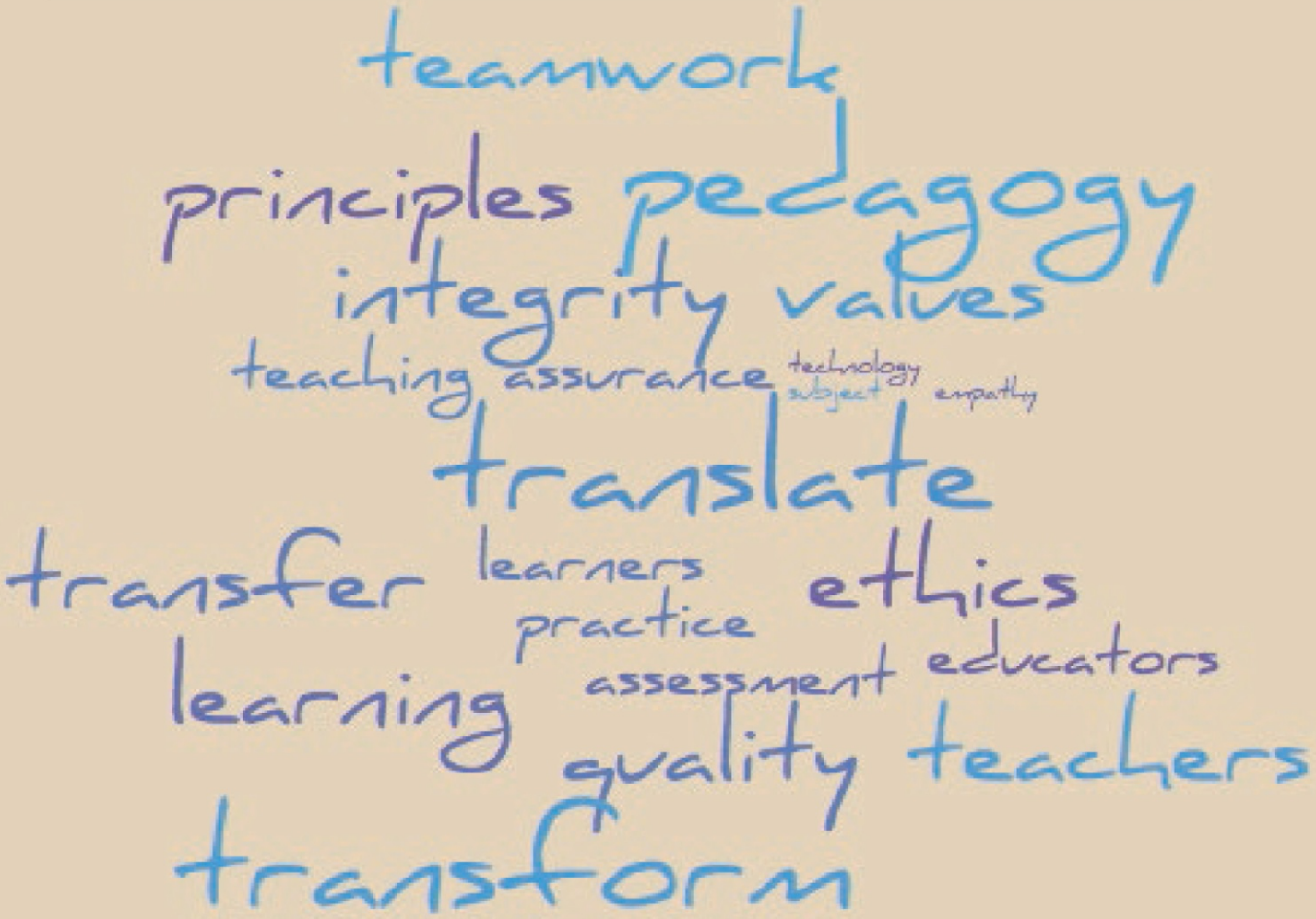
Handbook for Teacher Educators

Transfer, Translate or Transform

S. Rodrigues (Ed.)



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Edited by
S. Rodrigues
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CHRISTINE REDMAN & SUSAN RODRIGUES

1. FROM PHILOSOPHY AND RESEARCH TO PEDAGOGY AND PRACTICE

1.1 INTRODUCTION

As a teacher educator you are (or were) identified as a credible practitioner in your given community of practice. If you are an early career teacher educator, there is an assumption that the transition from your successful position in your original community of practice to that of an academic teacher educator will occur through a process of osmosis and automatic learning in situ.

If you are fortunate you may be assigned a mentor, someone who helps you to settle into your new environment and someone who helps you develop your professional identity as a teacher educator. If you are less fortunate you may be expected to find your own way through the maze of academic teacher education. You might find yourself having to juggle various, and sometimes unexpected, demands during the journey to professional identity formation as a teacher educator.

The purpose of this book is to provide a mechanism that enables you to consider some of the demands, challenges and rewards you may encounter. In essence, if you are an early career teacher educator, what is useful to know in order to develop an identity as a knowledgeable skilled teacher educator?

The main aims of the book are to:

- make the transition process more transparent, by making explicit the habits of head, hand and heart inherent in the profession.
- share insight into procedures and practices that are compatible with core professional expectations and professional values.

This book is written to help a successful efficient practitioner become a successful efficient teacher educator.

1.1.1 The Signature Pedagogy of a Teacher Educator

Shulman defines signature pedagogies as "the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions" (2005, p.52). Shulman talks about signature pedagogies in terms of surface structure (the operational acts of teaching and learning), deep structure (assumptions about how best to share know-how and a body of knowledge), and an implicit structure (beliefs about professional dispositions, attitudes values and beliefs).

S. Rodrigues (Ed.), Handbook for Teacher Educators, 1–13.

In our handbook, teacher educators with significant and early career experience consider the operational acts of teaching and learning, the assumptions about how best to share knowledge and the beliefs about professional dispositions, attitudes and values. For as Gurung, Chick, and Haynie (2009) suggested, academic disciplines have distinctive habits and characteristic disciplinary pedagogies. Thus as teacher education is an academic discipline it will have characteristic disciplinary pedagogies and those who are currently involved in teacher education are probably best placed to share their understanding of the characteristics of the profession.

Most of us in teacher education will find ourselves working within and toward competence-based frameworks. These frameworks will stipulate professional learning in terms of, content, skills, attitudes and conduct. The role of a teacher educator in terms of encouraging reflective discussions about the interweaving of subject knowledge and pedagogy with the aims, purposes and values of education is an important aspect of teacher development.

Cochran et al., (1993) suggested that teacher education should consider Pedagogic Content Knowing. Pedagogic Content Knowing is seen as a teacher's integrated understanding of pedagogy, subject matter content, student characteristics, and the environment of learning. This book tries to share an understanding of what this Pedagogic Content Knowing looks like for a teacher educator.

The book identifies the personality of the profession of teacher education. It signals core values and the structure of teacher education as a discipline, as identified by those within the discipline. It is through this shared identification of the construction and personality of the teacher education profession that we are able to provide some measure of support and, we hope, guidance to enable an early career teacher educator to make a successful transition from one profession to the next.

As already stated, this book is aimed at people who wish to become or have recently become teacher educators. You may be within an academic institution or you may be mentors in a school-based programme of teacher education. But no matter where you are within the spectrum of teacher education provision, on joining an academic teacher education community of practice you will be expected to apprentice future teachers and to provide support for teachers seeking professional development. The assumption being that as you were recognisably successful in your field which was somewhat related to teaching, you have an understanding of the signature pedagogy of teacher education. As such, the expectation is that you will be able to make explicit and share habits regarding professional learning that enable student teachers to become effective teachers. When attempting to provide this apprenticeship through professional learning, you as a teacher educator may find yourself having to merge your institution's mission and goals, the signature pedagogies of your profession and your own personal and professional pedagogical style.

The purpose of teaching student teachers, might appear to be obvious to outsiders, perhaps even simple; just teach them to teach! However, teaching involves many components. Many teachers consider the concept of pedagogical content knowledge

(PCK) to be 'common sense knowledge about teaching" (Evans, Hawksley, Holland and Caillau, 2008). But in reality, teaching is more complex than simply knowing the content to be taught, or providing content knowledge in an engaging manner. It is also more than the strategic use of specific PCK or general pedagogical knowledge.

Learning to teach is a highly personal activity, that evolves from a person's core beliefs, values, past experiences and key policy documents, and hence the role of the teacher educator is far from simple. The teacher educator has to be able to help the student teacher address prior beliefs, as well as come to understand the cultural and learning demands of the pupil, the school and the teaching context (Wideen, Mayer-Smith, and Moon, 1998). The teacher educator also has to help the student teacher negotiate a university culture (if the student teachers are in an academic teacher education programme).

As such teacher educators have a significant role to play in helping student teachers transform content knowledge into a form that is readily accessed and understood by student teachers. But as Evans et al., (2008) report, often those involved with helping student teachers learn about PCK and consequently learning about their profession, do so from a standpoint of their experience and what worked for them. This may take the form of one of two models, although both are usually evident, in a balanced approach.

The theoretical model focuses on the science of learning how to teach. This would involve engagement with the theoretical literature on teaching and learning. An example of this might be Shulman's PCK (1986) and how it helps to support teaching and learning. The practical model promotes what might be seen as the art and craft of teaching. The practical model may have a stronger focus on the practical techniques, or specific skills that a practitioner needs and uses. Threading through these two models is the notion of reflective practice (Schon, 1993) and the enabling of active consideration of one's personal, political and social views, for example about what makes a 'good' teacher or best use of models to effectively apprentice and mentor student teachers.

Therefore, if a teacher educator has a view of apprenticeship as 'transfer' then they are likely to believe that all they have to do is 'relocate and deposit' what they know into the head of the student teacher. 'Transfer' teacher educators may hold the view that they simply have to convey facts, skills and dispositions to the student teachers. If on the other hand, a teacher educator has a transform view of apprenticeship as coaching the development of personal social change, then they are unlikely to prepare student teachers by fragmenting the various components of teacher education, into simple elements without showing their interrelationships and the complexities between them. In between this transfer and transform spectrum, lies a view of apprenticeship in terms of translation, where through dialogue and interaction a student teacher learns to interpret and problem solve within a given context involving specific people and specific environments.

Thus as a teacher educator it is worth considering where on this spectrum you stand. Is your view of teacher education underpinned by the notion of transfer, translate or transform?

When considering teacher education provision, we as teacher educators need to reflect on how our model addresses pupil development, subject knowledge, pedagogy, student teacher attitudes and skills. Teacher educators, like their student teachers, should be expected to articulate their understandings of pedagogy, and their capacities to effectively apply their skills, which have clearly articulated, and measurable, goals for improving the understandings, skills and aptitudes of their pupils. This book attempts to help teacher educators to articulate these understandings in order to help inform their capacity to educate future generations of teachers.

1.2 AN OVERVIEW OF THE BOOK

The book is written by people already in the teacher education arena and intended to be of use to individuals joining the arena. It is a joint enterprise that draws on the expertise of other successful practitioners who are at various stages of their careers in teacher education. Drawing on the expertise of an array of teacher educators who are reflecting on their experiences, their value systems and their operational environment allows us to describe the science, art and craft of teacher education in its broadest sense.

Inviting early career and established teacher educators to contribute to the development of this book allows us to provide a shared repertoire. It distils the expertise available while acknowledging and addressing the concerns faced by those new to the teacher education community.

Teacher educators tend to deal with teachers in three sectors: early years, primary (elementary) and secondary. The themes of the book address all three sectors, by considering the nature of the teacher education community, the scope of provision expected by the community, and personal professional learning journey possible within the teacher education community.

