and can connect with their prior learning experiences and identity to form new understandings of the role of digital technology in their future classrooms, they can better respond to change. The 2020 pandemic and its associated disruptions is an example of a disruption that prompted a rapid change in approaches to teaching and learning, not only in schools but also in higher education. Educators all over the world needed to respond to this changing nature of education and, in many cases, embrace online digital pedagogies that would best meet the needs of their students. This was met with mixed results, and multiple studies into how educators responded to this change have been published outlining the experiences from both an educator and student experience (Hjelsvold et al., 2020; König et al., 2020; Lorås et al., 2020). The transition from a face-to-face mode of teaching and learning to an online only mode was a new experience for many. Where previously, both students and educators could draw on their prior experiences to guide them through traditional approaches to teaching and learning, this was no longer the case.

This is an example of the transformative potential of digital technologies and how educators (and students) needed to embrace new educational approaches. Educators needed to learn how to approach teaching with digital technologies in new ways, and students needed to learn how to learn in new ways. For teachers to feel confident about teaching in new ways, it is imperative that teacher educators equip PSTs with the knowledge and skills to be able to respond to the changing needs of students. Whilst the modes of face-to-face, blended and online teaching and learning have been available for many years, and in many cases, the infrastructure has been in place (Hjelsvold et al., 2020), it took a worldwide pandemic for many educators to embrace new ways and discover the benefits that new pedagogical approaches can offer as more agile and flexible learning environments were encouraged. According to Binet and Carter (2018) 'the real digital revolution will occur only when we stop treating "online" and "offline" as two discretely different worlds. Then we'll be able to measure its true potential' (p. 297).

In teacher education, pre-service teachers are part of an education system which is still undergoing digital transformation. It is within this system that PSTs will need to develop three types of digital competence: generic digital competence—how to personally use digital technologies; digital teaching competence—how to integrate technology in learning and teaching; and professional digital competence—how to enact professional responsibilities in technology-rich environments (Starkey, 2019). Generally, PSTs are exposed to a series of lectures and tutorials and / or workshops which are very different to the environments in which they will be teaching. Although exposure to occurrences of digital technologies in learning and teaching is beneficial and improves PSTs' perceived competence, more overt approaches are needed (Tondeur et al., 2017). One solution to this is to model teaching with technology within the PST education courses ensuring that the students have first-hand experience. However, whilst modelling good practice is preferred amongst PSTs (Laronde & MacLeod, 2012), it needs to go beyond this because the skills that are modelled may quickly become redundant and the associated mindsets may be professionally counter-productive when the respective technologies are superseded. It is therefore essential that PSTs are able to conceptualise the role of digital technologies in learning and teaching such that they have a language and understanding that will allow them to contribute meaningfully to the profession.

### 12.2.1 Impetus of a New Pedagogical Design

The two ITE subjects that underpin this chapter are focussed on early childhood, primary and secondary pre-service teacher education. They are currently titled 'Supporting Innovative Pedagogy with Digital Technologies' (SIPDT) and the number of PSTs in each yearly cohort ranges from approximately 500 to 900 PSTs. A unique approach to these ITE subjects is focussed on, firstly, purposefully considering the role of digital technologies in teaching and learning (Nykvist et al., 2019), and subsequently, collaboratively and creatively identifying, then exploring the learning affordances of any digital technology using a specific pedagogy and/or andragogy called creative inquiry (Lee et al., 2016).

SIPDT are core subjects offered to PSTs in their first semester of university. In the current offerings of SIPDT there are no lectures, but rather, students participate in a series of three-hour creative inquiry (CI) sessions which are also supplemented with two, two-hour learning forums where practicing teachers and associated experts discuss the current and potential use of digital technologies in schools. The learning forums are driven by the PSTs, and they lead the forums with questions to the practicing teachers. This authentic learning experience allows the PSTs to connect with the profession in their first semester of ITE. It also allows the PSTs to connect the underpinning theory and practices with what is happening in the real world. In turn, the assessment tasks incorporate reflective practices that draw on PSTs' prior experiences and connect with the underpinning theory associated with digital

pedagogies and the CI sessions. This allows the PSTs to establish a vision and intent for use of digital technologies in their future classroom.

The pedagogical approach espoused in the teaching of these subjects is focussed on creative inquiry (CI). This term encompasses both the notion of *inquiry* and *creativity* as it foregrounds the creative aspects of inquiry and knowledge building. According to the 2016 NMC Horizon Report for Higher Education (Johnson et al., 2016) there is a real need for students to engage in creative inquiry. The report also highlights the integral role of digital technology in the development of this capability and further predicts that learning space redesign to support changes in pedagogy will be a major trend in the next three to five years, and in the immediate future, that state-of-the-art blended learning classrooms would 'foster greater collaboration in healthier environments' (p. 13). The proliferation of wireless, mobile technologies and the increase in the number of personal devices brought into the classroom is one of the drivers impacting pedagogy and learning space design and use, and as such, is encouraged within the pedagogical approaches adopted in the teaching of these subjects (Lee et al., 2016).

Initial teacher education is a complex, ever-changing field where it is important for PSTs to be reflective in their practice as they develop their own professional identity through the 'deconstruction, construction and reconstruction' (Stîngu, 2012, p. 618), of values and assumptions about the use of digital technologies and their ability to enhance education. It is in this context that 'we start to see the teacher as a reflective practitioner which, through a process that involves interpretation and reinterpretation of experiences, gains knowledge about the teaching profession and develops his/hers professional identity as a teacher' (Stîngu, 2012, p. 618). Consequently, teacher educators play an important role in the nature of this reflexive practice by ensuring that the learning environment is conducive to the nature of reflexivity and that they, themselves, model reflective practices. The CI approach espoused by the authors encourages this through its design and the role of team teaching. Team teaching allows the teacher educators to work with each other and target the teachable moments that are most important in the classroom.

It is the connection of each of these aforementioned attributes that makes the pedagogical approach to these subjects unique. The subjects are designed and continually modified to meet the needs of PSTs and prepare them for a continually changing world where they will need knowledge and skills that enable them to adapt and modify learning to new situations. The subjects not only meet the requirements of initial teacher education programmes in Australia, as specified by the relevant accrediting authorities and professional bodies, but they also encourage the development of attributes that are necessary for teachers to prepare their future students, specifically, for life and work in an uncertain digital world in which creativity, critical thinking and other so-called soft skills will be increasingly valued (Caputo et al., 2019).

## 12.3    An Informed Response

The deliberate development and refinement of CI, through team teaching, explores the agentic actions undertaken by the core teaching team (which includes the authors), and the positive impact that this has had on pre-service teachers' use and understanding of digital technologies for teaching and learning. According to Priestley et al. (2015) 'people's potential for agency changes in both positive and negative ways as they accumulate experience and as their material and social conditions evolve' (p. 197). It is this agentic response that has influenced the design of the SIPDT subjects and 'it is only when a person has been able to dovetail their concerns with their ongoing experiences that traction within a particular context can be gained' (Willis et al., 2017, p. 805). This agentic action has seen the authors elucidate the many challenges associated with helping PSTs to conceptualise and use digital technologies in learning and teaching whilst adapting and modifying the current learning design to meet the needs of PSTs.

The agentic actions undertaken by the core teaching team are underpinned by multiple research initiatives with an aim to improve ITE approaches to using digital pedagogies to enhance learning opportunities for all students. The integration of digital technologies in teaching and learning is positioned in literature to facilitate the enactment of student-centric pedagogies (Ertmer et al., 2012) and is considered an essential tool for deep learning (Fullan et al., 2018). It is through informed research and practice that the ITE subjects are continually evolving to meet the needs of students and pave the way for new approaches to ITE in the area of digital pedagogies.

The core teaching team's agentic actions were supported by an exploratory multiple case study mixed methods research design and are informed by grounded theory methods (Thornberg, 2012). The studies were designed to understand the digital technology background of PSTs entering initial teacher education programmes and their experiences with using digital technology. The research generated both qualitative and quantitative data gathered over eight years. A case study methodology based on Yin's (2018) model for exploratory case study, using multiple sources of evidence was applied in this study. Data sources included classroom observations, online student surveys, student focus groups, and educator interviews and reflections. Students were asked to voluntarily complete an online survey at the beginning of the semester. Data were gathered through multiple case studies between 2012 and 2019 (eight years) as the authors continually modified and reflected upon the results to deliver a subject that met the needs of students. During this study, the pre-service teacher cohort (n = 2821) consisted of a mixture of early childhood, primary and secondary pre-service teachers. Analysis of the data included descriptive and inferential statistical methods for the quantitative data, and informed grounded theory methods for the qualitative data.

The PSTs completed an anonymous survey at the beginning of the semester. It asked PSTs to self-report about their experience level with a range of technology skills. The categories were taken from the literature which outlines activities using digital technologies that are deemed as essential to their future teaching and learning.

The questions were initially piloted in a separate study in 2011 and then refined in 2012 and over the subsequent years. New questions were added as new technologies and pedagogical approaches became more ubiquitous in classrooms. Although the students were self-reporting their skills, the educators were able to report on the level of skills observed in the classes to compare this with the survey data. The surveys also asked students to comment on a series of questions related to learning spaces and the influence of previous digital technologies in their personal lives and their schooling experiences. The later was important for students to understand the impact of their prior experiences and how this contributed to defining their digital identities as PSTs.

In addition to the initial survey, students also voluntarily completed anonymous end of subject evaluations that included three Likert scale questions focussed on learning opportunities and satisfaction ('This unit provided me with good learning opportunities.' 'I took advantage of the opportunities to learn in this unit.' 'Overall, I am satisfied with this unit.'). In 2016, PSTs also participated in small group semi-structured interviews after the end of semester subject evaluations. These semi-structured interviews focussed on PST prior experience and competency with digital technologies, pedagogical approaches and learning spaces.

One of the informing factors for the pedagogical design of the SIPDT subjects was PST confidence and digital competency. In the 2019 study 85.45% of PSTs (N = 618) saw a digital device such as a laptop as beneficial to their studies. The study also indicated that 85.75% of PSTs found it necessary to bring a smartphone to class though the most common use of the device was for email or social media. The case study further revealed that 46.59% of PSTs felt that using social media gave them a sense of belonging but again this was focussed on personal use as opposed to using social media in their future classrooms.

During the 8 years that these subjects have been taught and continually refined by the core teaching team, a number of research outputs have informed the ongoing development of these subjects. These research outputs include a recent article (submitted) that explores the student tensions relating to the pedagogical approach of CI (Blundell et al., 2022); a report on creative inquiry learning spaces (see Lee et al., 2016) that examines new generation learning spaces and associated pedagogical approaches in ITE; an article that explores PST identity within a digital world (Nykvist & Mukherjee, 2016); an article that explores the notion of enabling a positive first year experience at university through the use of social media and mobile technologies (Nykvist et al., 2014); and articles that explore the PST use of digital technologies and their confidence in using these technologies (Nykvist, 2012; Nykvist et al., 2015). The results from these research outputs are referred to in the following discussion and reinforces the reflexive decisions that have been made in designing the subjects and the associated pedagogical approaches.

## 12.4 Agents for Change

The research findings discussed in this chapter are organised around key themes that have emerged as the core teaching team agentically responded to the changing nature of education and in particular digital pedagogies and digital technologies in ITE. The core themes are the pedagogical approach of creative inquiry, collaborative learning and team teaching (including prior experiences), the role of digital technologies, and learning spaces. These themes are discussed in more detail in Sects. 12.4.1–12.4.4.

### *12.4.1 Creative Inquiry*

Creative inquiry is the driving pedagogical approach used in the 'Supporting Innovative Pedagogy with Digital Technologies' (SIPDT) subjects. In the creative inquiry classroom, the teacher educators provided a safe and supportive environment through team teaching, mentoring, and coaching, whilst also empowering the PSTs to be reflective. In creative inquiry:

> a key objective is for students to learn how to learn, thus there is little or no instruction on how to use unfamiliar technology. PST are encouraged to work collaboratively to discover the operation of new technologies, and then reflect on their strategies for learning. This approach models how teachers learn when technology is changing and formal instruction in its use is rare: working with colleagues, using online content, or experimenting (trial and error) to develop new skills. CI intentionally foregrounds constructivist and student-centric learning (Blundell et al., 2022).

*Creative inquiry* involves an approach to learning where the creative processes are foregrounded in the process of inquiry. 'Creativity is highly valued in the *imagining* of the inquiry, finding the problem, defining the scope of inquiry, generating and playing with multiple ideas and solutions' (Nykvist et al., 2021). Creativity is defined here as 'the development of novel and appropriate solutions to problems' (Williams & Askland, 2012, p. 9) and it is within the context of education that there is a need for educators and students to develop the capability and capacity to investigate and solve complex problems in new ways. There is an expectation that something is produced when undertaking creative inquiry. PSTs are encouraged 'to *create*, to *make*, and to *generate*'—this could be an 'artefact, an idea, a communication or an expression' (Nykvist et al., 2021). This process allows them to 'explore new ways of expressing themselves, communicating and reframing ideas through individual and group interaction, and building on the work of others, driven by a process of inquiry' (Nykvist et al., 2021).

Once PSTs have pursued a line of inquiry it is expected that they critically reflect upon their inquiry, and it is in this sense, that the role of the teacher educator is as a coach and/or mentor to students as they navigate the process of solving ill-structured problems and engage in critical reflection. Creative Inquiry needs to be set against a safe and supportive environment that is dynamic and continually evolving to meet

the needs of students as they formulate solutions to problems and take risks. Lee et al. (2016) argue that teachers who excel with the practice of creative inquiry:

- View students as creators and curious learners;
- Foreground creative approaches in the process of active and challenging inquiry;
- Value 'the process of discovery as much as the discovery itself' (Bellefeuille et al., 2014, p. 2);
- Encourage the development of creativity, exploration, design-thinking and problem-solving skills that are strongly grounded in discipline knowledge;
- Encourage critical thinking, self-reflection, and student responsibility for learning;
- Allow for individual and collaborative meaning making;
- Recognise the need to develop students' agency and self-confidence in support of the inquiry processes.

The data from the PST surveys indicate that at first some students may feel uncomfortable with CI, whilst other students embrace the approach without hesitation. The teaching team have continually adapted the approach to CI by identifying the positive and negative experiences that PSTs have indicated in their surveys. This response has seen not only an overall PST satisfaction with the subjects over the years but has also seen a change in the way that PSTs view the role of digital pedagogies and digital technologies in their future role as teachers. As one student so succinctly wrote:

> The way that my tutors communicated with me, making me feel a sense of competence, like I was able to achieve anything. This feeling was also accompanied by autonomy, through the inquiry-based learning style adopted by my tutors. (Student 2, 2016)

### 12.4.2   *Collaborative Learning and Team Teaching*

Whilst the specific focus of the subjects is to prepare PSTs to be teachers who embrace digital technologies as a tool to support learners and enhance learning, it is the informal reflexivity espoused within team teaching approaches that cater to new ways of engaging with the challenges associated with digital pedagogies. To achieve this end, the cohort is allocated to groups of approximately 60–70 students where two teacher educators work together in a team teaching scenario. The team teaching aspect of this design is important to the overall positive success of these subjects and in many ways acts as a mentoring scenario for both teacher educators (no matter their level of experience).

The subjects are generally taught in a blended teaching and learning environment but are adaptable to a fully online mode of teaching and learning. The aim is to engage students with authentic tasks. According to Coates (2007), engagement is the 'active and collaborative learning, participation in challenging academic activities, formative communication with academic staff, involvement in enriching educational experiences, and feeling legitimated and supported by university learning communities' (p. 122). The PSTs work collaboratively, in small groups, on authentic problems that challenge them to be critical and creative thinkers. It also challenges them to

use digital technologies in new or different ways. The following quote from a PST reinforces the positive experience they had in this environment.

'I wish you could teach my other lecturers how to teach like this' (Student 3, 2016).

Whilst this quote illustrates a positive experience, not all PSTs' experiences were equal. There are a number of tensions (Blundell et al., 2022) between what works for students and what did not. Some of the negative and positive feedback is largely informed by PSTs' prior experiences, being immersed in a new approach to learning and teaching (creative inquiry), and needing to 'unlearn' and 'relearn' in new ways. In 2018, when PSTs (n = 108) were asked if the approach to teaching and learning was working for them, 83.5% indicated that it met their needs. Whilst this is only a small sample of students, it highlights the need to understand why this mode of learning is not working for some of the PSTs. When students are placed into uncomfortable situations, they must draw on their prior experiences to make sense of this new approach. It is in this sense that having two or more educators in the classroom offers an opportunity to better support students at both ends of the spectrum.

The approach to learning and teaching enacted in these subjects, challenges students to reflect on their prior experiences of digital technologies, to better understand how these experiences may or may not shape their digital identity as educators. Exposure to prior experiences with digital technologies can both positively and negatively impact how PSTs use digital technologies in their future classrooms. The prior experiences will be a frame of reference for their attitudes and beliefs about digital technologies in learning and teaching, and against which they will evaluate the content and learning experiences (Egan et al., 2018; Poyo, 2016; Seifert, 2015). Relevant to this argument is the fact that the 'intensity of ICT use however has no impact on pre-service teachers' ICT competencies' (Tondeur et al., 2018, p. 38).

The approach to teaching and learning in these core ITE subjects also utilised a form of team teaching. The notion of team teaching in higher education is relatively rare and there is a paucity of research in this area, though there is some research on the benefits of PSTs team teaching with practicing teachers (Baeten et al., 2018; Rickard & Walsh, 2019; Tsybulsky & Muchnik-Rozanov, 2019). The experience of the authors generally indicates that the lack of team teaching in higher education is due to a lack of resources at multiple levels. The authors adopted this approach based on multiple reasons. These reasons included:

- Early childhood and primary PSTs are likely to be working in a team teaching scenario during practicum or in their future classrooms;
- Provides opportunities for mentoring and coaching (especially with new teacher educators);
- Combines the knowledge and experience of two or more teacher educators;
- Creates many spontaneous teachable moments;
- Draws on the strengths of each teacher educator's prior teaching experience and background;
- Allows for more student support and diversification;
- Similar learning experiences across all groups of PSTs.

When collaborative learning and team teaching come together with creative inquiry, they form a powerful alliance which enhances the student learning experience. It is within this context that educators feel supported by each other, and the collective knowledge of multiple educators can enhance the learning experience for the students. A teacher in this subject indicated that they felt more comfortable teaching the subject as a relatively new staff member, and it gave them the opportunity to learn from someone else. They also indicated how important it was for them to have a voice to share their teaching experiences in a supportive environment.

The addition of team teaching as a pedagogical approach was a response to both PST surveys and teacher educator surveys that indicated the need for PSTs and teacher educators to have more confidence and experience with digital pedagogies and digital technologies. This is a changing field where technologies quickly become redundant and where there are large amounts of experimentation with regard to which tool is best suited for the task at hand. Team teaching allows each of the teacher educators to support each other and to bounce ideas off each other.

### 12.4.3  Role of Digital Technologies

A model of teacher education that supports identity, agency and community is seen to be beneficial to teacher development (Moate & Ruohotie-Lyhty, 2014). It is within this context that the pedagogical approaches used in the digital technologies subjects actively try to address the notion of identity, agency and community. The pedagogical approaches draw upon the expertise and experiences of practicing educators in the learning forums to explore how digital technologies can be used to enhance the student learning experience. The PSTs find this to be a valuable and authentic experience where they can connect the theoretical underpinnings of the subjects with what is happening in schools. The PSTs are empowered to be critical and creative thinkers through the provocative creative inquiry tasks that they undertake. Whilst these tasks are deliberately provocative in nature they are also designed as authentic tasks that are relevant to the PSTs future area of teaching. Due to the nature of ITE this can be quite varied across early childhood, primary and secondary education and therefore the teacher educators need to draw on multiple provocations to meet the needs of all PSTs.

PSTs are given the opportunity to explore digital technologies and to choose digital technologies that are best suited to solving the task or responding to the provocation that they are given, as opposed to being taught how to use a particular tool, and then trying to find a use for it in the classroom. In the surveys, a small number of students did indicate that they would prefer to be taught how to use a specific tool and wanted step-by-step instructions for doing so. For example, some PSTs indicated that they wish they knew how to use a tool such as Microsoft Excel or Apple Keynote in their teaching. This indicates that these PSTs are very much focussed on the tool as opposed to the pedagogy. A number of PSTs also indicated that they struggled with the new learning approach, but then, through reflective tasks, the learning forums and

the provocations, developed a deeper understanding and appreciation of the role of digital pedagogies and digital technologies. The following PST response highlights the positive aspect of this approach:

> I believe that the activities demonstrated within the creative inquiry sessions were able to address an area of expertise which I was not aware that I was lacking in (in the past) and would have been beneficial to learn ... (Student 3, 2016)

### 12.4.4  Learning Spaces

The approach to creative inquiry is situated within new generation learning spaces that are purposefully built to be agile and flexible (Lee et al., 2016). The learning spaces are open and spacious; there is no front of the room, the furniture is flexible and configurable and personal digital devices work seamlessly with the digital solutions in the learning space. For example, PSTs can mirror a mix of personal devices to projectors and screens throughout the space for the purpose of collaboration and sharing. PSTs responded positively to the learning space design:

> That's my favourite classroom. It's like: 'I got the good classroom today!' (STFG [student focus group])

And,

> It's just like a nice environment. Other classrooms are a bit sterile and a bit the same, whereas that's just something a bit different. Makes you want to come in there. (STFG)

These quotes are from PSTs involved in small focus groups. In the 2019 survey of students (n = 618), 96.75% of PSTs indicated that the learning space was relevant to extremely relevant in their studies. As part of the approach to using creative inquiry as a pedagogical approach, the core teaching team ensured that the learning environment met the needs of PSTs. The overall response from both PSTs and teacher educators was extremely positive, though there were still a number of PSTs and teacher educators who indicated they preferred a more traditional approach.