However the book does not address the three sectors as stand-alone sectors, instead the chapters address the teacher education sector as a whole, and relies on the chapter author teams, which include practitioners from the three sectors, to identify within the chapter any aspect particular to one or more of the sectors. The themes are addressed from the perspective of what some have called signature events (Pace and Middendorf, 2004). The events embody the values, structures, skills and conceptual understanding that are considered to be of importance in teacher education.

In each chapter you will find a series of ‘provocations’. The provocations are intended to encourage reflection, for as Moon (2004) stated, reflection is slippery. These provocations are meant to encourage you to pause for thought and delve into the views presented in order to help you consider the ‘what if’ scenarios that you may encounter as a teacher educator. They are intended to help you reconsider aspects that you may have already thought about and they are intended to help you consider aspects that you might have taken for granted or not paid much attention to.

Considering your professional practice in this way, may make your biases, values and expectations more evident to you. Our intention is to encourage you to review

your role as a teacher educator. We hope you use this book to help you become more professionally successful by making you more aware of assumptions you intentionally or uncritically hold as a consequence of your view of teacher education.

1.2.1 The Structure of the Book

The structure of the book was arrived at by asking two cohorts of teacher educators to identify habits of head, hand and heart inherent in their practice. They were also asked to identify core professional expectations and professional values. Using a post-it note approach, the habits of practice and the core expectations and professional values were collated. From these collated post-it notes, key facets were teased out and discussed. The discussion of the identified key facets generated the chapter topics.

The following few paragraphs provide an overview of each chapter.

Elizabeth Parr, Dr Patricia Giardiello, Dr Naomi McLeod (Liverpool Hope University, England) and Dr Christine Redman (Melbourne University, Australia) have written the chapter on understanding pedagogy. They suggest that teacher educators today, regardless of whether they are preparing student teachers for the early years, primary (elementary) or secondary sector, need to be able to invest different types of energy into their everyday work in order to motivate student teachers to engage deeply with the learning process.

Pedagogy for teacher education has to encourage student teachers to take up challenges that develop dispositions toward teaching, subject and pedagogical content knowledge and expertise and skills as needed. A significant element of effective teaching is developing a responsible level of the ‘care factor’ while maintaining some degree of professional distance.

Pedagogy when working with school-aged pupils has at its core, similar values and purpose to those expected when working with adult students. However, in its deployment, engaging with adult learners is subject to issues that are unlikely to occur when dealing with pupils. The dynamic is different to some extent, though the need to stimulate, motivate and encourage learning is a constant.

As a teacher educator you need to deploy a pedagogy that supports high-level engagement, fosters curiosity and a willingness to be challenged while attempting to ensure the student experience is anything but perfunctory or mundane. This requires skilled, knowledgeable, and insightful people, who are multifaceted, flexible and highly skilled communicators. The quality of the teacher educator arises from within these many attributes. A teacher educators’ quality, and their potential to have impact comes from their teaching quality (Dinham, 2013) and their ability to help student teachers develop a professional identity with the skills, understanding and disposition to be effective classroom practitioners.

In chapter two, pedagogy is explored initially from an early years lens, and it discusses how pedagogical strategies in teacher education should encourage students to ‘make decisions and choices as autonomous learners’. The chapter describes

the development of a philosophy of teaching, which in turn would influence the pedagogical approach adopted by teacher educators looking to model practice or refract practice. Chapter two describes participatory pedagogical teaching approaches that could be used with adult learners (it has also been shown to be equally effective with pupils).

Associate Professor Wan Ng (University of New South Wales, Australia), Professor Colette Murphy (Dublin, Ireland), John McCullagh (Stranmillis University College, Belfast) Andrea Doherty (Stranmillis University College, Belfast) and Dr Naomi McLeod (Liverpool Hope University, England) wrote the third chapter. The third chapter invites the reader to focus on reflecting on practice. Internationally, engaging in reflective practice is considered a core standard and benchmark within the teaching profession. For reflection is thought to be key to teacher development as it is through it that professional expertise is developed (Orlova, 2009). Indeed Davis, Petish and Smithey (2006) suggested that a teacher who is a reflective practitioner constantly evaluates the effects of their decisions and activity, and through this process of review develops their professionalism.

Provocation 1 A

Think of yourself as a teacher, then an educator, how does this change in these 'labelling' words change your view of your professional image or identity?

What does the word '*educator*' mean to you, is it a narrowing of the broader term '*teacher*'?

How does educator connect you to a different sense of responsibility for '*educating learners'?* In what way is it different to '*teaching students"*?

As a teacher educator it is easy to assume that everyone shares an understanding of what it means to be a teacher. Let's take a moment to try to define, 'what is a teacher'. Then, alternatively, consider, what it means to be an 'educator'.

The difference between *teaching* and *educating* maybe subtle, but this difference maybe also critically important in helping you think about what you value about your classroom role, and also relate to, in the bigger sense your perception and relationship to your profession.

For some, *Teaching/teacher* may signal traditional and more didactic practices that align with the pedagogue of old, and thus imply a narrower focus than perhaps the word *educating*. Has teaching come to mean teaching children, and being strongly accountable to delivering a curriculum? Does *educator* provide a sense of a fuller responsibility for the broader life world of children?

A current challenge for the education profession lies in the need to be balancing 'direct instruction' with 'inquiry based experiences'. This balance strives to be enabling. It aims to empower student teachers to go forward, with knowledge and

skills that support them to become effective as teachers and as life long learners. Today, contemporary teachers are not expected to 'know it all'. Teachers are not expected to know everything, but what is expected of teachers is that they need to see themselves as life long learners. The phrase 'teacher educator' perhaps keeps the values of old, and combines the new expectations of today's classroom practitioner.

Provocation 1B

Is there a word we could use that flexibly blends the broadness and subtleness of teacher and educator?

What word or phrases could we use that best reflects the teaching of content and yet also supports the development of the 21st century meta-cognitive learner?

Think now of yourself as a *Teacher Educator*.

Consider how could you distinguish between a teacher, an educator and a teacher educator?

This quest to define the words 'teacher' and 'educator' may seem pedantic and they maybe difficult words to define, or indeed distinguish from each other. However they are worthy of our efforts to make better sense of them, because, words are always changing and morphing. We adapt to their meanings, and their meanings can influence what we do and say in our everyday lives. It is important to spend some time unpacking these words, as having a better understanding of these words might help to make clear how we distinguish our profession, and reveal how we perceive our professional identity. How we perceive our professional identity is important as it impacts on, and informs our professional and pedagogical behaviours and choices.

Our personal and professional identities, are not static, but dynamic and always changing (Redman, 2014). Our professional identity ascends from our values and beliefs, and from our discipline and pedagogical knowledge, and from our past and present everyday interactions within our institutional settings. These all have the potential to impact on our professional practices.

Our professional identity should be constantly empowered and sustained, and this is enabled by our engagement in professional learning experiences. Consequently, the learners and the profession itself should benefit from the epistemological understandings educators have, and are continuing to develop about their profession.

Chapter three provides an insight into the '*9 Steps of Reflection'* (McLeod 2012) and explains how researching one's own reflections and actions is an effective strategy to improve one's professional practice. Researching one's own reflections and actions is often called action research. In pedagogical action research, the researcher (be they teacher, teacher educator, or educator) conducts research on their teaching and evaluation methods. The aim of action research is to gather evidence in

order to help the researcher (teacher, teacher educator, educator) ascertain whether student learning has improved. Another strategy that could be used to encourage reflection, is coteaching. Coteaching is a methodology that teacher educators can use to simultaneously enhance their own reflective practice as well as the reflective practice of experienced and student teachers. Coteaching has been described as teachers sharing the responsibility for all aspects of practice, such as planning, teaching, assessing and evaluating (Martin, 2009).

Chapter four considers subject knowledge and is written by Professor Debra McGregor (Oxford Brookes University, England) and triggered by an initial framework derived in conversation with Alison Brade (Liverpool Hope University, England).

There is no direct correlation between a teacher's deeper knowledge of the subject and higher student achievement. Nor can one assume that a high level of knowledge about a given topic will automatically bring with it expert teaching of the subject. However there is evidence that a teacher cannot be ignorant of what is to be taught. In the Appleton and Kindt (2002) study, they showed that teachers with stronger subject matter knowledge used more effective or innovative teaching strategies. Thus it could also be argued that teacher educators with stronger subject matter knowledge (both in terms of their discipline and in terms of pedagogy) are more likely to be effective and innovative. However, though there is agreement that to be an effective teacher one needs an understanding of subject specific content knowledge, views about what constitutes understanding of content knowledge are still debated.

Most agree that learning subject matter cannot be a matter of simply 'telling' or 'explaining' it to a beginning teacher. Most agree that subject matter content knowledge, curriculum construction and organisation and pedagogical content knowledge have an influence on what and how something is taught. As teacher educators we have a responsibility to help teachers to review what they know about a subject area in order to highlight what they need to address and to deal with what they do not know.

Chapter five is entitled Developing Professional Integrity. It is written by John Sharrock (Liverpool Hope University, England), Dr Ellen Mandinach (WestEd, USA), and Associate Professor Andy Begg (Auckland University of Technology, New Zealand). In this chapter the authors draw attention to the fact that teacher education, and teaching, makes intellectual, physical and social demands. The demands challenge student teachers and teacher educators alike. The authors go on to suggest that these intellectual challenges coalesce to create the expectations of work and expectations with regard to professional conduct.

Teacher educators are expected to be life long learners. They are expected, to understand the role as a rewarding challenge and ensure they act as role models for their student teachers. For it is in this modelling by the teacher educator, and the understandings that the teacher educator has, that a student teacher is likely to see what it means to be effective as a teacher. Teacher educators point to what

is important in what they say and what they do and show what is accepted and valued practice. Teacher educators also help identify and shape professional conduct standards required by and for the student teacher when in a school environment.

Teacher educator practices involve strategic and targeted moves, as they flexibly shift between a range of pedagogical approaches. As a teacher educator, you will need to make many decisions, on the spot, decisions that are personalised to adult learners' (the student teachers') needs. As a teacher educator you will need to know when to intervene, when to respond, and when to challenge these adults who have sought to become effective teachers. How you do this will depend on your disposition and understandings with regard to working with adult learners. It will also depend on your view of teacher education in terms of a transfer, translate or transform model of apprenticeship.

Chapter six presents a discussion on research informed teaching and ethical practice. It is written by Associate Professor Andy Begg (Auckland University of Technology, New Zealand), Professor Susan Rodrigues (Liverpool Hope University, England) and Dr Varughese K Varughese (RMIT, Australia). In most instances, teacher educators are not only expected to work with student teachers, they are also expected to engage in and with research informed teaching. This is because teacher educators need high-level skills to maintain a dynamic rhythm when working with their student teachers. Drawing on an ever-growing body of research informed knowledge, teacher educators need to share their understanding of contemporary approaches to teaching, learning, assessment and administration in schools and classrooms.

In addition, chapter six considers diligence and ethics with respect to personal actions in teaching, research and administration and in response to the actions of others. The chapter considers the issue of acknowledging the contributions of collaborators without loosing sight of intellectual property rights. While chapter seven, that follows, has at its focus the notion of working with others, and discusses the benefits and challenges faced when engaging in collaborative or cooperative partnership endeavours, chapter six, considers the more mundane, though non-the-less important aspects: The need to consider equity and ethical practice.

Chapter six also looks at how, as teacher educators, we are expected to assist student teachers to reflect on the values they hold and to develop informed practice. In tandem with this, as teacher educators we are also expected to respect student values and beliefs without necessarily personally accepting those values and beliefs. In the everyday practices of teachers, which aspects are valued or reified may remain tacit or not explicitly discussed by those present. For the most part, some of the core professional, moral and ethical values most likely go unquestioned and are probably quietly shared by teachers and teacher educators alike.