The design of the learning spaces afforded greater movement of both PSTs and teacher educators. Social relations were constantly being 'made and remade' (McGregor, 2003, p. 353). 'Movement was observed and perceived to be more impromptu and "allowable"' (Nykvist et al., 2021) thus also giving PSTs agency, as opposed to other rooms, where there was less space, and the furniture was less easily reconfigurable.

> I like it that you can walk around. You don't have to be stuck in a seat. If you want to go to a different group you can move around, it's really open and you're allowed to do that. (STFG)

Learning can occur whether students are standing or sitting, and responses from the PST survey in 2016 (STsurvey) suggest that 'greater movement around the room may have created increased opportunities for the formation of unexpected relationships and serendipitous insights' (Nykvist et al., 2021).

> It's much easier to make friends and have good conversation in groups where you can rearrange the furniture. I found this subject to be the one where I made the best friends. Normal classrooms have straight tables and you can only speak to the two/three people around you without having your back to them (STsurvey, 2016).

And.

> It's a very open space that invites you to talk to people as well. It's not like you just have your friends and you stay there, like in a classroom. Different groups sit around different sides. I can see what this group is doing and I can go over and say, 'Hey, what are guys up to?' (STFG).

Such comments suggest that some PSTs felt a greater sense of agency in the room. Agency can contribute to a sense of belonging, which leads to deepened student engagement (Nykvist & Mukherjee, 2016; Solomonides et al., 2012), and subsequently improved student retention (Nelson et al., 2012). Whilst the learning space has always been seen as an important component of an effective learning experience by the authors, they also had the opportunity to prototype a new learning space in 2016. This was continually refined to meet the needs of the PSTs and the teacher educators, and subsequently informed the development of new learning spaces in the university. It is the reflexive nature of the core teaching team that has prompted the need for similar teaching spaces across the university.

## 12.5   Conclusion

Preparing pre-service teachers to be able to effectively use digital pedagogies and digital technologies in their future classrooms is what some teacher educators may refer to as a 'truly wicked problem.' Teacher education is challenging and there is no 'one way' that will ensure that all pre-service teachers will have the required knowledge and skills to adapt and change to new ways of teaching and learning when needed. The approach elaborated upon within this chapter is an example of an agentic response by teacher educators needing to ensure that PSTs are prepared to positively meet the challenges they may encounter as teachers in an ever-changing world where digital technologies become more pervasive. The learning design, in particular participation in creative inquiry, prepares PSTs to embrace change whilst exploring their prior learning experiences in a reflective forward-looking manner. PSTs need to understand the role of digital technologies and the impact of the learning environment, whilst also working together to collaboratively solve problems. As future teachers, they will need to be flexible and adaptable as they agentically respond to the changing nature of education and the uncertainty that occurs in education. Emerging evidence from the research work of the authors demonstrates that an approach such as creative inquiry can enable these teacher capabilities.

# References

Aslan, A., & Zhu, C. (2015). Pre-service teachers' perceptions of ICT integration in teacher education in Turkey. *TOJET–The Turkish Online Journal of Educational Technology*, *14*(3), 97.

Australian Curriculum, Assessment and Reporting Authority. (2013). *Australian curriculum.* http://www.australiancurriculum.edu.au/

Australian Institute for Teaching and School Leadership. (2020). *Accreditation of initial teacher education programs in Australia.* https://www.aitsl.edu.au/docs/default-source/national-policy-framework/accreditation-of-initial-teacher-education-programs-in-australia.pdf?sfvrsn=e87cff3c_26

Autorengruppe Bildungsberichterstattung. (2020). *Bildung in Deutschland 2020.* WBV. https://www.bildungsbericht.de/static_pdfs/bildungsbericht-2020.pdf

Baeten, M., Simons, M., Schelfhout, W., & Pinxten, R. (2018). Team teaching during field experiences in teacher education: Exploring the assistant teaching model. *European Journal of Teacher Education, 41*(3), 377–397. https://doi.org/10.1080/02619768.2018.1448780

Bate, F., Day, L., & Macnish, J. (2013). Conceptualising changes to pre-service teachers' knowledge of how to best facilitate learning in mathematics: A TPACK inspired initiative. *The Australian Journal of Teacher Education, 38*(5), 14–30.

Bellefeuille, G., Ekdahl, C., Kent, L., & Kluczny, M. (2014). A course-based creative inquiry approach to teaching introductory research methods in child and youth care undergraduate education. *International Journal of Teaching and Education, 2*(2), 1–9.

Binet, L., & Carter, S. (2018). *How not to plan: 66 ways to screw it up.* Troubador Publishing.

Blundell, C., Mukherjee, M., & Nykvist, S. (2022). *Exploring contradictions in pre-service teachers' feedback about inquiry-based collaborative learning* [Manuscript submitted for publication].

Caputo, F., Papa, A., Cillo, V., & Del Giudice, M. (2019). Technology readiness for education 4.0: Barriers and opportunities in the digital world. In P. Ordóñez de Pablos, M. D. Lytras, X. Zhang & K. T. Chui (Eds.), *Opening up education for inclusivity across digital economies and societies* (pp. 277–296). IGI Global. https://doi.org/10.4018/978-1-5225-7473-6.ch014

Coates, H. (2007). A model of online and general campus-based student engagement. *Assessment and Evaluation in Higher Education, 32*(2), 121–141. https://doi.org/10.1080/02602930600801878

Darling-Hammond, L., Bransford, J., & LePage, P. (2005). Introduction. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world* (pp. 1–39). John Wiley & Sons.

Egan, A., Fitzgibbon, A., Johnston, K., & Oldham, E. (2018). Factors influencing pre-service teachers' use of technology on school placement–Mind the gap [Conference paper]. In *Society for information technology and teacher education international conference.*

Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers and Education, 59*(2), 423–435. https://doi.org/10.1016/j.compedu.2012.02.001

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (2019). *Preparing for life in a digital world: The IEA International Computer and Information Literacy Study 2018 International Report.* Springer.

Fullan, M. (2013). *Stratosphere–Integrating technology, pedagogy, and change knowledge.* Pearson.

Fullan, M., Quinn, J., & McEachen, J. (2018). *Deep learning: Engage the world, change the world.* Corwin.

Gill, L., Dalgarno, B., & Carlson, L. (2015). How does pre-service teacher preparedness to use ICTs for learning and teaching develop through their degree program? *The Australian Journal of Teacher Education, 40*(1), 36–59.

Hjelsvold, R., Nykvist, S., Lorås, M., Bahmani, A., & Krokan, A. (2020). Educators' experiences online: How COVID-19 encouraged pedagogical change in CS education [Conference paper]. In *Norwegian conference on didactics in IT education.* Norway.

Johnson, L., Adams Becker, S., Cummins, M., Estrada, V., Freeman, A., & Hall, C. (2016). *NMC Horizon Report: 2016, higher education edition*. T. N. M. Consortium. http://www.nmc.org/publication/nmc-horizon-report-2016-higher-education-edition/

Koehler, M. J., Mishra, P., & Cain, W. (2013). What is technological pedagogical content knowledge (TPACK)? *Journal of Education, 193*(3), 13–19. https://doi.org/10.1177/002205741319300303

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: Teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education, 43*(4), 608–622. https://doi.org/10.1080/02619768.2020.1809650

Laronde, G., & MacLeod, K. (2012). Modeling various teaching methods in a Faculty of Education in science education: Chalk and talk, virtual labs or hovercrafts. *Journal of College Teaching and Learning*, *9*(2), 107–114. https://doi.org/10.19030/tlc.v9i2.6905

Lee, K.-T., Nykvist, S. S., Mukherjee, M., & Philip, R. (2016). *'Yesterday I lectured and today I taught': A report on creative inquiry learning spaces: Actively connecting and engaging with students*. Queensland University of Technology. https://eprints.qut.edu.au/96913/

Lorås, M., Hjelsvold, R., Nykvist, S. S., Bahmani, A., & Krokan, A. (2020). The hidden benefits of the campus–What the COVID-19 pandemic can teach us about the computing learning environment [Conference paper]. In *Norwegian conference on didactics in IT education*. Norway.

McDonald, K., & Smith-Rowsey, D. (2018). The Netflix effect: Technology and entertainment in the 21st century. *Bloomsbury Publishing*. https://doi.org/10.5040/9781501309410.ch-001

McGregor, J. (2003). Making spaces: Teacher workplace topologies. *Pedagogy, Culture and Society, 11*(3), 353–377.

Ministry of Education Singapore. (2015). *ICT masterplans in the Singapore education system*. http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/images/singapore.pdf

Moate, J., & Ruohotie-Lyhty, M. (2014). Identity, agency and community: Reconsidering the pedagogic responsibilities of teacher education. *British Journal of Educational Studies, 62*(3), 249–264. https://doi.org/10.1080/00071005.2014.955456

Moran, W., Vozzo, L., Reid, J.-A., Pietsch, M., & Hatton, C. (2013). How can technology make this work?: Pre-service teachers, off-campus learning and digital portfolios. *The Australian Journal of Teacher Education, 38*(5), 116–130.

Nelson, K. J., Kift, S. M., & Clarke, J. A. (2012). A transition pedagogy for student engagement and first-year learning, success and retention. In I. Solomonides, A. Reid, & P. Petocz (Eds.), *Engaging with learning in higher education* (pp. 117–144). Libri.

Nykvist, S. (2012). The challenges of preparing pre-service teachers to embrace a digital pedagogy [Conference paper]. In *UNESCO Institute for Information Technologies in Education (IITE) 2012 International Conference: ICT in Education: Pedagogy, Educational Resources and Quality Assurance*. Moscow

Nykvist, S., Blundell, C., & Mukherjee, M. (2019). Digital learning. In K. Main & D. Pendergast (Eds.), *Teaching primary years: Rethinking curriculum, pedagogy and assessment* (pp. 400–421). Allen and Unwin.

Nykvist, S., & Mukherjee, M. (2016). Who am I? Developing pre-service teacher identity in a digital world. *Procedia–Social and Behavioral Sciences*, *217*, 851–857. https://doi.org/10.1016/j.sbspro.2016.02.012

Nykvist, S., Mukherjee, M., & McGraw, K. (2014). Enabling a positive first year experience in higher education through social media and mobile technologies [Conference paper]. In *22nd International Conference on Computers in Education (ICCE 2014)*. Nara, Japan.

Nykvist, S. S., Mukherjee, M., & Philip, R. (2021). *Creative inquiry learning spaces: Transforming patterns of collaboration and inquiry* [Manuscript submitted for publication]. Queensland University of Technology.

Nykvist, S. S., Mukherjee, M. M., & Tran, L. (2015). Cross cultural similarities in using mobile technologies to engage and connect with students. *International Journal of Learning and Teaching*, *1*(2), 145–149. https://doi.org/10.18178/ijlt.1.2.145-149

OECD. (2015). Students, computers and learning: Making the connection. *OECD*. https://doi.org/10.1787/9789264239555-en

Postman, N. (1992). *Technopoly: The surrender of culture to technology*. Vintage.

Poyo, S. R. (2016). *Transforming traditional practices of teacher preparation to meet changing needs of digital learners: A first step intervention by assessing and addressing needs of pre-service teachers in a dual learning environment [EdD]*. Duquesne University.

Priestley, M., Edwards, R., Priestley, A., & Miller, K. (2015). Teacher agency in curriculum making: Agents of change and spaces for manoeuvre. *Curriculum Inquiry, 42*(2), 191–214. https://doi.org/10.1111/j.1467-873X.2012.00588.x

Rickard, A., & Walsh, T. (2019). Policy, practice and process in team teaching: A pilot project with co-operating teachers and student teachers on school placement. *Irish Educational Studies, 38*(3), 309–326. https://doi.org/10.1080/03323315.2019.1625798

Seifert, T. (2015). Pedagogical applications of Smartphone integration in teaching: Lecturers, pre-service teachers and pupils' perspectives. *International Journal of Mobile and Blended Learning (IJMBL), 7*(2), 1–16. https://doi.org/10.4018/ijmbl.2015040101

Solomonides, I., Reid, A., & Petocz, P. (2012). A relational model of student engagement. In I. Solomonides, A. Reid & P. Petocz. (Eds.), *Engaging with learning in higher education* (pp. 11–24). Libri.

Starkey, L. (2019). A review of research exploring teacher preparation for the digital age. *Cambridge Journal of Education, 50*(1), 37–56. https://doi.org/10.1080/0305764x.2019.1625867

Steinar, T., Sara, A., & Siri Sollied, M. (2018). Teacher educators' perceptions of working with digital technologies. *Nordic Journal of Digital Literacy*, *13*(3), 177–196. https://doi.org/10.18261/issn.1891-943x-2018-03-04

Stîngu, M. M. (2012). Reflexive practice in teacher education: Facts and trends. *Procedia–Social and Behavioral Sciences*, *33*, 617–621. https://doi.org/10.1016/j.sbspro.2012.01.195

Sweeney, T., & Drummond, A. (2013). How prepared are our pre-service teachers to integrate technology? A pilot study. *Australian Educational Computing*, *27*(3), 117

Tamim, R. M., Borokhovski, E., Pickup, D., & Bernard, R. M. (2015). *Large-scale, government-supported educational tablet initiatives*. Commonwealth of Learning.

Tezci, E. (2011). Factors that influence pre-service teachers' ICT usage in education. *European Journal of Teacher Education, 34*(4), 483–499. https://doi.org/10.1080/02619768.2011.587116

Thornberg, R. (2012). Informed grounded theory. *Scandinavian Journal of Educational Research, 56*(3), 243–259. https://doi.org/10.1080/00313831.2011.581686

Tondeur, J., Aesaert, K., Prestridge, S., & Consuegra, E. (2018). A multilevel analysis of what matters in the training of pre-service teacher's ICT competencies. *Computers and Education, 122*, 32–42. https://doi.org/10.1016/j.compedu.2018.03.002

Tondeur, J., Aesaert, K., Pynoo, B., van Braak, J., Fraeyman, N., & Erstad, O. (2017). Developing a validated instrument to measure pre-service teachers' ICT competencies: Meeting the demands of the 21st century. *British Journal of Educational Technology, 48*(2), 462–472. https://doi.org/10.1111/bjet.12380

Tondeur, J., Roblin, N. P., van Braak, J., Fisser, P., & Voogt, J. (2013). Technological pedagogical content knowledge in teacher education: In search of a new curriculum. *Educational Studies, 39*(2), 239–243. https://doi.org/10.1080/03055698.2012.713548

Tsybulsky, D., & Muchnik-Rozanov, Y. (2019). The development of student-teachers' professional identity while team-teaching science classes using a project-based learning approach: A multi-level analysis. *Teaching and Teacher Education, 79*, 48–59. https://doi.org/10.1016/j.tate.2018.12.006

U.S. Department of Education. (2016). Future ready learning: Reimagining the role of technology in education. https://tech.ed.gov/files/2015/12/NETP16.pdf

Voogt, J., Schols, M., Bottema, J., van Bergen, H., van der Stap, N., Tomson, A., Nieweg, M., Doornenbal, J.-W., Bakker, B., Smits, A., & Thompson, A. (2014). *How teacher education institutions cope with challenges of teaching and learning in the digital age* [Conference paper]. Society for Information Technology & Teacher Education International Conference.

Williams, A., & Askland, H. (2012). *Assessing creativity: Strategies and tools to support teaching and learning in architecture and design.* https://ltr.edu.au/resources/PP9_1288_Williams_Report_2012.pdf

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: Theory and Practice, 23*(7), 794–809. https://doi.org/10.1080/13540602.2017.1287695

Yin, R. K. (2018). *Case study research and applications: Design and methods.* SAGE.

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# Chapter 13
# Developing a Pedagogy of Teacher Education for Teaching for Diversity: Exploring Teacher Educators' Epistemic Cognition for Epistemic Agency

**Jo Lunn Brownlee, Sue Walker, Lyra L'Estrange, Mary Ryan, Theresa Bourke, Leonie Rowan, and Eva Johansson**

**Abstract** Due to increasing globalisation, diversity is integral to many modern societies. Yet, graduate teachers can feel unprepared to teach diverse groups of children, leading to questions about how teacher educators might best respond to such challenges. In this chapter, we draw on epistemic cognition (claims about the nature of knowledge and processes of knowing) to sharpen our focus on epistemic agency to inform a new pedagogy of teacher education. Thirty-two Australian and New Zealand teacher educators participated in social labs, specifically addressing epistemic understandings of teaching about/to/for diversity. Findings showed that teacher educators stressed the importance of developing epistemic aims of 'understanding' and 'knowledge' related to teaching diverse groups of children. However, there was little evidence of reflexive accounts of epistemic aims for evaluation (critical reflection), adjudication, and justification of competing perspectives with respect to such questions as what is diversity; what does it mean to teach diverse learners; and whose

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knowledge and which conditions shape our decisions? We need to know more about what constrains and enables teacher educators to embrace evaluation and justification as epistemic aims and how a focus on epistemic reflexivity can help us to engage in a new pedagogy of teacher education for social justice in teacher education programs.

**Keywords** Epistemic agents · Epistemic aims · Epistemic cognition · Critical pedagogies · Pedagogy for teacher education · Epistemic reflexivity

## 13.1   Introduction

There is a growing body of evidence which shows, both nationally and internationally, that graduate teachers do not feel well prepared to teach diverse groups of children in their classrooms (Australia: Mayer et al., 2017; UK: National College for Teaching and Leadership, [NCTL], 2015; Canada: Campbell et al., 2017). In Australia, we know from recent research that graduates believe they are challenged when it comes to supporting children from diverse cultural, ability, linguistic, and socio-economic backgrounds (Rowan et al., 2017). There are ongoing debates in Australia about the extent to which underperformance of these diverse groups of children can be directly attributed to teacher competencies in curriculum design and assessment, personal literacy and numeracy, and content knowledge (maths, science, and literacy) (see Bourke et al., 2016), but there is widespread agreement that '[o]f all school variables … it is teachers who have the greatest effect on student learning outcomes' (Lingard, 2005, p. 174). This has led to problematised, but still politically powerful, calls for universities to ensure that the next generation of teachers is classroom-ready (Department of Education and Training [DET], 2014) to work with diverse groups of children in their future classrooms.

National Australian student achievement data shows that the majority of children are in fact achieving well on standardised testing, however, the same diverse groups of children continue to remain at risk (Rowan, 2018). This is one piece of data to suggest that teachers may not lack competencies in curriculum design and assessment, personal literacy and numeracy, and content knowledge per se but instead experience challenges in teaching diverse groups of children within their classrooms. Despite numerous teacher education reviews, there are gaps in our understanding of the extent to which teacher educators are able to scaffold pre-service teachers' knowledge and understandings with respect to teaching diverse learners (Cochran-Smith et al., 2009; Francis et al., 2017).

For the last 15 years, a small corpus of research has explored teacher educators' knowledge and skills for supporting pre-service teachers in Initial Teacher Education (ITE) programs in general. Korthagen et al., (2005, p. 109) articulated important questions about teacher educators' roles in preparing pre-service teachers:

> What do teacher educators do and how is their work constructed? What competences are germane to teaching about teaching? What support is necessary in the professional development of teacher educators? and What is the role of teacher educators as both consumers and producers of knowledge?

Cochran-Smith and colleagues (2018) explained that many teacher educators have identified theoretical resources and analytical frameworks that help make visible practices of alienation and marginalisation, highlighting the operation and naturalisation of power. Many others have focused on demonstrating the link between teachers' beliefs, knowledge, skills, and self-confidence and the outcomes for students who have traditionally been minoritised in educational settings (see, e.g., Cherng, 2017; Schmid, 2018; Wilsom et al., 2019). Others have explored the ways in which teacher education programs are able to have an impact on pre-service teachers' beliefs and values and, by extension, on the objectives of future teachers (Cochran-Smith et al., 2018). Extending on these ideas about teacher educators' knowledge and actions, Loughran and Menter recently argued that 'Teaching is not just about the "doing" of teaching, it is also about the "why"' (2019, p. 216). So, professional knowledge is not just based on experiential learning but is constructed and contested through the interaction of research, scholarship, and professional experiences. Further, Loughran and Menter suggested that:

> Teacher educators therefore need to be able to enact, articulate and display the specialist knowledge, skills and abilities that makes the teaching of teaching so much more than the passing on of 'tips and tricks' about classroom practice (2019, p. 217).

They argue that beyond 'tips and tricks', there is a need for second-order teaching which is about promoting deep understanding of teaching and learning—the 'why'. More than this, they advocate for a pedagogy of teacher education which involves reasoning, or making judgements, about pedagogy and working with professional knowledge bases. In a similar vein, Biesta (2015) has argued for the important role of teacher judgement with respect to 'appropriate pedagogy, curriculum, organisation of the classroom and so on' (p. 79). The central idea is that teacher judgement lies at the heart of teacher agency in pedagogical decision-making.

When we use this position to reflect upon both persistent patterns in student achievement/under-achievement and equally persistent patterns regarding future teachers/current teachers' beliefs about their ability to work effectively with diverse learners, questions emerge regarding the ways teacher educators make judgements regarding how they work, and what they actually do in response to this challenge. Biesta (2015) argued that such teacher judgements are practical in nature, 'i.e., we can only come to a judgment about how to proceed if we do this in relation to what it is we are seeking to achieve' (p. 79). This chapter takes up the challenge of exploring 'how to proceed' (teaching practices) with respect to 'what we are seeking to achieve' (p. 79) (aims) by examining teacher educators' epistemic aims and teaching processes for achieving such aims. Such teacher judgements imply a type of agency which we refer to in this chapter as epistemic agency. Elgin (2013) argued that 'Epistemic agents should think of themselves as, and act as, legislating members of a realm of epistemic ends: they make the rules, devise the methods, and set the standards that bind them' (p. 135). Such agency involves participation in the construction of knowledge in the community (Miller et al., 2018). Here, Miller et al. refer to students' epistemic agency, but we argue this applies also to examining teacher educators' contributions to knowledge construction as epistemic agents. Before moving to discuss in more

detail the nature and focus of the research, we describe and argue our conceptual framework related to epistemic cognition in teacher education.