Clandinin and Connolly (1996) discussed sacred stories (which are usually anonymous and communally recognised), cover stories (these are created new stories to legitimise actual experience despite, and perhaps in contrast to the sacred stories) and secret stories (the experience in classrooms beyond the eyes of others).

Clandinin and Connolly (1996) showed how these stories for different individuals nestle against or rub up against the stories of colleagues, institutions and society. Thus in terms of values, dispositions and beliefs, some will be sacred, some will be cover and some will be secret, and they will all influence what is 'said and done' in school and university settings.

Chapter seven is entitled working with others and is written by Dr Nancy Varughese (RMIT, Australia), Dr Valeria Cabello (Universidad Central de Chile and Universidad de Chile, Chile), Mr Neil Taylor (Dundee University, Scotland), and Dr Rayenne Dekhinet (Bahrain Teachers College, University of Bahrain, Kingdom of Bahrain). In the contemporary teacher education environment teacher educators seek to draw on the knowledge and skills found within the local environment as well as the knowledge and skills found in the global vicinity. The blending of knowledge and skills found in these domains, local and the global, have become known the 'Glocal'. A key role for a teacher educator is to demonstrate a range of partnership working. Chapter seven identifies the benefits to you, as a teacher educator, (and to your students) as a result of you working effectively in partnership with others.

Being a 'life long learner' and maintaining familiarity with the growing body of professional knowledge is now par for the course. As such teacher educators and teachers have to be proactive, in taking responsibility for the development and enhancement of personal professional skills and knowledge. Chapter seven identifies various ways in which professional growth can be supported through collaborative and cooperative, local, national and international networks. These networking opportunities may involve special interest groups (who meet within their schools or across schools) or they meet in the ether taking advantage of on-line opportunities using Hashtags (#) on Twitter or local site based meetings for groups (sometimes called Teachmeets).

De La Harpe (2010) suggests that interdisciplinary team working is recognised as an essential attribute in today's workplaces in the knowledge economy. But chapter seven recognises the fact that some teacher educators find collaborating with colleagues, from other professions (for example educational psychologists, educational technologists, social workers, etc) rather challenging. The chapter describes strategies to consider while highlighting some of the strengths and some of the pitfalls that might be encountered during interdisciplinary team working.

Working with professions from other areas is not the only partnership a teacher educator should seek to develop. Supporting student teacher development on school placement warrants strong school–teacher educator partnerships. Furthermore, if the relationship between the teacher educator and a school is based on a genuine understanding of the school's context it is more than likely that the school may also agree to engage with research activity, and being a teacher educator includes developing a scholarly profile. In addition, research evidence suggests that working together has a positive impact on teaching and on student learning (Goddard, Goddard, and Tshannen-Moran, 2007).

Professor Heather Fehring (RMIT, Australia) and Professor Dan Davies (Bath Spa University, England) wrote chapter eight. It discusses Quality Assurance. The chapter looks at how, as teacher educators in Higher Education Institutions (HEIs) we ensure that our newly qualified teachers have access to high-quality professional practices and experiences.

Quality assurance refers to the processes by which we know that our 'products' in this case newly qualified teachers are emerging with the attributes they need to flourish in the knowledge economy.

As teacher educators we often observe teachers (novice and experienced) in the classroom, but we are less used to being the ones being observed. The chapter suggests that peer observation and a review process, with identified criteria for excellence and guidance for improvement, can provide valuable opportunities for professional development and contribute to raising the overall quality of the programme and of us as teacher educators.

The use of 'benchmarking' where our output data is held up to scrutiny in comparison to/with other teacher education provision provides an over view of our place within the overall scheme, and our standards within the teacher education field.

The final chapter is written by Professor Heather Fehring (RMIT, Australia) and Professor Susan Rodrigues (Liverpool Hope University, England). In this final chapter the authors draw together fundamental principles from each chapter, with a view to identifying apprenticeship models of teacher educator development. All the chapters in this book identify a need for ongoing dialogue. Rodrigues and Fehring suggest that the intuitive and analytical processes involved in transiting from a previous professional post to that of a teacher educator involves a view of sharing practice in terms of a transfer, translate or transform disposition and through a continuum of three thresholds: pre-critical, internalised and hypothetical.

1.3 CONCLUSION

On the whole, teacher educators tend to be successful practitioners in a given community of practice (school, local authority, government agency). Those who seek to become teacher educators tend to have a strong sense of professional and personal commitment to their roles. On joining the teacher education community they are expected to share with student teachers and others involved in continuing professional development the habits of head, hand and heart inherent in their profession. This is not as simple as it might seem.

Aware of the need to maintain their effectiveness, and to be implementing what is currently deemed best practice, most teacher educators read, reflect and review. The teacher educators' growth in understanding emerges from multiple sources. These can include the diverse and broadly focused conversations and reflections teachers have had about, and on, their daily practices. The professional learning conversations that occur in teams and professional reading and active engagement in the professional research literature ensure that knowledge is contemporary, and

evidence based. Thus providing more opportunities for professional growth. These multiple sources of professional growth ensure that teacher educators are life long learners.

As a teacher educator you will be expected to have an insight into the distinctive habits and characteristics of teacher education. For example, how is the personality of teacher education and hence the required professional development different to the professional development of medics or lawyers? How does a teacher education programme differ from a programme where students are intending to become doctors, nurses, social workers or lawyers? Are there any similarities? What influences the development of these similarities and differences? The chapters that follow have been written to help you identify the distinctive habits and characteristics associated with being a teacher educator.

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2. UNDERSTANDING PEDAGOGY

2.1 INTRODUCTION

> Teachers teach in the way they do, not just because of the skills they have or have not learned. The ways they teach are grounded in their backgrounds, their biographies, in the kinds of teachers they have become. (Hargreaves, 1998, p. vii)

It is our role as teacher educators to nurture the kind of outstanding practitioners they become.

The Roman Quintilian, (Circa AD 35-100) holds the accolade of being the first state funded teacher in western civilization and promoted virtue through specific curricular aims and methods. He held high standards for teachers and stressed the importance of careful education particularly in the initial stages.

Just as the ideas of Plato and Aristotle, the threads of Quintilian's thoughts pervaded the philosophies of later key thinkers such as Comenius, Rousseau, Pestalozzi and Froebel. They in turn informed the pioneering work of the Mcmillan sisters, Montessori and Isaacs. Their emphasis on the potential of play, the role of the adult and the importance of the learning environment established a set of common bedrock principles of early childhood education that were later redefined by Bruce (2005) and placed into the current pedagogical context by Giardiello, (2014). Robins and Callan (2008) propose that the bedrock principles can be adapted and applied to inform leadership pedagogy.

The role of teacher educators in any sector is not only to educate future teachers about 'bedrock principles' but also to help develop future teachers to have an informed professional identity and broad range of experience upon which to build a teaching career. This chapter considers the pedagogy of teaching student teachers intending to work with learners aged three to eighteen.

In this chapter, we consider how bedrock principles often seen in Early Years teaching could be applied to the pedagogy of teaching future practitioners and as such apply to preparing students to teach in the primary (elementary) and secondary school sectors. To do this, three of the principles are considered in relation to the construction of a professional identity and the role of the professional in the classroom. The chapter then goes on to introduce theoretically informed contemporary pedagogical approaches that might be of use to those involved in preparing teachers to support learners aged three to eighteen years old.

S. Rodrigues (Ed.), Handbook for Teacher Educators, 15–32.

The approaches have use, and broader implications, for learners of any age. The chapter describes the use of Collaborative Interactive Discussions (CID), and the use of Personal Meaning Making Maps (PMMM). These are pedagogical approaches that could help student and newly qualified teachers to make thoughtful, professional judgements about innovations in practice and the nature of their role, whether it be in the primary, secondary or tertiary sectors.

2.2 BEDROCK PRINCIPLES INFORMING PROFESSIONAL IDENTITY

The first principle that will be considered is "children are whole people who have feelings, ideas, a sense of embodied self and relationships with others, and who need to be physically, mentally, morally and spiritually healthy" (Bruce, 2005, p.12). It is not difficult to see how this can easily be applied to the development of teachers and their identity.

Promoting 'a sense of embodied self and relationships with others', highlights the necessity to encourage student teachers to form effective professional relationships with their peers and school colleagues to share experiences and support the shared development of professional identity as a teacher. This idea is reinforced by the work of Mead (1934) and Erikson (1969). Erikson suggests that identity is a chronological and changing concept, dependent on the social contexts and maturation stage of the person. This is significant when considering educating teachers as their experiences in a range of social contexts, including those experienced in schools, strongly influence their understanding of self.

Mead furthers this in suggesting that in communicating in social settings, we learn to assume the role of others and monitor our actions accordingly. This is to say that as teacher educators, providing a role model for student teachers that is underpinned by the bedrock principles is a crucial building block in practitioner identity development. It is not however, this straightforward, our understanding of self is a structured representation of our theories, attitudes and beliefs about ourselves (McCormick and Presslet, 1997), and not just assuming the roles of others. The attitudes and beliefs about ourselves are considered later in the chapter and in other chapters in the book, in particular in the chapter examining the role of reflection in the construction of identity.

The second bedrock principle to be considered is, "children learn best when they are given appropriate responsibility, are allowed to experiment, make errors, decisions and choices and are respected as autonomous learners" (Bruce, 2005, p.12). Again, for teacher educators with a disposition toward a 'transform' apprenticeship model, to replace the word 'children' with 'student teacher' would be the only necessary change to ensure that this could be a bedrock principle of educating practitioners.

Teachers in Early Years have been given the scope to allow children to play, explore and experiment. Through this, they enable children to become autonomous, independent learners who can speculate, question and imagine. In doing this without imposed haste, teachers let children work at their own pace.

Modelling this pedagogy in teacher education is not easy as there are inevitably countless pressures and responsibilities. But it is possible to achieve by providing opportunities for microteaching, paired teaching and models of outstanding practice.

Alongside this, the notion of allowing students to "make decisions and choices… as autonomous learners" links to the development of a philosophy of teaching. At Liverpool Hope University teacher educators actively encourage student teachers to engage with current and historical debates in education and locate themselves in the arguments before considering the implications for their own practice. In doing this, the student teachers develop a more informed sense of their values and beliefs about education, and subsequently their professional identity. A later chapter on professional integrity considers these aspects in more detail.

Provocation 2A is intended to encourage you to reflect on the concept and the development of a professional identity**.**

Provocation 2A

Consider the following questions about your own professional identity as a teacher educator:

What were your own early experiences of education?

What motivated you to become a teacher educator?

How would you describe yourself as a teacher educator?

What are your core values and beliefs about teaching and learning (your philosophy of education)?

What factors have been significant in the development of your philosophy of education?

How does your philosophy of education align with current views of teaching?

The final bedrock principle is, 'relationships with other people (both adults and children) are of central importance in a child's life, influencing emotional and social well-being' (Bruce, 2005). A later chapter is devoted to the topic of working with others, and it explores the dynamic of working with others (within local, national and international environments) in more detail. This is because as the role of a teacher is ever expanding and being re-evaluated, the relationships teachers form both within their classrooms and outside are becoming ever more significant.