## 13.2 Epistemic Cognition in Teacher Education

Epistemic cognition identifies the beliefs, dispositions, and skills that individuals, including teacher educators, hold about the nature of knowledge, and processes of knowing (Greene & Yu, 2016). Research in the field has shown that cognitions about knowledge and knowing can influence and/or mediate teaching practices across a broad range of educational contexts (for a review, see Brownlee et al., 2011). We argue that such cognitions are likely to have an impact on how teacher educators engage in making judgements with respect to teaching pre-service teachers to variously think about, identify, name, and work with 'diverse learners' because it can help to address the 'why' of teacher education pedagogies, as called for by Loughran and Menter (2019). In other words, epistemic cognitions underpin the notion of teacher judgements, reflecting epistemic agency.

Research related to epistemic cognition has spanned the last five decades. It has been described variously as epistemological development, epistemological beliefs, epistemological theories, and epistemological resources representing distinct waves of research (Hofer, 2004, 2016). Greene and Yu (2016) refer to epistemic cognition as 'a process involving dispositions, beliefs, and skills regarding how individuals determine what they actually know, versus what they believe, doubt, or distrust' (p. 46). More recently, Clark Chinn and his colleagues (Chinn et al., 2011) have drawn on philosophical perspectives to explore epistemic cognition as context-dependent, granular, and social in nature. They write about epistemic cognition with reference to learners' situated epistemic *A*ims, *I*deals, and *R*eliable (coined the AIR framework) processes for achieving epistemic aims.

Drawing on this approach to epistemic cognition, we describe epistemic *A*ims (in regard to the broad context of diversity) as the goals teacher educators identify for pre-service teachers' learning about teaching diverse groups of children. These epistemic aims might include a focus on 'knowledge, understanding, explanation, justification, true belief, the avoidance of false belief, useful scientific models, and wisdom' (Chinn et al., 2014, p. 428). Alexander (2016) argues that epistemic cognition (and therefore we argue epistemic aims) is distinguished from cognition by the way in which individuals pay attention to the accuracy of the information and seek 'to further justify or substantiate the information' (p. 104).

The 'I' in the AIR framework refers to epistemic *I*deals. These are the criteria for what counts as knowledge (Chinn et al., 2018) or 'standard that must be met for an explanation to be good' (Chinn et al., 2014, p. 433). Chinn et al. provided examples of such ideals in the context of science education which we argue have relevance, in part, for our focus on teacher education. Thus, an ideal '(1) explains a broad scope of evidence, (2) is not contradicted by significant evidence, (3) is fruitful for future research, (4) is internally consistent, (5) coheres with other, accepted scientific

explanations, and (6) (in some fields) specifies a causal mechanism (e.g., Kuhn, 1977; Newton-Smith, 1981)' (Chinn et al., 2014, p. 433). Epistemic ideals provide a way in which to determine if epistemic aims have been reached (Chinn et al., 2014).

Finally, the 'R' in the AIR framework relates to *R*eliable epistemic processes (REPs) which are processes used to achieve epistemic aims (Chinn et al., 2018, following Goldman, 1986). They are 'social practices that guide production and evaluation of epistemic products' (Chinn et al., 2018, p. 250). They can be reliable or unreliable for achieving epistemic aims. For example, it is possible that a process such as stating an opinion and supporting it with a range of evidence (argumentation) is reliable only in classroom contexts where diverse perspectives are respected and valued. When this is not the case, and teacher educators maintain control over the type of knowledge that is explored in class, pre-service teachers may feel threatened by exposing their opinions therefore rendering it an unreliable epistemic process (cf. Chinn et al., 2014).

In this chapter, we draw on aspects of the AIR framework to sharpen our focus on the epistemic agency of teacher educators and to develop a pedagogy of teacher education that addresses the 'why' of teacher education pedagogy and supports teachers' professional judgements. We chose Chinn's theorisation of epistemic cognition because it offers a more social, granular, and context-dependent (see Chinn et al., 2011) view of epistemic cognition than some of the developmental or belief-based epistemic theories mentioned earlier. We are interested in the epistemic aims that teacher educators identify as important for pre-service teachers' learning to become the future generation of classroom teachers of diverse groups of children. These are not the teacher educators' personal epistemic aims for themselves as learners but rather they reflect their epistemic expectations for pre-service teachers, thus making a clear connection for why they engage in certain pedagogies. We also asked teacher educators how they thought they could support pre-service teachers to achieve these aims, which we have described as epistemic teaching processes. These teaching processes are an adaption of Chinn and colleagues' reliable epistemic processes (REPs). Instead of being about students' REPs for achieving epistemic aims, we consider teacher educators' REPs identified to achieve their epistemic aims for pre-service teachers. Biesta's (2015, p. 79) focus on practical teacher judgements related to 'how to proceed' with respect to 'what it is we are seeking to achieve' are explored by examining teacher educators' epistemic aims and reliable teaching processes for achieving such aims. This supports Elgin's (2013) argument that epistemic agency involves individuals making judgements about 'epistemic ends' whereby 'they make the rules, devise the methods, and set the standards that bind them' (p. 135).

For example, if a teacher educator identified an epistemic aim for pre-service teachers to acquire *knowledge* about effective ways to teach diverse groups of children, Chinn et al., (2011, citing Kvanvig, 2003) would suggest that this might involve acquiring 'a collection of disconnected facts' (p. 147). On the other hand, if a teacher educator identified an epistemic aim related to *understanding*, the teaching focus might be on supporting pre-service teachers to understand the role of equity and social justice in how teaching for diversity is constructed in classrooms. An epistemic aim of *justification* would go beyond understanding by taking an evaluative and informed

stance on, for example, equity and social justice in teaching diverse groups of children. This goes 'beyond seeing the relationships between ideas (understanding) to evaluating and adjudicating on approaches to teaching to/about diversity that interrogate forms of injustice and social exclusion in the classroom' (Lunn Brownlee et al., 2019, p. 235). If we consider the epistemic aim related to *justification*, we argue that the selection of epistemic teaching processes to achieve this aim might include a focus on teaching 'evaluation and adjudication of multiple teaching processes in the light of contextual conditions (e.g., program accreditation requirements)' (Lunn Brownlee et al., 2019, p. 235).

The use of such teaching processes to achieve epistemic aims for pre-service teachers needs to demonstrate epistemic fluency (Markauskaite & Goodyear, 2017) and epistemic agency. If we continue with the example of *justification*, epistemic fluency would require teacher educators to identify contextual conditions which would make the teaching processes aimed at evaluating and adjudication more reliable. For example, if the assessment conditions (structural context) demand that students engage in final examinations for which they must memorise large amounts of information, then such conditions may not be conducive to promoting epistemic aims and teaching processes that involve evaluating and adjudicating on different perspectives and coming to informed understandings based on evidence. Subjective (personal, e.g., emotions) and objective (e.g., structural or cultural contexts) conditions are always emerging in relation to each other and can be experienced as enabling and/or constraining in teacher educators' decision-making processes. The conditions that teacher educators (as epistemic agents) create or promote can have an enormous and differential effect on pre-service teachers' understanding of, and engagement with, diversity when they enter the profession (Ryan et al., 2018).

For teacher educators, reflecting on epistemic aims for pre-service teachers and teaching processes that support these aims reflects epistemic agency by creating a focus on second-order teaching for promoting deep understanding of teaching and learning. This can help us to think about a pedagogy of teacher education which involves reasoning about pedagogy and working with professional knowledge bases by taking account of epistemic aims and reliable teaching processes. Using social lab methodology, this chapter explores a pedagogy for teacher education by asking two questions: What aims and teaching processes do teacher educators describe as important for supporting pre-service teachers to teach diverse groups of children? and How can these aims and processes be interpreted in terms of epistemic cognitions and reliable teaching processes?

## 13.3   Method

To explore teacher educators' epistemic cognitions, in the context of teaching diversity, we conducted a social innovation laboratory, also known as a social lab. This method involves bringing a group of people together intentionally to collaborate and discuss complex problems. The belief behind this process is that through connection

and collaboration, new ideas, prototypes, and perspectives can emerge, increasing the capacity to address highly complex challenges in innovative ways (McKenzie, 2015). The core constructs of these platforms are that they are social (diversity in participants), experimental (ongoing, iterative), and systemic (aim to address the root cause of these challenges, rather than the symptoms) (Hassan, 2014). In this research, we brought together a diverse group of teacher educators to discuss the challenges and complexities of teaching diverse learners in the classroom using epistemic cognition as the theoretical framework.

### 13.3.1 Participants

A total of 32 Australian and New Zealand teacher educators participated in two social labs held on consecutive days. Participants for Social Lab #1 were recruited via professional email networks such as the Australian Teacher Education Association (ATEA) and the Australian Council of Deans of Education. Twenty-three teacher educators participated in this three-hour social lab the day prior to the 2018 ATEA conference. Written informed consent was obtained via email prior to the event. For Social Lab #2, an additional nine teacher educators participated in a two-hour social lab conducted during the ATEA conference itself. Written consent was obtained immediately prior to the start of the social lab conference session. Data were combined for both social labs.

Demographics are summarised with respect to represented institutions (Table 13.1), roles and designations (Table 13.2), and field/specialisations (Table 13.3) for social lab participants. Table 13.1 shows that the eastern states of Australia, including Victoria ($n = 11$), New South Wales ($n = 6$), and Queensland ($n = 6$), were the most frequently represented institutions in the social labs.

Table 13.2 is a summary of participants' roles and/or designations. These demographics point to a majority of academic staff ($n = 18$) as participants, some higher

**Table 13.1** Represented institutions in social labs

| Institution | N participants |
| --- | --- |
| Australian universities by state: | |
| Queensland | 6 |
| New South Wales | 6 |
| Victoria | 11 |
| South Australia | 1 |
| Northern Territory | 1 |
| Tasmania | 3 |
| New Zealand universities | 2 |
| Government bodies | 1 |
| Other | 1 |

**Table 13.2** Role and/or designation of social lab participants

| Role/Designation | $N$ participants |
|---|---|
| Leadership role teaching | 2 |
| Leadership role general | 4 |
| Researcher | 3 |
| Academic staff | 18 |
| Higher degree research students | 4 |
| Policy | 1 |

**Table 13.3** List of fields and specialisations of social lab participants

| Field or Specialisation | $N$ participants |
|---|---|
| Early childhood | 3 |
| Primary education (professional experience) | 1 |
| Equity/diversity (primary) | 2 |
| English (primary) | 1 |
| Inclusive education/special education/disabilities (primary) | 2 |
| Both primary and secondary education (no specific field given) | 3 |
| Science (primary and secondary) | 5 |
| Secondary education (inquiry/research) | 1 |
| Psychology | 1 |
| Sociology | 3 |
| Health and physical education | 1 |
| Education systems | 2 |
| Education school operations | 1 |
| Higher education (MEd, MTeach, Prof Learning) | 5 |
| Policy | 1 |

degree research students ($n = 4$) and a small number of teacher educators in leadership ($n = 2$ teaching and $n = 4$ general leadership), research ($n = 3$), and policy ($n = 1$) roles.