Teacher educators, like teachers are required to not only assume the role of a teacher, but also may be expected to work with a range of agencies, provide social support and actively engage with families, all outside of the classroom and beyond the limited role description as a teacher. Such an amalgam of roles and responsibilities indicate that teacher educators need to help student teachers to be prepared to be

'hybrid professionals'. That is to say that the relationships a teacher develops with the children and families as well as other educational and professional agencies are vitally important. Having said this, these relationships can lead to conflict within the professional's identity as what they desire to do as teachers and what they are expected to do within the wider role may not align (Beijaard, Meijer and Verloop, 2004). This was alluded to in chapter one, where the notion of sacred stories, secret stories and cover stories (Clandinin and Connelly, 1996) were discussed. This is why high quality education and modelling is necessary to ensure students are prepared for this hybrid role and are conscious of their position within these various stories.

Each of the three bedrock principles presented in this chapter were discussed from an Early Years perspective but they can be applied to all sectors of teacher education. As teacher educators, it is just as important to develop the professional identity and experiences of our student teachers as it is for them to gain knowledge about teaching.

2.3 UNDERSTANDING EARLY YEARS PEDAGOGY

This section of the chapter presents the place of pedagogy, with Early Years education serving as an illustrative study. This section of the chapter also considers the influences on pedagogical principles in early years settings in order to inform pedagogical strategies that could be used by teacher educators preparing practitioners for all sectors.

When reflecting on existing principles and patterns of early childhood education, it is evident that relatively little has changed in the values and beliefs of what constitutes good practice since the contribution of enlightened thinkers such as Rousseau and Pestalozzi, educators such as Froebel and four remarkable women pioneers, the McMillan sisters, Montessori and Isaacs (Giardiello, 2014). Similarly, relatively little has altered in the perception of values and beliefs with regard to what constitutes good practice in primary and secondary education.

In 1762 Rousseau, greatly influenced by Plato's *Republic* (360 BC) which was devoted to explaining what kind of education is required for a just society, published his own profound ideas on education as a liberating force based on a fictitious child's experiences entitled *Emile: or on Education*. It is useful to restate Rousseau's view that children are individual learners who learn at their own pace.

> What is to be thought, therefore, of that cruel education which sacrifices the present to an uncertain future, that burdens a child with all sorts of restrictions and begins by making him miserable, in order to prepare him for some far off happiness which he may never enjoy? (Rousseau, 1762/1979, p. 50)

Pestalozzi was greatly influenced by Rousseau's ideas and set about putting these principles in to practice and made one of the most remarkable contributions to education through the pedagogic means of fostering reflective learning in children. Pestalozzi observed that each child learnt in his or her own way drawing on direct

experience, through reflection fostered by the teacher; through discussion and reconstruction and problems based on children's developing interests (Giardiello, 2014). A teacher educator works with adults rather than children but that does not limit the currency of Pestalozzi's ideas. For as a teacher educator it is worth considering pedagogy that allows student teachers to draw on direct experience supported through reflection fostered by the teacher educator.

These child (learner)-centred notions of creating self-identity through play and the 'self -activity' of the child were further developed by Froebel through his widespread Kindergarten movement and the principles and practices of the McMillan sisters, Montessori and Isaacs. These ideas, principles and practices arrived just at the historical moment when progressive ideas with regard to young children were becoming more widely accepted (Giardiello, 2014).

The key women pioneers "reforming' philosophical approach and ideas link directly with the model of a child as an active learner" (MacNaughton 2003, p.160). The underlying commonalities between each of the women pioneers which form the bedrock principles of effective early childhood education are: learning through play, observing the child, planning from and for children's interests and partnership with parents and other professionals. We suggest that these bedrock principles are transferable and apply equally well when it comes to teacher education.

In England, the DFE Statutory Framework states "in planning and guiding children's activities practitioners must reflect on the different ways that children learn and reflect these in their practice." (DFE., 2012, p.1.10). Likewise, in planning and guiding student teachers, the teacher educator needs to reflect on the different ways in which student teachers develop as teachers and reflect these in their practice.

The three characteristics of effective learning describe the different ways in which young children explore and make sense of the world around them. They are:

- playing and exploring – children investigate and experience things, and 'have a go'
- active learning – children concentrate and keep on trying if they encounter difficulties, and enjoy achievements
- creating and thinking critically – children have and develop their own ideas, make links between ideas, and develop strategies for doing things

Initial teacher education and subsequent continual professional development should help teachers develop teaching methods and skills that take pedagogical understandings of how children learn into account. However there is often a limited amount of time and space in the Teacher Education programme for meaningful discussion about the process of learning and the pedagogic role of the adult in creating conditions that facilitate and enhance learning. This can leave student and newly qualified teachers ill-equipped to make thoughtful, professional judgements about innovations in practice and the nature of their role.

It risks teachers, regardless of whether they are being prepared to work in the primary (elementary) or secondary sector adopting a purely technical approach. In

essence, putting into practice a formulation based on particular activities or daily routines: an approach which inhibits professional development and the application of nuanced decision-making that is sensitive to the needs of individuals and the context in which they learn (Stephen, Ellis and Martlew, 2010).

Understanding pedagogical principles involves not only reviewing practices but also thinking differently about the process of learning and the role of the learner and teacher. As teacher educators we need to develop and use strategies that encourage student teachers to review practice and to reflect on the role of the learner and teacher during the active process of learning.

In the Tickell Review active learning is described as arising from the "intrinsic motivation to achieve mastery – to experience competence, understanding and autonomy" (Tickell, 2011, p.90). The dilemma over how to plan for active learning merits a re-examination.

Provocation 2B

What is the impact of set rules, routines and rituals on active learning in your setting?

Whose choices are privileged in your setting?

Can all access the curriculum through free choice and through creating and thinking critically?

Further examination with regard to planning for active learning can be found in Giardiello (2014) who provides insight into the key ideas of the McMillan sisters, Montessori and Isaacs.

2.4 BECOMING A PEDAGOGICALLY REFLECTIVE EARLY YEARS TEACHER

In this section of the chapter we focus on pedagogy and reflective practice. While we continue to use the context of Early Years, many of the salient points apply within the wider primary (elementary) and the secondary school sector. More information on reflection can be found in Chapter three which has at its focus the idea of reflective practice.

At the heart of participatory learning young children are respected as individuals, and learning is supported through constructive thought and communication rather than on the transmission of knowledge and skills (McLeod, 2012). Participatory learning has a place in teacher education if as teacher educators we hold a model of teacher professional development as best supported through constructive engagement rather than the simple relocation of knowledge and skills from the teacher educator to the student teacher.

However, just as participatory learning can be a challenging process for student teachers because the value attributed to a child's participation is subject to adult self-awareness and issues of power imbalance that adults have over the child, so it can be a challenging process for teacher educators for the same reasons. These power relationships must be unpicked if participatory teaching is to be effective (McLeod, 2013; Feldman and Weiss, 2010). This is hugely important with teacher educators and student teachers developing their own pedagogical approach to teaching. Unless they are able to identify embedded and unconscious influences (experiences, values, beliefs) on their epistemological and pedagogical approach, then participatory teaching and learning will remain ornamental and tokenistic rather than a genuine and meaningful core at the heart of young children's learning experiences.

In the next chapter, the authors look at how a process of critical reflection, in particular 9R's of Reflection (McLeod, 2013) could be used as a pedagogical approach. They show how it could be applied to support student teachers in becoming reflective and beginning their journey of valuing learning from the child's perspective.

2.4.1 Why is Critical Reflection Necessary for Supporting a Participatory Approach to Learning as Part of Teacher Education Programmes?

Consideration of what reflection is and why it is essential will be explored in chapter three in more detail. Chapter three will also provide more insight into the nature of reflective pedagogic strategies. However, in this chapter (chapter two), we subscribe to the view that critical reflection in its basic form is a process that involves a meta-cognitive course of action requiring awareness and self-examination of what is thought and done, which then results in a conscious change. A critical approach is required to examine those influences that determine our ability to welcome difference and new knowledge (Moon, 2008; Derrida, 1999) so that we can be 'open' or 'ready' to change.

Attitudes to a participatory pedagogical teaching approach are grounded in underlying values, views, assumptions, and understandings (McLeod, 2008) so identifying an awareness of personal influences is difficult but essential in the pedagogical approach taken to support student teachers as they begin their journey of valuing different perspectives other than their own. McLeod (2013) suggests that critical reflection begins with a 'readiness or a willingness to be 'open' and recognise the cognitive and emotion influences on what we think teaching involves. This is not an easy process for as Leitch (2006) identifies, emotions are often hidden or below the threshold of consciousness.

Challenging unquestioned assumptions and lived experiences so that new alternatives can be tried out, may well produce anxiety, fear, resentment and feelings of being threatened or intimidated – indeed a barrier to critical reflection. A safe, trusting pedagogical environment is crucial here, in order for student teachers to feel they are able to share, ask questions and be open about uncertainties.

Time needs to be made available initially for student teachers to get to know each other and feel comfortable together so that new learning insights can be developed and nurtured together. As will be discussed later, the use of creative activities also supports students in recognising and questioning their own emotions – often these at the time are unconscious.

2.5 GENERIC PEDAGOGICAL APPROACHES

When we engage in interactions with people, objects or events we use meaning making strategies, often tacitly. Not surprisingly then, language is at the heart of these sense-making experiences (Harré, 1997; Rodrigues and Thompson, 2001; Vygotsky, 1987; Wittgenstein, 1953; Redman & Fawns, 2010) as well as discursive practices (Redman, 2013). The phrase, discursive practices, is defined as encompassing the things that we both 'do and say'.

In our everyday engagement with the world we constantly interpret and make assumptions about the intent behind the words we hear, drawing on past experiences to inform us. We also factor in the significance of the location of the event. As a result of our understanding of the social, cultural and historical factors, which combine to create a specific context, we consciously, and unconsciously, modify what we 'say and do'.

An everyday example might be how we order coffee differently in our familiar haunts, to an unfamiliar one. We are alert and aware that the practices in one coffee shop might not always transfer to those in another (Redman, 2013). Discursive practices may be modified, sometimes, second by second, as we align our behaviours.

Discursive practices are an important concept in education. We interpret a space, and the expectations, by what others are both saying and doing. Sometimes saying informs doing, and sometimes the roles reverse, evident when we demonstrate and/or role model a concept, and so we combine and use both the 'do and say' (Edwards, 1997).

The focus on language is underpinned by a philosophical stance that recognises the significance of the role and place of language in developing understandings. However, language is not always enough. If student teachers are going to be able to look at and identify underpinning beliefs and influences, creative methods and interaction are needed. This background has informed the reasoning behind the pedagogical approaches described in this chapter. We hope that they may help contribute to the refining of educational philosophy, and more informed pedagogical choices (Hayes, 2006).

2.6 PEDAGOGIES SUPPORTING MEANING-MAKING AND META-COGNITIVE LEARNING.

Pedagogical approaches for schools need to be informed by an overarching educational philosophy, which is clearly underpinned by educational research.

Pedagogical approaches should accommodate the need to speak and be genuinely heard. The approaches presented here ensure frequent opportunities for 'voice' exist, and better enable a serious capacity for 'choice', for without the capacity for choices, these processes remain tokenistic.

Pedagogically, this should support an increased sense of ownership, opportunities to create and make things, to be passionate about these events, and involve heads, hearts and hands (Fensham, 1981). Engaging head, heart and hands is difficult to accomplish, unless individual interests and personal concerns are identified, and tracked consistently.

The pedagogical approach offered here seeks to blend social constructionist approaches to teaching that support questioning, curiosity and collaborations with direct instruction opportunities, that provide the necessary knowledge and understandings that can empower participants to go further. Language is the key to the empowering process (Bourdieu, 1994).

This section of this chapter dwells on the importance of developing creative approaches including an identifiable and shared language for learning. This approach aims to contribute to learners' positive identity formation, and to empower their agency as learners. To capture the essence of teachers' personal learning, McLeod (2012) proposes creative methods which include making collages, the use of creative hermeneutic cards (Bijkerk and Loonen, 2009), and creating poetic haiku as a means of enabling the teachers to openly share their collective understanding and experiences.

Indeed, language needs to be explored and examined for its pedagogical implications for teaching and learning practices, as well as identity formation. Understanding how words are being utilised for the construction, and reconstruction of meaning, is critical. Everyday we make assumptions about what people mean when they are in dialogue with us. This is a necessary response. We need to be able to make assumptions about other people's intentions. Unless we want to be left second-guessing everything that is said or done. Returning to our earlier coffee shop exemplar to make the point, we use cues from past coffee shop experiences, to inform our behaviours in the unfamiliar coffee shop, monitoring the language and behaviours of others.

At the heart of this philosophical approach is a view that meaning is co-constructed in conversation with others, and through discursive practices. How do we know that what we have said is understood how we intended by the listener?

The tools discussed in this chapter will hopefully help explicate this concept. These 'conversational' style tools can be trialled by you, for deeper reflection and refraction of your existing ideas. 'Refraction' refers to deliberately viewing things in a multiplicity of ways, seeking connections, raising questions and challenging existing understandings, and beliefs or values. The next definition introduced is as an alternative to the word student. The word learner has been purposefully chosen for all that it conjures up.

Provocation 2C

How does using the word learner change/impact on your view of your self, and your discursive pedagogical practices? Think about your 'student teachers' as 'learners'.

How does this change and impact on your expectations of their discursive practices, their behaviours, conversations and responsibilities?

Now, think how the discursive practices might change if you are in a learning environment, rather than a classroom?

The word *student* has synergies with the image of a studious person. The word *learner* perhaps implies an active and curious person. The word *classroom* creates images associated with room as spaces. The term *learning environment* implies that learning could be room based, or an outside or informal space unbounded by land, sea and sky, or a virtual on-line space. Think on how examining the differences between these words can influence your pedagogical practices.

Language is influential. It informs and impacts on our thinking and behaviours and can influence our attitudes. Imagine preparing to walk into a *learning environment* populated by *learners*. What elements might change? This language has been selected to show how this strategy of defining language can refine, and challenge, our thinking. It can be used to challenge and support a review of student teachers' tacit assumptions and understandings, and in this case, enable a rethinking of pedagogical approaches.

Children, and teachers, may not think of themselves as *learners*, and may need much scaffolding to do so. When asked what it would be like to be a learner, what would it look like, sound like, and feel like, often both children and adults respond straightaway that they would *ask more questions*. This is often stated as a change in behaviour, and identified as a more proactive response, indicating a greater sense of empowerment.

2.6.1 Examining How Language Impacts on Learning Outcomes

Do we have a tradition of cultivating active learners, who are encouraged to question and are provided with many opportunities for 'voice and choice'? Voice and choice is necessary for personalising learning experiences by embedding opportunities for questions, and more genuine interest and engagement. Are teachers positioned as 'active learners', that is do they also have the required skill set and effective habits of mind (Dewey, 1936/1986)?

Provocation 2D

How do you distinguish between personalised and differentiated learning?

Now, think what it means to individualise learning.

What is the likely impact on student teachers' personal identity formation of personalised learning approaches?

This contemporary area is developing steadily, so the definitions (for personalised, individualised and differentiated learning) will vary. But the intent is clear: Learners have more 'voice and choice' and responsibility for their learning.

Learners require support to develop the skills needed to ask questions and seek new knowledge. For teacher educators, it is not simply a case of asking questions but a need to model thinking. When a question is posed children tend to be thinking about the desired answer required by the teacher (Myhill, 2006). Similarly, often, when student teachers are asked a question they too tend to second guess an answer that they believe the teacher educator wants to hear. Therefore the conditions for learning respectfully are crucial.

Teacher educators may sometimes assume that as the learners are adults, the learning challenge posed is easily addressed. Sometimes teacher educators forget what being a learner requires; how much energy it takes to be continually moving into the unknown, and connecting this in useful ways to their known.

Taking responsibility for being a learner is challenging, it means enacting meta-cognitive strategies. It can also be emotionally and socially taxing.

Attention to the language of learners, and the accompanying understandings, in this more personalised learning approach, may better inform plans for teaching. The following tools can be used for learners of all ages as they are easily modified for different age groups.

2.7 BACKGROUND TO COLLABORATIVE INTERACTIVE DISCUSSIONS (CID)

The collaborative, interactive discussion (CID) provides opportunities for reviewing, reflecting on and refracting student teachers' existing understandings. It guarantees equal opportunity for voice, and time for thinking, while supporting both reflection and refraction of ideas. It helps to clarify and make visible the associated thinking, language and learning (Hattie, 2003). A CID, as a tool, provides the necessary stimulus for the deeper exploration of existing ideas.

CIDs value the associated 'feltness', or degree of affect, related to the ideas, and experiences of learners. This pedagogical approach supports the development of a community of student teachers. They no longer assume they 'know what the other people think', instead they really do know what they think, and feel (Shotter, 1996). Collaborative dialogical meaning making tools like CIDs can help to

facilitate a deeper probing of people's stories, and the explicit and tacit narratives, understandings and the values embedded within them (Redman, 2010; Clandinin and Connelly,1996).

2.7.1 Creating a CID

A CID has two key parts. The first part, a focus statement, provides connections to background concepts or introduces other related understandings. It acts as the provocation for a student teacher's thinking.

The focus question challenges student teacher's thinking. It helps them to draw on their knowledge, understandings, skills, experiences, and language. Individuals have time to reflect on their thinking, before they write and this may support quieter more reflective student teachers to have a voice. As student teachers respond to the question, and comments of others, they have an immediate audience for their thoughts.

2.7.2 Running a CID As a Learning Tool for a Group

Reading the focus statement aloud first helps focus those new to teaching. People write, pass their recorded ideas to a group member and become entrusted with the ideas of others. Sometimes they are surprised by comments, as some will be different, or equally, they are surprised by the similarity.

If the person is surprised, they can communicate this easily. In the left hand column they simply put in the Quick Comments column, a word or two or an iconic face.

2.7.3 Structure of a CID at a Glance. (See Figure 2.1)

Focus Statement - Yesterday we talked about xxx. The main points were xxx.
Focus Question -What was most interesting/surprising/useful for you?
Sometimes by asking 'what was most interesting/surprising to you', you may better engage student teachers to explore and examine a range of ideas, of interest to them, rather than have them trying to locate the 'right answer'. This is an open-ended question, which supports the offering of thoughtful opinions.

2.7.4 Implementing a CID for Groups of 3-6

Read the Focus Statement and Question aloud.
Each learner needs a copy of the Focus Statement and Focus Question.
Provide a designated time to record a response. (One to two minutes)
Pass the completed sheet to the left.
Allow time to read comments, respond and pass again.
Continue until each learner in the group has written and read responses.

Note, as a CID progresses around the group, it takes longer to be read, and to write.

A CID is versatile, and can be used at numerous points during the student teacher's journey. It could be used to explore concepts, procedures, pedagogy and attitudes. It could be used to help to revise or introduce past or new points, or questions, for discussions.

It can conclude a unit ensuring all student teachers' thinking has been made visible, to both the student teacher and the teacher educator. A CID can be used to support discussion pertaining to pedagogical and/or subject content knowledge. Figure 2.1 (Sample Collaborative Interactive) uses a subject content knowledge context for illustrative purposes.

2.7.5 Discussion

CIDs can be constructed with different types of Focus Statements and/or Focus Questions. CIDs are limited only by the imagination of educators striving to meet learning needs.

Provocation 2E

Try this version of a CID, as a personal tool for you, to support your thinking and learning.

You can document your own thinking, but you can also undertake this as an activity with three or four peers.

Focus Statement - When talking to student teachers I will talk about them as a learner.

Focus question - 'How might they see themselves differently if I refer to them as a learner, rather than a student teacher?

Record your response.

2.8 PERSONAL MEANING-MAKING MAP (PMMM)

A Personal Meaning Making Map (PMMM) supports teacher educators to gather student teachers' perspectives. It ensures understanding of individual's perceptions of objects, events and the relationship of the self to these elements (Redman, 2010). PMMMs support social constructivist approaches, and indicate the points that might require direct instruction.

Falk and Dierking (2002) have shown that PMMMs are useful for gathering perceptions. The PMMM illuminates what is behind a student teachers' meaning making processes. PMMMs empower student teachers by providing more genuine opportunity for 'voice and choice', and opportunity to elaborate on their points of view.

	Focus Statement GLOBAL temperatures are set to increase by up to five degrees centigrade by 2100, according to an Australian-led study. It suggests climate is more sensitive to greenhouse gas emissions than was previously thought. By 2200, the world could be more than 8C warmer than it was in pre-industrial times if carbon dioxide emissions are not reduced, say the researchers. The study corrected what were claimed to be earlier errors in calculating the effect of clouds on global warming.
	Focus Question What do you think the international response to this article will be from different stakeholders?
Quick Comments	
Agree! ☺	This study will be said to be yet another example of how climate scientists 'get it wrong' rather than that, as scientists they are always ensuring what they say is correct, or as accurate as it can be!
Sadly true! ☹	I agree- 'See Scientists get it wrong again' will be the headline, instead of 'Wow – science is making headway understanding the complex world of Climate and the role of clouds'!
	I want to read this article, wondering now - how are clouds 'working' and what does this mean to the future of climate on this planet?

Figure 2.1: Sample Collaborative Interactive

2.8.1 Stages of a PMMM

The stages below can be undertaken when conducting a PMMM in a school setting. They can be undertaken in pairs.

1. Each student teacher completes a PMMM, using words, drawings or simple phrases that capture their initial thinking (see figure 2.2).
2. The educator/peer seeks clarification by asking – when you wrote xxxx – what were you thinking? What does that mean to you? Do you have an example of that?
3. The educator/peer records the responses. This supports recall, and later, ensures accurate review of the learning, while adding further details. Hence more thinking and ideas are collaboratively explored.
4. Steps two and three above, are repeated for the peer.

This process makes clear the understandings and the meaning making process. This then enables more targeted, and informed support to be made available. Strengths of a PMMM lie in the fact that the student teacher generates the ideas, and they are not simply anticipating what the educator expects. The follow up questions respond to

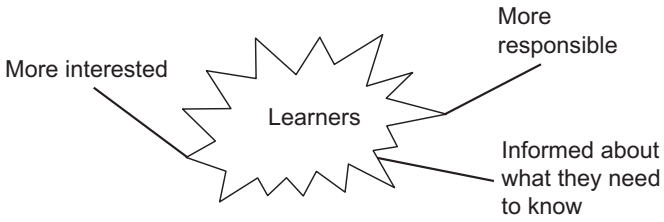

Figure 2.2: Sample Professional Meaning Making Map

the student teachers' ideas, and seek only to clarify thinking. Again, these questions probe the existing narratives and values, and the storylines that are brought to an idea or discussion (Clandinin and Connelly, 1996).

Provocation 2F

Place the words student or classroom in the centre of the page and jot down your thinking about those terms. What key words fly onto the page?

Take some time to write a few sentences underneath the word, to indicate your underpinning premise and thinking.

Repeat the activity, this time use the words learner or classroom, and see how your responses differ.

How much of what you write informs different practices?

Can you identify any assumptions that inform your expectations, and subsequently, behaviours?

How does the use of these words impact on your perceptions and inform and shape behaviours?

Like CIDS, PMMMs offer voice and time for student teachers, while the teacher educators have a written record to take away and consider. Both the student teachers and teacher educators can also review these later on their learning journey to see how the student teachers have progressed.