Finally, Table 13.3 is a summary of the field and specialisations of the social lab participants. These demographics showed teacher educators had a broad range of professional expertise in early childhood, primary and secondary education ($n = 18$), which together formed the most frequently reported fields/specialisations. Fewer participants reported discipline-specific specialisations such as psychology ($n = 1$), sociology ($n = 3$), and health and physical education ($n = 1$). Also, less frequently reported were specialisations in education systems ($n = 2$), education school operations ($n = 1$), higher education (Master of Education, Master Teaching, Professional Learning) ($n = 5$), and policy ($n = 1$).

### 13.3.2   Social Lab Processes

At the beginning of the social lab, the research team gave a short presentation intro-ducing the project and outlining the steps involved. The participants were briefed on epistemic cognition in our presentation prior to the social lab commencing, ensuring a clear line of communication about the focus of the social labs. Participants were divided into small groups (six groups in Social Lab #1 and two groups in Social Lab #2) and remained in the same groups throughout the process. Social labs are structured by (a) Mapping the existing system; (b) Questioning existing epistemic understandings; (c) Identifying points of intervention; (d) Creating hypotheses for intervention; and (e) Translating hypotheses into actionable goals to address chal-lenges (McKenzie, 2015). While Social Labs #1 and #2 explored each of these strategies, for the current chapter, the focus was on the second strategy about ques-tioning existing epistemic understandings. Specifically, participants were asked the following questions:

- What are your aims in regard to what you believe pre-service teachers need to know about 'diversity'?
- How will you know you have achieved these aims?
- What is a reliable way for you to achieve your aims with respect to this knowledge?

Each participant responded individually to these questions, wrote their answers on post-it notes, and then engaged in in-depth discussions within their groups about the issues raised. We analysed the post-it note responses only to give us a clear indication of individual responses, rather than the small group discussions. Although the post-it note data have limitations, we believe they provide useful beginning insights into teacher educators' epistemic cognitions around diversity and supporting pre-service teachers to develop as effective teachers of diverse groups of children.

### 13.3.3   Analysing the Social Lab Reflections

The dataset was analysed by two researchers in the team with expertise in epistemic cognition. The lead author of this chapter first analysed the data using inductive analysis. These emergent codes were placed in an excel spreadsheet, alongside the text the codes represented. Once the coding was completed, a second researcher with epistemic cognition expertise critically re-read the data by reviewing and applying the emergent codes independently. Consensus on the coding was reached through dialogue between researchers. In their responses, some participants indicated more than one aim, process, or way of knowing aims were achieved (evidence), therefore there are more than 32 responses indicated in the findings.

## 13.4   Findings

The findings are now explored by addressing the following project concerns with respect to aims (What are your aims in regard to what you believe pre-service teachers need to know about 'diversity'? How will you know you have achieved these aims?); and teaching processes (What is a reliable way for you to achieve your aims with respect to this knowledge?). From these findings, we identified epistemic aims and teaching epistemic processes evident in teacher educators' responses.

### *13.4.1   Epistemic Aims for Pre-Service Teachers*

Teacher educators were asked to consider their aims for pre-service teachers with respect to knowledge about teaching diverse groups of children. Overall, there were four broad categories of aims which we believe, on the whole, were epistemic in nature: acquiring content and knowledge; understanding; analysis and reflection; and evaluation of perspectives (critical reflection).

#### 13.4.1.1   Acquiring Content and Knowledge

Aims that related to acquiring content or knowledge reflected teacher educators' expectations for pre-service teachers to develop awareness or content knowledge about various aspects related to teaching diverse groups of children in their classrooms ($n = 20$). These aims often reflected an individual or personal orientation which related to developing an awareness of the child as a learner and often with respect to the significance of knowing about individual differences. For example, one response indicated that 'All students are different, and they need individualised learning pathways'. While there were 12 responses which suggested that acquiring content was an aim, there was no evidence that these aims were epistemic in nature because they did not seem to go beyond a superficial awareness of such information. We question if such responses are epistemic in nature given Alexander's (2016) recent conceptualisation of epistemic cognition, in which not all cognition can be epistemic in nature:

> If individuals are not concerned with the truthfulness or veracity of information, if they really do not care if what they are learning is accurate provided it seemingly serves the task at hand and if there is no effort to further justify or substantiate the information encountered, does epistemic cognition enter the equation? (Alexander, 2016, p. 104).

This suggests that an aim of simply acquiring content does not necessarily focus on the quality of knowledge or on interrogating the information in any way, which would render it epistemic in nature. Tang (2020) would also consider aims related to acquiring content about individual learners as conceptual rather than epistemic in nature.

Some aims related to acquisition did show evidence of epistemic cognition ($n = 5$). For example, the following epistemic aim of a social lab participant was to know

> that learning is holistic, and that commonality of humanness precedes difference. We are all diverse, unique individuals of human rights and needs. Technique is truly useful when applied by teachers who have sound understandings, attitudes and values about human rights, social justice and equitable opportunity.

Here, we point to the focus on 'sound' understandings, attitudes, and values. These aims suggest an epistemic focus because they show an interest in the quality of knowledge to be gained by pre-service teachers that was not evident in other responses. This quote also shows that some teacher educators drew upon the wider body of knowledge relating to social justice to outline aims for pre-service teachers related to helping them to develop 'sound' knowledge of some of the key agendas for educators. The meaning of the word 'sound understandings' may be difficult to interpret. In this context, however, the teacher educator relates such understandings to attitudes and values for rights, social justice, and equitable opportunity, and implies an epistemic quality of knowledge.

Other epistemic aims for acquiring knowledge were embedded within other higher order aims like understanding. This provided some evidence that they were epistemic in nature ($n = 3$):

> My aim is to raise pre-service teachers' awareness of diversity issues they will constantly face in their professional career. By raising awareness or altering the critical yet often neglected issue in their teaching, they will not only acquire knowledge, skills, understanding in the programs they are enrolled in, they will continue to seek opportunities to develop a set of knowledge, skills and understanding along with their career. Thus, I think raising awareness is the aim I will prioritise in my teaching.

In summary, most aims identified by teacher educators were related to the acquisition of content and were not judged to be epistemic in nature. There were eight responses in total which showed some epistemic basis underlying the identified aims of acquiring knowledge. In the next category of responses, this awareness of content and knowledge is deepened by recognising the need to develop understanding as an epistemic aim for pre-service teachers.

### 13.4.1.2 Understanding

Teacher educators also identified understanding or engaging in meaning making as an important epistemic aim for pre-service teachers ($n = 12$). These responses seemed to identify aims that involved pre-service teachers having more than a sound awareness of diversity or knowing that differences exist. For example:

> Diverse understandings of diversity in that it consists of more than 'just' disability; their needs and openness to understanding and working with one another (peers and students) in ways that seek to embrace diversity and individuality; to find ways that pre-service teachers can move away from a deficit framed model of diversity as something that needs to be 'done' (reactively) to a strengths-based approach.

In this quote, the aim reflects the understanding that is relative to individual children by advocating more broadly for a shift away from a deficit approach to teaching for diversity to a 'strength-based approach' based on assumptions of diversity as a constructive phenomenon bringing strengths to the community of children. We see here that the epistemic aim is more than just verifying or creating accurate information as was evident in some of the previous groups of responses related to acquiring knowledge. There is a sense that pre-service teachers need to engage with strength-based approaches rather than react from a deficit framework. This implies a change from simply acquiring sound knowledge to understanding and engaging meaningfully with students in a way that embraces diversity in the classroom. This is epistemic in nature because to embrace and understand such approaches means that knowledge needs to be interrogated in some way (cf. Alexander, 2016). The focus on understanding as an epistemic aim is about more than just acquiring sound aware- ness as evident in the previous category—the intention is for pre-service teachers to understand, experience, and go beyond simplistic views about diversity to embrace strength-based approaches.

### 13.4.1.3  Analysis and Reflection

In this group of responses, the processes of analysis and reflection are identified as epistemic aims for pre-service teachers ($n = 3$). For example, epistemic aims of analysis and reflection included the need to 'Know how to be reflective in their engagement with professional decision-making about diversity in the classroom' or to 'Recognise their own assumptions'. Here, we see some evidence of an epistemic focus because through such analysis and reflection, individuals 'further justify or substantiate the information encountered' (Alexander, 2016, p. 104). Interestingly, while these epistemic aims reflected the view that pre-service teachers should engage in analysis and reflection about teaching diverse groups of children, there is little evidence of what sort of analysis is considered important. Nor is there any explicit point made regarding the kinds of literature or analytical resources that pre-service teachers might be encouraged to work with in order to identify their assumptions.

### 13.4.1.4  Evaluation of Perspectives

Finally, a small number of teacher educators identified the epistemic aims of engaging in the weighing up of different (evaluation) perspectives ($n = 4$) with respect to pre-service teachers learning to teach diverse groups of children. For example, 'They need to know and understand about their own conscious/unconscious socio-cultural beliefs through an inquiry stance'. Although few in number, these responses suggested a certain level of critical reflection (e.g., evaluate knowledge claims) which explores competing perspectives (different forms of knowledge, different literature, and crit- ically informed literature). Through a focus on evaluation and critical reflection,

these epistemic aims suggest a focus on interrogation and justification of knowledge (Alexander, 2016), which seem to align with an epistemic aim of justification described by Chinn et al. (2011, 2014).

In summary, we observed that most aims identified by teacher educators were related to promoting the development of awareness of content and knowledge about diversity followed by a depth of understanding. On the whole, the responses revealed an epistemic focus because there is a focus on the soundness (accuracy) of knowledge or interrogating information in order to make meaning (Alexander, 2016).

### 13.4.2 How Will You Know You Have Achieved These Aims?

Teacher educators also described how they would recognise that they had achieved their epistemic aims for pre-service teachers. These responses provided a way in which to further understand the epistemic aims that they identified in Sect. 13.4.1. Teacher educators reported that they knew they had achieved their aims when pre-service teachers demonstrated increased awareness, understanding, and engagement in higher order thinking.