2.9 CONCLUSION

The aim of this chapter was to consider the pedagogy needed by a teacher educator working with student teachers in either the primary (elementary) or secondary sector

by first considering the philosophy underpinning learning, in terms of three bedrock principles that:

- Promote 'a sense of embodied self and relationships with others',
- Suggest that learners (children and student teachers) learn best when they are given appropriate responsibility and are respected as autonomous learners
- Involve relationships with other people.

Student teachers in all school sectors can proceed forward more confidently, if they know the quality and veracity of their knowledge. However, they need to have the skills and strategies, and the scaffolding to be able to examine and refract their prior knowledge.

Teacher educators need to be able to support student teachers to work with others to re-construct their understandings, and make relevant and broader connections. Alongside this, student teachers need to be supported in the process of constructing a professional identity as a teacher that is informed by their values and beliefs about education in order to prepare them for the amalgam of roles and responsibilities required of teachers today.

The chapter concluded by providing two examples of pedagogical approaches that lend themselves to supporting the values embedded within the three bedrock principles. The approaches use discursive strategies because language is the main way we can make sense of what others know and think. The tools described provided a form of instructional scaffolding that can support deeper learning opportunities (Bruner, 1996).

Language and, importantly, the associated thinking behind language, has been shown to be critical to the learning process. You will hopefully have considered how the use of language impacts on your perceptions of yourself as a learner, as well as your perceptions of the student teacher as a learner. Hopefully the chapter will also have helped show how assumptions behind your language shape your pedagogical behaviours.

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3. DEVELOPING REFLECTIVE PRACTICE

3.1 INTRODUCTION

The authors of chapter two introduced and briefly discussed how a process of critical reflection could be applied to support student teachers in becoming reflective. Chapter three picks up that discussion and considers the idea of teacher educator reflective practice as well as strategies that teacher educators could use with student teachers to encourage the development of reflective practice. The chapter begins with a brief description of reflective practice and concludes by presenting two strategies (action research and co-teaching) that teacher educators could use to help them develop personal reflective practice.

3.1.1 What is Reflective Practice?

Reflective practice is the process of continually improving one's teaching through engagement in it where critical thinking capacity is a necessary feature (Edward and Thomas, 2010). Engaging in reflective practice is generally considered to be a core standard and benchmark within the teaching profession. For example, the General Teaching Council for Northern Ireland (GTCNI) publication "*Teaching: the Reflective Profession'* states that 'one of the principles which underpin the Council's concept of competence is the centrality of reflective practice.... (and that) competence is developed through reflection on practice and through dialogue with others." (GTCNI, 2007, p.13).

'Reflection' and 'being reflective' have therefore been the subject of much research and provide the cornerstone for many professional development programmes (Pollard, 2005). However Larrivee (2008) points out that despite the prominence of reflective practice within professional standards the pressure to meet imposed standards of student performance can result in teachers' practice being more focussed on expediency and efficiency, and less informed by reflection.

Time constraints and a crowded curriculum can often restrict engagement in reflection. There are also the problems resulting from the absence of a clear and shared meaning of what exactly constitutes reflection and how it differs from other types of thought.

S. Rodrigues (Ed.), Handbook for Teacher Educators, 33–48.

Without specific criteria, reflection becomes difficult to engage with and any sense of progression may be hard to identify. Rogers (2002, p.843) believes that ''in becoming everything to everybody, it (reflection) has lost its ability to be seen'' despite its "allure… as something useful and informing" (Loughran, 2002, p.33) and its ubiquitous nature.

Husu,Toom and Patrikainen (2008) contend that teacher reflection has not been as effective as promised because reflective analysis does not come naturally and requires structure and dialogue. Bolton (2010), whilst recognising the need for supportive mechanisms, cautions that reflection should not be imposed but nurtured, and that induction and facilitation are required to avert negative feelings and resentment.

If we are to convince current teachers and student teachers of the value and worth of engaging in reflective practice we must create opportunities and contexts in which this process can be supported and, as Spalding and Wilson (2002, p.1393) suggest, "we must actively teach and model reflective skills in a variety of ways if we are to demystify reflection." Alger (2006, p.287) found that modelling the various levels of reflection made it accessible and a useful "tool for student teachers to do the organizing and reorganizing of their understanding."

Hatton and Smith (1995) attribute the barriers to promoting reflection among student teachers to their limited conceptions of the work of a teacher and their preoccupation with coping with their current situation. Given the evidence that structure and support are necessary, if the skill of reflection is to be developed among student teachers, Alger (2006) questions the extent to which these skills will be employed in their future teaching careers, and urges a greater concentration on the development of a positive disposition to reflection rather than solely on the skills of reflection.

Provocation 3A

Larrivee (2008) wrote about four levels of reflection (pre-reflection, surface, pedagogical and critical reflection).

Critical reflection – looks at long-term implications of their teaching and teaching strategies, and tends to be from the learner's perspective rather than the teacher's perspective.

Pedagogical – underlying approaches are analysed in terms of impact on pupil learning.

Surface- relies on 'what works' approach, tends to be from a teacher's perspective.

Pre-Reflection - tends to be a reaction to teaching situations.

Sometimes reflection during, or simultaneously with, our actions is challenging because of the multiple demands we juggle at the time. With hindsight, consider a recent episode in your practice, and try to identify where you sit/sat with regard to Larrivee's four levels.

3.1.2 Why Reflective Practice?

Good teacher educators are reflective practitioners. Teachers educators demonstrating reflective practice are able to evaluate and identify their own capabilities and competence level, and act on weaknesses while building on strengths in order to grow as professionals. Awareness by the teacher educator (and teacher/student teacher) of issues of power and control can lead to more deliberate thinking about creating more democratic classrooms. At the heart of this process, critical reflection becomes crucial for 21st century student teachers as a means of enhancing practice (McLeod, 2011; Reed and Canning, 2010; Edwards et al., 2002). Our argument is the need to nurture and develop open-mindedness and a readiness to see as the necessary starting point for critical reflection.

As Dimova and Loughran (2009) clarify, open-mindedness requires being ready to listen to more sides than one as an active listener. This means being prepared to hear views and ideas that may be contrary to our own and being able to see that a prior belief may be inappropriate particularly in relation to pedagogy (Rinaldi, 2006). To start this 'opening process' there is the need to be ready to demonstrate an openness of mind, heart and will (Scharmer, 2009, p.37).

Critical reflection requires and begins with self-awareness, which can be developed gradually and progressively as part of teacher education so that openness and readiness is nurtured. In the development of such attitudinal dispositions we show how the process of becoming open can be supported by a practical framework for reflection, named here as the '*9 R's of Reflection'*.

3.1.3 Using the 9 Steps of Reflection Pedagogical Approach

The '*9 Steps of Reflection'* (or 9R's) as a practical framework developed by McLeod (2012) illustrates how a pedagogical approach involving deep critical reflection supported teachers, and enhanced their participatory teaching with young children. The central argument is that critical reflection needs to start with the self and embodied readiness through creating the right conditions for learning.

Just as McLeod (2013) facilitated professional development with teachers in the form of deep self-awareness using creative collaborative workshops including reflective tasks over a period of time, so too with student teachers the same process can be applied. The ultimate intention is that participation can be sustained through a process of critical reflection. The key point is that the process of self-awareness in the form of creative collaborative workshops was key to nurturing a critically reflective approach.

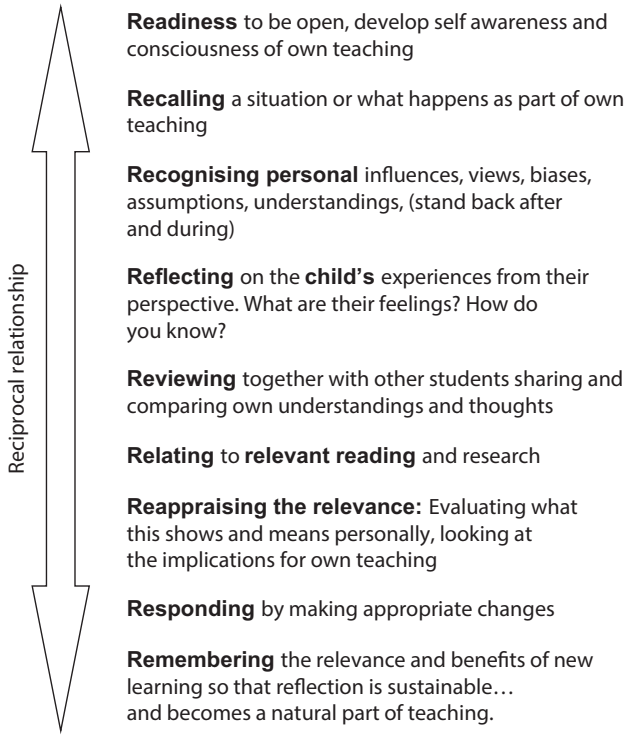

Figure 3.1: Nine Steps of Reflection

The '*9 R's of Reflection'* enabled the teachers to focus positively on the challenges they faced within their educational setting. Just as the 9R's developed gradually with the participant teachers, so in the context of working with student teachers, the 9R's could be gradually introduced. Regardless of which sector you work in, as a teacher educator you can model these 9Rs.

In the context of becoming a teacher educator there is a tendency to follow Government policy and directives without considering or questioning why and how appropriate they are for supporting children's learning. Student teacher learning plans are often very teacher directed and objective driven with very few opportunities for genuine participation that involves or follows children's interests.

This is not a conscious decision but rather the result of a lack of awareness of how personal values, beliefs, experiences and understandings influence what is considered appropriate as a means of teaching. In the study by McLeod, 'working with' rather than 'doing to' the participants facilitated creating a safe space that promoted an open, collaborative approach (McIntosh, 2010). This approach enables

participants to embrace uncertainty, a willingness to fail and a desire to engage in participatory teaching with young children.

Provocation 3B

This provocation models the 9Rs.

Recall a situation that was part of your teaching with student teachers.

Begin to 'Recognise' personal influences, views, biases, assumptions, understandings, (so that later student teachers may be encouraged to stand back and value a child's perspective).

Reflect on this from the student teachers' perspective.

What was their experience of learning?

Were they involved? How?

From working with student teachers over the last twelve years, it is clear that students feel a pressure to 'get it right'. They are uncertain about sharing ideas, having a go, or experimenting, for fear of getting it wrong. Thus creating a pedagogic environment with the right conditions for collaboration in order to enable sharing thoughts and ideas is essential and at the heart of becoming self-aware.

In McLeod's (2012) study, the intention was for the teachers to use the *Steps* as a structure for keeping a reflective journal in relation to their practice focusing on participation (Moon 2008). Through their journal writing and engagement in the reflective and collaborative nature of the dialogic/creative workshops, they became more self aware and open to change. Their ability to see personal influences on their practice and appreciate the child's experience was enhanced.

Quite early in the study the additional reading provided a sense of relevance, purpose and authority for the teachers as a way of justifying participation with young children (Eun, 2011). This needs to be at the heart of a student teacher's journey to becoming pedagogically aware. The reading provided needs to be relevant, so that students can make links between participatory pedagogy (see Shier, 2001) and their own teaching.

In the context of developing self-awareness and a personal pedagogical approach, it is essential that student teachers draw on both research and relevant pedagogical literature alongside Government policy initiatives. The process of collaborating and sharing together becomes more natural and valued by the teachers and is seen as '*Reviewing together'*. As workshops progress, the student teachers will become more expert at evaluating and *Reappraising the relevance* of their teaching in relation to participatory practice.

The structure of the *9 Steps of Reflection* could be used to provide practical pedagogical steps to help teacher educators and student teachers.

The *Reciprocal Relationship* arrow represents the 'golden thread' that connects each of the aspects of the process. It indicates steps as part of the purposeful process of critical reflection. However, the steps should not be seen as a restrictive set of rules to be followed rigorously. The 9R's of Reflection can help promote deeper pedagogical insight for teacher educators and student teachers.

3.2 ACTION RESEARCH: A STRATEGY TO SUPPORT REFLECTION

Researching one's own reflections and actions is an effective strategy to improve one's professional practice. Broadly speaking, this is called action research. A much cited definition of action research is:

> a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out. (Carr and Kemmis, 1986, p.162)

3.2.1 Teacher Action Research: Pedagogical and Participatory

In the literature, views of what constitute action research appear to fall into two groups. One group of thinking link action research closely to self-reflection and is research undertaken by practitioners for the enhancement of their own practices (Carr and Kemmis, 1986). The other group views action research as the active involvement of the practitioner in the research where there is systematic collection of information, including self-reflection, designed to bring about social changes (Bogdan and Biklen 1992). The former could be viewed as pedagogical action research, while the latter has a participatory dimension that involves a community of participants in the action research. Both forms of action research are applied research that assists teachers to reflect on their own practices and gather evidence to inform how they should change the way they teach.

In pedagogical action research, the practicing teacher conducts research on their own teaching and evaluation methods, with the aim of gathering evidence to inform him/her of whether the students' learning has improved. While there are numerous anecdotal accounts of teaching innovations and examples of best practice, it is critical that research is conducted to show if these practices and innovations are actually working in the classroom.

Participatory action research is community-based where researchers from universities work collaboratively with teachers to test new ideas and implement actions for change in order to improve practice (Mason, 2005). The research design could involve other stakeholders within the school community such as other teachers, the principal and parents.

Provocation 3C

Reflect on the last two classes that you have taught.

How would you assess how well they went?

Write a list of questions. For example, how well did my students understand my explanation of the concept of energy and create some criteria for the assessment?

Now consider what kinds of evidence would you use to demonstrate the degree by which you have satisfied the criteria.

How would you improve on those criteria that you have assessed unfavourably?

How could you improve on the criteria for which you were unable to produce evidence to demonstrate that you addressed the criteria satisfactorily?

Participatory action research involves direct participation of all parties in a dynamic research process where all participants are active co-researchers. As the purpose and outcomes of participatory action research is about improving the teachers' pedagogical practices, this type of action research could be viewed as participatory pedagogical action research.

In participatory pedagogical action research, teacher practitioners are 'ultimate arbiters over what counts as useful knowledge' (Mason, 2005, p.567) and the role of the university-based researcher is to supply the theoretical resources needed for the practitioner to reflect on to further develop his/her practice (Goldstein, 2000; Johnston, 1994; Leitch and Day, 2000).

Most of the reported pedagogical action research in the literature is participatory in nature. There are variations in the interpretation of action research and its processes (see for example Elliot, 1991; Quigley and Kuhne, 1997; Macintyre, 2002; McNiff, Whitehead and Lomax, 2003; Whyte, 1991). Thus action research as a research method has had issues raised about its quality and whether it is real (scientific) research or just a description of classroom practices (Bartlett and Burton, 2006). Swepson (1995) argued that both scientific research and action research are similar and that both are combinations of rational and empirical processes.

The empirical processes in participatory action research involving a community of participants are more rigorous and accountable than self-managed pedagogical reflective practices. For example, data obtained from a student survey and a colleague's observation and feedback could be triangulated and analysed in light of the teacher's reflections, aided by a researcher.

Provocation 3D

What are the advantages and pitfalls of a self-managed pedagogical action research?

3.2.2 Underlying Principles and Processes of Action Research

Bradbury and Reason (2003) asserts that action research is grounded in lived experience and addresses significant problems. It should be designed and developed in partnership with people rather than simply studying people. Bargal (2008) adds that action research entails continuous cooperation between researchers and practitioners and that it includes a cyclical process of data collection to determine goals, action to implement the goals and the assessment of the results of the intervention (i.e. pedagogy in this context).

The cyclical process is described by Latham and Gilbert (1995) as planning - acting - observing - evaluating - planning etc. (cycle starts again) while Norton (2001) identify the elements in the cyclical process as ITDEM (see Figure 3.2).

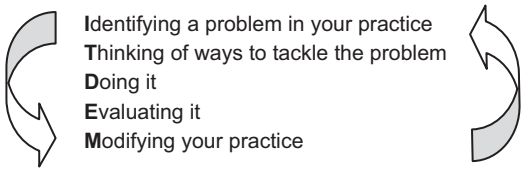

Figure 3.2: The elements in the cyclical process of action research

While there are slight variations in action research sequences described in the literature, most have the following stages in their sequences:

i. identifying a general problem or idea
ii. designing an action plan
iii. implementing and collecting the data
iv. analysing the data
v. reflecting and further action plan.

An example of the application of these stages of action research, working with a researcher follows.

3.2.2.1 Identification of a problem that needs improving. Reflect on previous data and identify an area that needs improving e.g. improve end of topic marks of low ability students. Research questions could include: what are the conceptually difficult areas that low ability students experience? What will be the impact of formative assessment on the learning of these students?

3.2.2.2 Produce an action plan. Design a modification to the existing teaching practice e.g. build in 5 formative assessments to monitor the progress of the students and identify concepts that the low ability students have difficulty with, then provide the necessary scaffolding to assist them with the learning.

Table 3.1: Stages of an action research

Norton's (2001) stages of action research	*Stages of research reflection and activities*	
Identifying a problem in your practice	Identification of a problem	Generate research question(s)
Thinking of ways to tackle the problem	Produce an action plan	Design modified practice Design research methodology
Doing it	Implement the plan and collect the data	Apply modified practice in teaching Collect data according to methodology
Evaluating it	Analyse the data	Analyse data and generate some conclusions
Modifying your practice	Reflect and plan further action	Compare with hypothesis and/or previous findings

For the research, design the research methodology e.g. pre- and post-tests, survey attitudes of students toward the topic at the beginning, interview the low ability students midway and at the end of the topic to gauge their progress and attitudes; invite a colleague to observe two classes and provide feedback; keep a journal entry etc.

3.2.2.3 Implement the plan and collect the data. Implement the teaching plan and work with the researcher to collect the data at the planned time.

3.2.2.4 Analyse the data. Analyse the data e.g. document and record patterns, themes or differences; identify areas of improvements and areas that are not so successful from the data.

3.2.2.5 Reflect and plan further action. Compare with early assumptions, hypothesis and/or findings and identify unresolved issues or new problems. Reiterate the cycle. Table 3.1 above shows these stages mapped into Norton's (2001) sequence of action research.

3.3 DEVELOPING REFLECTIVE PRACTICE THROUGH COTEACHING

Coteaching is an ideal methodology that teacher educators can use to simultaneously enhance their own reflective practice as well as the reflective practice of in-service and student teachers. Coteaching can be described as teachers sharing the responsibility for all aspects of practice, such as planning, teaching, assessing and evaluating

(Martin, 2009). It can provide a range of benefits such as decreasing student teachers' anxiety in the classroom, improving teachers' skills and pedagogical competences, allowing for more pupil-centred enquiry-based learning and, importantly, enriching the learning experience of pupils. Indeed, in the US, the National Council for the Accreditation of Teacher Education (NCATE)'s Blue Ribbon panel on clinical preparation and partnerships has noted the critical role of coteaching as a model for linking theory and practice in preparing teachers to teach (NCATE, 2010).

Coteaching was initially developed as an inclusion model for K-12 classes where a special education teacher was paired with a classroom teacher (Kluth and Straut, 2003). When coteaching is used as the model for student teaching, the established practices involved with learning to teach are challenged and student achievement and attitudes are positively impacted.

For more than five years, Bacharach, Heck and Dahlberg (2007) explored the development and implementation of an empirical student coteaching model involving formal school-university partnerships in 17 school districts. Children who were cotaught in mathematics and reading classes showed *statistically significant improvement in achievement*.

The study provided strong evidence of the benefits coteaching afforded for student learning and teacher preparation. In this section of the chapter we will focus on how coteaching can be used to enhance reflective practice so that more sustained benefits can be accrued from the practice.

Each of the popular models (Kolb, 1984; Gibbs, 1988; Atkins and Murphy, 1994; Korthagen and Vasalos, 2005) used to represent the process of reflection generally involve a cycle of what can be approximately represented by the stages; planning, teaching, evidence collection, evaluation, refinement, and teaching. As practitioners move through this cycle one could investigate how each stage is enriched by interaction between the coteachers within this zone of proximal development (ZPD).

Coteaching provides ideal conditions for learning by creating a zone of proximal development in which the collective achieves more than the individual. The key characteristic underpinning coteaching is that preservice teachers engage in discussions about practice and praxis with their cooperating teaching partners. It is this dynamic between participants which we have found to be key to making the often challenging practice of reflection more accessible, meaningful, and more rewarding.

Some of our most recent work on coteaching, which we include in this chapter, interrogates questions relating to the extent to which coteaching promotes reflective practice, the particular affordances provided by coteaching, which support reflection, and how even a brief coteaching experience might inform the future reflective practice of both participants.

Coteaching essentially progresses via three key stages: coplanning and copreparation; copractice, which includes coteaching and coevaluation, including coreflection (see Figure 3.3).

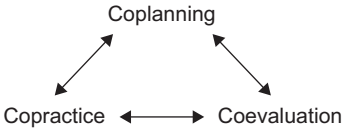

Figure 3.3: Phases of co-teaching

In our recent coteaching research focusing on developing reflective practice in the context of primary science, teacher and student-teacher coteacher pairs were encouraged to plan, teach and reflect on lessons and schemes in relation to 'ideal' practice, as opposed to the more pragmatic planning enacted by teachers working alone.

Coteaching therefore provides the mutual support of two (or more) professionals during praxis to develop and reflect on their own and each other's improving classroom practice to aid the learning of the students. We provided coteachers with *tools* for reflection, which comprised:

1. Coreflection sheets on which coteachers commented on areas of the lesson and on their coteaching by recording their responses to questions such as:
   - 'Ideal' children's science learning from this lesson – how did we/they do?
   - What limited children's learning?
   - How good were the tools we used and how could we improve them?
   - How far did coteaching enable both teachers to attain the planned learning/development?
   - What changes should be made?
2. Self-diagnostic tools, in which coteachers could assess their own levels of reflection (e.g. see Larrivee, 2008).
3. Key readings about reflective practice, against which coteachers could raise their own levels of reflection.

Following coteaching, student teachers employed the pedagogical approaches, which they had developed in the copractice phase, during their solo teaching placement. Cooperating teachers also integrated their new learning from the coteaching into subsequent solo practice.

Provocation 3E

Introduce yourself to coteaching via sharing expertise by coplanning a session for your student teachers with a colleague.

Coteach it.

Coreflect on the potential of coteaching for student teachers.

Data on coreflection comprised semi-structured interviews, focus group discussions, completed coreflection templates after each lesson, and reflective essays (student teachers only) and video journals (data not used for this proposal).

The findings, overall, suggested that coteaching provides a method for improving reflective practices of student and cooperating teachers, particularly in relation to the learning and teaching of primary science. Coteachers highlighted the value of reflection. They commented on how they had used it before but with little effect. They commented on how they now realised the benefits of reflection-in-action as they worked together in the classroom, and reflection-on-action in both their coreflections following lessons, and in the later reflection during interviews and additionally for preservice teachers, in the reflective essays.