#### 13.4.2.1 Increased Awareness

Teacher educators knew they had achieved their epistemic aims when pre-service teachers demonstrated an increase in awareness ($n = 9$) about what they might actually need to do as a result of considering questions relating to teaching about/to/for diversity. In many respects, these responses related to pre-service teachers developing more knowledge as well as changing attitudes towards diversity evident in pre-service teachers' assignments, feedback, evaluations, discussions, and their teaching practices. Of these responses, however, five responses were not clearly epistemic in nature. The following example shows a simple focus on acquiring and using content: 'Use language in assessment tasks, seeing differentiation embedded into lesson plans, unit plans, etc. and then in actual practice (through mentor teacher feedback visits)'. Here, the evidence for achieving aims was not clearly epistemic in nature because there is no suggestion that pre-service teachers need to verify or interrogate information (Alexander, 2016).

There were a few responses related to increased awareness that seemed to be epistemic in nature ($n = 4$), because they were either directly epistemic in nature or because they were embedded in a larger response that featured an epistemic aim (such as understanding). For example:

> Ongoing contact/discussions in class and informal feedback, formal assessments, but—may need to be reconciled with the idea that we won't always 'know'—may come later for some, or not be revealed.

Here, we can see that knowledge is not simply accepted as an absolute because the teacher educator identifies how they 'may need to be reconciled with the idea we won't always "know"'. Taken together, these responses suggest that teacher educators had some clear perspectives regarding how they could be confident that pre-service teachers had achieved aims related to increased awareness of teaching diverse groups of children in their classrooms.

### 13.4.2.2   Understanding

Some teacher educators ($n = 6$) knew that they had achieved their epistemic aims for pre-service teachers when there was evidence that pre-service teachers had gained a depth of understanding and the capacity to reflect on teaching diverse groups of children. For example: 'When I can see depth and rationale in all of their pedagogical decisions. Reflected in lesson planning, response to scenarios'. These responses suggested that pre-service teachers needed to make personal meaning of the content, which goes beyond simply acquiring information. To make personal meaning or develop understanding, information must be interrogated and linked to personal experiences or prior knowledge, which we argue reflects a focus on epistemic cognition (cf. Alexander, 2016).

### 13.4.2.3   Engagement in Reflexive and Complex Thinking

First, engagement in reflexivity identified responses that reflected critical thinking or metacognitive awareness ($n = 6$) as a way of knowing that pre-service teachers had achieved their epistemic aims. This is exemplified in the following quote where the teacher educator needed to 'provide opportunities to practice and write professional reflections based on evidence of decisions made and the way this will affect future decision-making'. Second, engagement in complex thinking was a set of responses which suggested that some form of higher order thinking had been achieved ($n = 3$), for example: 'When students' views are presented as problematic, complex, rather than simple'. Finally, there were some responses ($n = 3$) which reflected a range of simple, unelaborated responses related to advocacy, systems, retention, and empowerment which were non-epistemic in nature. A further five responses were not codable because of the lack of clarity in the response.

In summary, teacher educators reported knowing they had achieved their epistemic aims when pre-service teachers showed increased awareness, a depth of understanding, and engagement in higher order thinking (reflexive and complex thinking). It is encouraging that many responses appeared to be epistemic in nature, which means that teacher educators were either interested in the quality ('soundness') or the justification of knowledge to make meaning (Alexander, 2016). Even though the data did not include elaborations from group discussions, the lack of focus on critical thinking or metacognitive awareness is an interesting finding that is worthwhile investigating in future research.

### 13.4.3 Teaching Processes

We were also interested to understand how teacher educators might support pre-service teachers to achieve the epistemic aims they identified for pre-service teachers' learning. Teacher educators were asked 'What is a reliable way for you to achieve your aims with respect to this knowledge?' Within the epistemic cognition literature, reliable epistemic processes are those processes that reliably achieve certain epistemic aims. In our study, we adapted this idea of reliable epistemic processes to consider what might be reliable teaching processes. These are the teaching processes that teacher educators described as important for achieving their epistemic aims for pre-service teachers with respect to teaching diverse groups of children. Teacher educators articulated a range of teaching processes including the use of experience and activity-based processes; promoting engagement and reflection; promoting reflexive and complex thinking; and broader strategies related to systems.

#### 13.4.3.1 Use of Experiential and Activity-Based Processes

The most commonly reported process used by teacher educators to achieve their aims involved the use of practical experiences ($n = 14$). For example, one teacher educator described the 'Use of case studies and videos of children; parent experiences (so many pre-prac students have never met a child with a disability!)'. Here, we do not see any evidence of epistemic cognition because the focus is simply on using experiential approaches. However, in the following quote 'Examine classroom practice videos to discuss scenarios and engage reflectively about professional decision-making', there is an indication that such experiences are used to examine knowledge by discussing and engaging reflexively with the case study, rendering it epistemic in nature.

Other teaching processes identified as experiential were embedded in processes such as understanding or engagement which provided some evidence that they were epistemic ($n = 5$). For example:

> Case studies—fecundity of individual case (take different perspectives); aware of mindset; critical self-reflection; disruptive experiences; engaging with community to explore perspectives (mentor to disrupt and counter view); practicum in variety of settings.

Overall, when teacher educators described experiential approaches to supporting pre-service teachers to teach diverse groups of children, we found six responses that were epistemic in nature, with eight responses that did not provide enough detail to make such a judgement.

Others also reflected on using activities ($n = 6$) in tutorials that helped students to 'see' and 'name' various forms of difference such as the inclusion, for example:

> Do activities to show diversity of learning, thinking, performing different processes, attitudes, etc. (model in classroom).

> Build knowledge through learning activities and provide opportunities for pre-service teachers to both consider and reflect/evaluate self.

The second quote suggests an epistemic focus because the process of engaging in activities relates to building knowledge through evaluation and self-reflection. Of the overall six responses, we can see a distinction between responses that demonstrated epistemic cognition ($n = 2$) and those that did not ($n = 4$). In addition, a small number of teacher educators ($n = 2$) described a process of modelling by teacher educators. For example: 'ITE educators should model culturally responsive and reflective practice'. This focus on modelling also did not reveal an epistemic cognition focus. Overall, what is evident in these responses about experiential and activity-based teaching processes is a lack of focus on epistemic cognition. It was not always clear how some of these experiences/activities (and modelling) approaches might promote various epistemic aims, beyond acquiring some sort of knowledge.

### 13.4.3.2 Promoting Engagement/Reflection

The next most frequently reported teaching processes for supporting pre-service teachers to teach diverse groups of children involved promoting engagement with the research literature and supporting reflection ($n = 10$). For example, one participant said that 'Pre-service teachers need to engage with social theory as it builds their depth in understanding in knowing how context matters'. Here, we see a clearer indication that pre-service teachers were expected to participate in tasks that promoted epistemic aims of developing a depth of understanding and meaning making which was not evident in the experiential and activity-based teaching processes described earlier. Most of the responses related to engagement/reflection teaching processes were found to be epistemic in nature ($n = 7$).

### 13.4.3.3 Reflexive and Complex Thinking

Some teacher educators reflected on teaching processes that cohered around a general focus on reflexive and complex thinking ($n = 6$). All of these processes for supporting pre-service teachers to teach diverse groups of children were epistemic in nature and included being reflexive (including a focus on engaging with research and positioning of oneself) ($n = 3$), challenging thinking ($n = 1$), and engaging with multiple perspectives ($n = 2$) as exemplified in the following quotes:

> Reflexivity: continued reflexivity as an educator (i.e., engage in research of our practice) and share that with students. Create pedagogical and assessment opportunities that work at multiple levels to do that individually and collectively (task type, exit slip).

> Challenge thinking: Continue incorporating diverse examples and challenge pre-service teacher thinking.

> Multiple perspectives: Presenting alternative views of a situation that may be held by another (so students can't just present the 'PC' view of an issue—need to consider how it looks to someone else).

These responses suggested not only a depth of understanding, as signified in the previous set of responses related to promoting engagement, but also a focus on critical thinking which supports engagement with multiple perspectives and complex literature associated with the links between student diversity, social justice, and the work of teacher education.

### 13.4.3.4   Systemic and Integrative

Finally, some teacher educators ($n = 3$) reported that a systemic approach was a reliable way in which to achieve aims related to teaching diverse learners. For example: 'Work with colleagues to embed more explicitly and intentionally in and through all units'. These responses were not related specifically to pre-service teachers' learning or epistemic cognition, but they demonstrated the need to be both explicit and intentional about integrating teaching diverse learners across all units in teacher education programs. One other response identified integration across university and professional experiences as important: 'Connection between uni course/subject and school professional experience essential. Purposeful (scheduled talk) connections with continuity over say the 2 years of Masters of Teaching course'. There were also five responses which could not be coded (unspecified).

In summary, the most common teaching processes identified by teacher educators involved experiential and activity-based approaches, which seemed overall to lack a clear epistemic focus. Other teacher educators described teaching processes related to engagement/reflection (which reflected some depth of understanding) and higher order thinking which showed a clearer epistemic focus of connection and interrogation of knowledge. In many respects, this appears to mirror the aims identified earlier which focused on promoting awareness of specific forms of knowledge often packaged as 'facts' (and awareness) and some depth of understanding. It seems that epistemic aims for critical reflection and justification and teaching processes for achieving such aims were not commonly reported overall. There remains no clear focus throughout the data on epistemic aims for justification (critical reflection) or teaching approaches to support such aims.

## 13.5   Discussion

Overall, the teacher educators in these social labs agreed on the significance of pre-service teachers developing awareness (sometimes referred to as sound knowledge) and depth of understanding about what it might mean to be prepared to teach diverse groups of children. Building on this commitment, the findings showed that teacher educators commonly identified the epistemic aims of promoting the development of awareness (and knowledge) and enabling a depth of understanding. However, most of the aims related to acquiring content and knowledge did not appear to be epistemic in nature because they simply reflected the acquisition of content without a focus on

the quality of the knowledge to be acquired. In contrast, overall, the aims related to the depth of understanding and evaluation revealed a clearer epistemic focus.

The teacher educators' aims for pre-service teachers with respect to teaching to diversity appear to align with their focus on teaching processes that prioritised experiential approaches and to a lesser extent engagement/reflection and reflexive/complex thinking. Once again, particularly with respect to experiential approaches (including modelling), there was a distinction between those responses that demonstrated epistemic cognition and those that did not. A focus on epistemic cognition was most evident when experiential approaches were embedded within complex processes such as understanding or engagement which were more clearly epistemic in nature.

It is worth noting that, for a number of responses, there was not sufficient detail to make a judgement about the epistemic or non-epistemic nature of the thinking underlying the response. The nature of the data as collected was such that teacher educators' responses were brief and, in many cases, further elaboration may have revealed more thoughtful responses. Acknowledging that the data have limitations, they still provide useful beginning insights into teacher educators' epistemic cognitions related to  diversity and supporting pre-service teachers to develop as effective teachers of diverse groups of children. The data provide a starting point for further exploration of teacher educator epistemic aims with respect to what they believe pre-service teachers need to know about 'diversity' and effective teaching processes to achieve these aims. These data have also informed a larger research project which builds on the findings presented here through a national survey and in-depth case studies.

There are a number of points we wish to make about what is, and is not, evidenced in the data relating to teacher educators' epistemic aims in particular. First, there is considerable emphasis within the data on ensuring that the future generation of teachers develop what is described by the participants as 'understanding' and 'knowledge'. Literature relating to epistemic cognition draws attention to the potential difference between these two terms. For example, the epistemic aim of gaining knowledge about diversity might involve 'a collection of disconnected facts', whereas 'understanding involves grasping "explanatory connections between items of information" (Kvanvig, 2003, p. 193) and seeing how information fits together' (Chinn et al., 2011, p. 147). Such understanding can be about deep meaning making about, among other things, the role of equity and social justice in teaching diverse groups of children. Interestingly, in the data that we have analysed as 'deep understanding', the role of equity and social justice is not fully evidenced. In future research, it would be interesting to understand more about teacher educators' familiarity with the literature, or sources of knowledge, that could reasonably be associated with a 'deep understanding' of the complex issue of diversity, and the specialist literature associated with each one of the many diversity referents that impact upon educational and life pathways.

Second, the data contained little evidence of the epistemic aim of justification. We have previously argued that justification aims identify how pre-service teachers can weigh up and adjudicate on diverse perspectives related to social justice (Lunn Brownlee et al., 2019). This involves more than just knowledge or understanding

because pre-service teachers need to identify, evaluate (critically reflect), and adjudicate on competing agendas and perspectives relating to such questions as what is diversity; what does it mean to teach diverse learners, and whose knowledge will shape our decisions? Essentially epistemic aims related to justification provide the basis on which to engage with critical pedagogies in teacher education programs and, as well, to design curriculum and assessment. We need to know more about what constrains and enables teacher educators to embrace justification as an epistemic aim to 'interrogate forms of injustice and social exclusion in the classroom' (Lunn Brownlee et al., 2019, p. 235).

### 13.5.1   Future Considerations

This study explored teacher educators' epistemic cognition with respect to their own teaching processes and judgements that were directed at supporting pre-service teachers to teach diverse groups of children. We were interested in these concepts as a basis for understanding epistemic agency. However, simply exploring such epistemic cognitions does not take into account personal and contextual features of teacher educators' work and judgements. For example, how do structural (e.g., power relations), cultural (school and community epistemic aims), and personal emergent properties (e.g., teacher educators' own epistemic beliefs and knowledge base, and emotions) (Archer, 2012) constrain or enable the identification of epistemic aims and teaching processes that support pre-service teachers to interrogate and potentially disrupt oppression and injustice in their school communities? We have shown elsewhere (Ryan et al., 2018) that teacher educators' personal experiences and existing understanding of teaching diverse learners are seen as both enabling and constraining. In our previous work, teacher educators experienced personal constraining properties related to a reliance on experiential knowledge and narrow views of the concept of diversity. There is a need to explore teacher educators' epistemic cognitions for supporting pre-service teachers more holistically by considering such cognitions with respect to structural, cultural, and personal emergent properties.

Finally, we argue that including epistemic cognition in a pedagogy of teacher education can support epistemic agency (Elgin, 2013) and   Loughran and Menter's, (2019) call for second-order teaching—the 'why'. Indeed, this second-order teaching needs to go beyond simply promoting deep understandings. We think that a focus on explicitly identifying epistemic aims related to justification rather than simply deep understanding or acquisition of knowledge can help to challenge pre-service teachers to engage in critical reflection that evaluates and adjudicates on positions with respect to social justice and teaching diverse groups of children. This focus reconstructs the work of teacher educators as epistemic agents to go beyond the simple inculcation of (often very limited forms of) knowledge and understanding about diverse learners espoused in standard documents. This pedagogy of teacher education would involve a focus on epistemic cognition that is metacognitive in nature (Tang, 2020), in other words, being reflexive about epistemic cognition (Lunn

Brownlee et al., 2017). Reflexive epistemic cognition can form the basis of a new pedagogy for teacher education which supports teacher judgement and epistemic agency. Such epistemic agency can impact future generations of teachers to weigh up and adjudicate on positions related to social justice with respect to teaching diverse groups of children.

# References

Alexander, P. (2016). The arguments for and the reasoning about epistemic cognition. In J. A. Greene, W. A. Sandoval & I. Bråten (Eds.), *Handbook of epistemic cognition* (pp. 100–110). Routledge. https://doi.org/10.4324/9781315795225

Archer, M. S. (2012). *The reflexive imperative in late modernity*. Cambridge University Press.

Biesta, G. (2015). What is education for? On good education, teacher judgement, and educational professionalism. *European Journal of Education, 50*(1), 75–87. https://doi.org/10.1111/ejed.12109

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), 1–9.

Brownlee, J., Schraw, G., & Berthelsen, D. (2011). *Personal epistemology and teacher education*. Routledge.

Campbell, C., Osmond-Johnson, P., Faubert, B., Zeichner, K., & Hobbs-Johnson, A. (with Brown, S., DaCosta, P., Hales, A., Kuehn, L., Sohn, J., & Steffensen, K.). (2017). *The state of educators' professional learning in Canada: Final research report*. Learning Forward.

Cherng, H. S. (2017). If they think I can: Teacher bias and youth of color expectations and achievement. *Social Science Research, 66*, 170–186. https://doi.org/10.1016/j.ssresearch.2017.04.001

Chinn, C. A., Buckland, L. A., & Samarapungavan, A. (2011). Expanding the dimensions of epistemic cognition: Arguments from philosophy and psychology. *Educational Psychologist, 46*(3), 141–167. https://doi.org/10.1080/00461520.2011.587722

Chinn, C. A., Duncan, R. G., & Rinehart, R. W. (2018). Epistemic design: Design to promote transferable epistemic growth in the PRACCIS project. In E. Manalo, Y. Uesaka & C. A. Chinn (Eds.), *Promoting spontaneous use of learning and reasoning strategies: Theory, research, and practice for effective transfer* (pp. 242–259). Routledge. https://doi.org/10.4324/9781315564029

Chinn, C. A., Rinehart, R. W., & Buckland, L. A. (2014). Epistemic cognition and evaluating information: Applying the AIR model of epistemic cognition. In D. Rapp & J. Braasch (Eds.), *Processing inaccurate information: Theoretical and applied perspectives from cognitive science and the educational sciences* (pp. 425–453). MIT Press.

Cochran-Smith, M., Carney, M. C., Keefe, E. S., Burton, S., Chang, W., Fernández, M. B., Miller, A. F., Sánchez, J. G., & Baker, M. (2018). *Reclaiming accountability in teacher education*. Teachers College Press.

Cochran-Smith, M., Shakman, K., Jong, C., Terrell, D. G., Barnatt, J., & McQuillan, P. (2009). Good and just teaching: The case for social justice in teacher education. *American Journal of Teacher Education, 115*(3), 347–377. https://doi.org/10.1086/597493

Department of Education and Training (DET). (2014). *Action now: Classroom ready teachers*. Teacher Education Ministerial Advisory Group (TEMAG).

Elgin, C. (2013). Epistemic agency. *Theory and Research in Education, 11*(2), 135–152. https://doi.org/10.1177/1477878513485173

Francis, B., Mills, M., & Lupton, R. (2017). Towards social justice in education: Contradictions and dilemmas. *Journal of Education Policy, 32*(4), 414–431. https://doi.org/10.1080/02680939.2016.1276218

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/10.1177/237 2732215622223

Hassan, Z. (2014). *The social labs revolution: A new approach to solving our most complex challenges.* Berrett-Koehler Publishers.

Hofer, B. (2004). Introduction: Paradigmatic approaches to personal epistemology. *Educational Psychologist, 22*(1), 1–3. https://doi.org/10.1207/s15326985ep3901_1

Hofer, B. (2016). Epistemic cognition as a construct. In J. Greene, W. Sandoval & I. Bråten (Eds.), *Handbook of epistemic cognition* (pp. 19–38)*.* Routledge. https://doi.org/10.4324/978131579 5225

Korthagen, F., Loughran, J., & Lunenberg, M. L. (2005). Teaching teachers: Studies into expertise of teacher educators: An introduction to this theme issue. *Teaching and Teacher Education, 21*, 105–117.

Kvanvig, J. L. (2003). *The value of knowledge and the pursuit of understanding.* Cambridge University Press.

Lingard, B. (2005). Socially just pedagogies in changing times. *International Studies in Sociology of Education, 15*(2), 165–186. https://doi.org/10.1080/09620210500200138

Loughran, J., & Menter, I. (2019). The essence of being a teacher educator and why it matters. *Asia-Pacific Journal of Teacher Education, 47*(3), 216–229. https://doi.org/10.1080/1359866X. 2019.1575946

Lunn Brownlee, J., Ferguson, L., & 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

Markauskaite, L., & Goodyear, P. (2017). Epistemic fluency and professional education. *Springer*. https://doi.org/10.1007/978-94-007-4369-4

Mayer, D., Dixon, M., Kline, J., Kostogriz, A., Moss, J., Rowan, L., Walker-Gibbs, B., & White, S. (2017). *Studying the effectiveness of teacher education: Early career teachers in diverse settings.* Springer. https://doi.org/10.1007/978-981-10-3929-4

McKenzie, F. (2015). *The system shift initiative.* Australian Futures Project.

Miller, E., Manz, E., Russ, R., Stroupe, D., & Berland, L. (2018). Addressing the epistemic elephant in the room: Epistemic agency and the next generation science standards. *Journal of Research in Science Teaching, 55*(7), 1053–1075. https://doi.org/10.1002/tea.21459

National College for Teaching and Leadership (NCTL). (2015). *Newly qualified teachers: Annual survey 2015.* http://dera.ioe.ac.uk/24752/1/Newly_Qualified_Teachers_Annual_Survey_ 2015.pdf

Rowan, L. (2018). Student diversity, education and social justice. In J. Allen & S. White (Eds.), *Learning to teach in a new era* (pp. 243–247). Cambridge University Press.

Rowan, L., Kline, J., & Mayer, D. (2017). Early career teachers' perceptions of their preparedness to teach 'diverse learners': Insights from an Australian research project. *Australian Journal of Teacher Education (online), 42*(10), 71–92.

Ryan, M., Bourke, T., Lunn Brownlee, J., Rowan, L., Walker, S., & Churchward, P. (2018). Seeking a reflexive space for teaching to and about diversity: Emergent properties of enablement and constraint for teacher educators. *Teachers and Teaching*, *25*(2), 259–273. https://doi.org/10.1080/ 13540602.2018.1542298

Schmid, R. (2018). Pockets of excellence: Teacher beliefs and behaviors that lead to high student achievement at low achieving schools. *SAGE Open.* https://doi.org/10.1177/2158244018797238

Tang, K. (2020). The use of epistemic tools to facilitate epistemic cognition and metacognition in developing scientific explanation. *Cognition and Instruction, 38*(4), 474–502. https://doi.org/10. 1080/07370008.2020.1745803

Wilsom, C., Woolfson, L., & Durkin, K. (2019). The impact of explicit and implicit teacher beliefs on reports of inclusive teaching practices in Scotland. *International Journal of Inclusive Education*. https://doi.org/10.1080/13603116.2019.1658813

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