More specifically, coreflections identified huge benefits of coteaching, including:

- working with a critical friend;
- improved confidence to teach science;
- improved learning environment for children;
- more experimentation with teaching approaches;
- reduced use of worksheets;
- teaching more science;
- children 'owning' their learning and driving lessons;
- coteachers and children working at a higher level.

This is illustrated by responses from cooperating and student teachers to identifying new practices following coteaching, for example:
Researcher: *Anything in your practice now that you didn't do before [coteaching]?*

1. Cooperating teacher: *Even teaching science. Having more confidence and carrying out daring lessons that might not go so well.*
2. Student teacher: *I wouldn't have touched investigative side before with a barge pole. On my placement in P3 I gave them cups of water. Not on your life would I have given them a cup of water before because I would have been nervous of what they would do. Even how you set the room up at the start – my experience totally changed that.*

Individual reflections on coteaching identified a key difference between student teacher and cooperating teachers in that student teacher reflections indicated that they had progressed from evaluating resources and classroom activities to *reflecting on children's learning*. Cooperating teachers' reflections, however, suggested that they moved from evaluating resources and activities to *reflecting on their own pratice and its effectiveness*:

3. *The content of reflection changed. Before I focussed on resources and how they worked, whereas after coteaching I went: "okay this group didn't get this, and this is why I think they didn't get it, so this is what I'll do instead next time". It was much more detailed in terms of children's learning instead of the practical setup of the classroom. (student teacher)*

4. *You evaluate your notes but it took your evaluation in a different way because you were now being more about self. Before you were looking at things that work in your notes and don't. Now you were looking at yourself and what do you expect to get from it. It was more looking at you and could you have done something better. Even learning from the student with the sheet and going over it together and maybe on your own you would have poured over it for hours and analysed every word and they were just 'you don't have to go into huge detail just cover it'. (Cooperating teacher).*

Most reflections from interviews with cooperating teachers referred to the theory and practice of science learning and teaching. However, direct and deep reflection on the theory-practice relationship more generally was more evident in student teachers' reflective essays.

5. *Through coteaching I have developed my reflective practice through the levels of progression and in a variey of ways through reflection in action and reflection on action… It is evident that whilst coteaching has developed my refective practice, the road to becoming a competent 'Reflective Practitioner' (GTCNI, 2010) will be long. Reflection is arguably a process, not a method, but a process which must be developed throughout a teaching career. This journey of effective reflection, facilitating lessons which site pupils' learning in the forefront has begun and it will be interesting to chart the progress and effectiveness of my reflections throughout my teaching career.*

In terms of meta-reflection, Coteachers invariably talked of the value of reflecting and how reflection improved their practice; cooperating teachers commented on time constraints re reflection; all appreciated coreflection was a major reason for coteaching being successful in improving practice. The agreed template for reflection was critiqued after use by some student teacher :

6. *Throughout the coteaching experience, reflection arguably occurred through the provision of a structure, in the coreflection template, maximising the thinking process. This structure gave reflections a premise, however, care must be taken in the use of templates when reflecting to ensure that the process is not hampered by the completion of sections on paper.*

Most reflections were characterised as level 3 and 4. Indicative quotes 1 and 2 - level 2 [surface reflection] of our adapted Larrivee tool (eg: using evidence and making adjustments based on experience only). Quote 3 – level 3 [pedagogical reflection] (eg: adjusts methods and practices based on students' relative performance). Quotes 4-6 – level 4 [critical pedagogical reflection] (eg: commitment to continuous learning and improved practice; constructive criticism of own practice; sees teaching practices as remaining open to further investigation).

3.4 CONCLUSION

In conclusion, we suggest that action research and coteaching provide an ideal approach to develop reflective practice. Two factors are crucial: firstly, a constant focus on ideal, rather than pragmatic practice in relation to development of learning and development. It could be argued that much of the current continuing professional development offered to teachers embraces the rather low level "this is how to…", instead of aiming higher, as is encouraged in the coteaching approach "what is the *ideal* way to develop children or students' learning of..?" Secondly, we recommend that action researchers and coteachers are provided with 'tools' for reflection, such as articles, self and peer diagnostic instruments to evaluate levels of reflection, and ideas from key scholars on reflection, such as Dewey, Vygotsky and Rogers.

Our lived traditions produce values, biases and beliefs which influence the manner in which we consciously or unconsciously form our professional identity, our priorities and understandings of working with young children (Hassan, 2005; Beijaard et al., 2004). It is these embodied experiences, especially those unconscious ones that we need to understand if we want to understand the 'richness and subtlety of human experience' (Leitch, 2006, p. 551).

Within the context of education, teachers tend to feel restricted by an outcome driven curriculum and targets imposed by government as part of a top down approach. As a result there is the tendency to sometimes 'play it safe' and follow rules without questioning (Wilkins, 2011). Being aware of these power relations can promote a consciousness of reality so that we (and our student teachers) are more able to make informed decisions about what is appropriate pedagogy and take ownership of our and their practice (MacNaughton, 2005; Freire, 1994) rather than doing what is familiar and safe.

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4. DEVELOPING SUBJECT KNOWLEDGE

4.1 INTRODUCTION

This chapter is written to share with the readers, ideas, suggestions and theoretical considerations when preparing educators to work in primary schools with learners. Teacher educators often reach educational posts, with responsibility to teach student teachers, via a variety of routes. Previous success in roles, such as middle leaders, head teachers, administrators, inspectors, advisors, etc, means that they have accrued much invaluable knowledge and understanding about subject matter to be taught, from many differing and varied professional experiences.

There is often an assumption, though, that it is straightforward to help new teachers learn how to support children's learning in classrooms. There are many considerations to take on board when setting about helping beginning teachers understand how to nurture, support, scaffold and mediate learning subject knowledge. Knowing your subject is an essential pre-requisite for teaching. You need to know and understand the subject content that you are going to teach. If you are not fully conversant with the subject matter you are about to teach, you will not be able to recognise what is important to have learners comprehend and appreciate about it.

One model that is helpful to explain what the key considerations are when setting about teaching a topic, conceptual idea(s) or particular notions is the Shulman (1986) model of teacher development. Learning subject matter is not just simply a matter of 'telling' or 'explaining' what something is or how it works to a learner or beginning teacher.

4.2 SUBJECT KNOWLEDGE

It is generally agreed that to be an effective teacher, understanding of subject specific content knowledge is fundamental, but there are contrasting views about what constitutes understanding of content knowledge. Shulman (1986, p. 9) identifies how subject matter could be discerned in differing ways. The three influencing dimensions, Subject knowledge (what is known about subject matter), Curriculum knowledge (what is known about curriculum design) and Pedagogic Knowledge (what is known about teaching) can work in complementary ways to constitute what should be considered when preparing to teach. There is a suggestion that the subject matter content knowledge, the way that the curriculum is constructed and organised as well as pedagogical content knowledge can influence what and how literacy, numeracy, science or any other subject might be taught to learners (see Shulman, 1986).

S. Rodrigues (Ed.), Handbook for Teacher Educators, 49–65.

Subject knowledge is comprised of what is known as the subject matter, that is the key facts, concepts or principles that constitute it. In science, for example, the topic of 'forces' would include the nature of different forces, consideration of the ways that forces are generated, measuring and recognising different forces, knowing Newton's three laws etc. This mass (no pun intended!) of information or factual material to be taught would be identified as the 'substantive subject knowledge'. However, teaching five year olds that *Force = Mass x Acceleration* is inappropriate, and teaching about pushes, pulls, twists and squashes to ten year olds would normally be too long after they need to understand how those diverse forces can change materials or the ways that things behave. So, the sequencing of concepts to 'build' from simpler ideas to more complex ones is a matter of 'syntactic subject knowledge'. Substantive subject knowledge can be thought of as the 'knowing what', syntactic subject knowledge can be thought of as the 'knowing how it all connects together'.

Provocation 4A

Consider what constitutes literacy and numeracy (Cotton 2010) subject knowledge.

For each of these (map out) and contrast what is the substantive subject knowledge and the syntactic subject knowledge.

Consider then, how you might expect a learner to connect and build understanding of the subject matter.

4.3 CURRICULUM KNOWLEDGE

'Curriculum knowledge' is about understanding where (and when) in the (National) frameworks imposed on schools (or scrutinised through inspections) subject knowing and understanding is expected. This may include both substantive subject matter knowledge as well as associated key skills. In Literacy for example, there is an expectation that at a young age children have a repertoire of x number of words, and that as a child matures they will extend their vocabulary in an incremental way. It is expected (through curricular frameworks), that they then recognise the relationships (and patterns) between sounds and letters. The ways this root verbal repertoire of words will be spelt will then be taught, and then the baseline lexicon can be extended with prefixes and suffices (curricular expectation of progressive syntactic knowledge) to develop children's literacy. Knowing when measures of progress in learning (through formal assessments) will arise is also important when considering 'what' should be taught 'when'. These kinds of considerations inform curricular knowledge.

Alongside developing subject matter knowledge, technical, creative and practical skills that are concerned with 'knowing how to' (should also be considered), these

are aspects of learning about how to use and apply subject knowledge. Sfard (1998) would refer to this as *knowing how*, rather than *knowing what*. Returning to 'forces', children would require skills to handle and manipulate (push, pull, twist, squash) objects and be able to read the scale on a force meter, for example. In numeracy, they would need to identify 3-D geometric shapes to appreciate how a cylinder, pyramid or cube might be constructed through creating them by cutting, folding, marking, bending and adhering card or manipulating other materials.

Educators need to recognize how subject matter, within the curriculum, can be effectively organized, for example if you are a physical education (PE) teacher you will realise that you cannot teach children how to play bucket ball if they have not yet learned the basic skills of catching or throwing. There is a need to pay attention to and develop competency in one area before progressing to the next. Curricular knowledge could be thought of as 'knowing how subject knowledge connects'. It is important to recognize how key skills (which could be thought of as 'knowing how-to') may be essential to the learning of substantive or syntactic subject knowledge.

Provocation 4B

Reflect on your 'map' of literacy and numeracy subject knowledge, to be learnt, and consider how and when the (national) curriculum tests or assessments 'demand' evidence of competency.

Consider how you as a teacher educator will share with your student teachers how and what kinds of tensions this may bring in teaching younger children to develop their literacy and numeracy.

4.4 PEDAGOGIC KNOWLEDGE

Practical teaching knowledge is important to ensure effective learning through the application of realistic pedagogical strategies that include taking into account children's prior learning (successes, persistent challenges, individual context etc), how to set appropriate learning tasks, organising how children work alone or together, managing behaviour and formatively and summatively assessing progress. How student teachers might go about this, without tutoring, can be intuitive and/or experiential drawing on their understandings of *what works or what has worked for them in the past.* Teacher educators can introduce alternate ways of engaging with subject matter that can influence future teacher's practices. Thinking about and contrasting the ways that mixed ability groupings, or similar gender groups or setted groups work together differently, can provide insights when a lesson is focused on skill development, such as team building in Physical Education, or a collaborative project in a practical subject like design and technology or a dramatic performance by a whole class at the end of term.

Understanding how learners think and process different forms of information (appreciating influences of child development, emotions, skill needs, diagnosed difficulties, talents or gifts) should all be accounted for when developing learning tasks. Children make unique connections between different aspects of the subjects they are taught and can also generate misunderstandings or alternate conceptions (often labelled misconceptions) about subject content, especially in science and mathematics (Driver et al., 1985; Hansen 2005), at any given time.

As a teacher educator you have a role to play in helping student teachers to address the kinds of difficulties learners have, to help them construct more appropriate meanings from classroom activities, and organize experience of subject matter progressively. This requires a good understanding of the nature of the subject.

Sfard (1998) reviews assumptions about learning and offers two contrasting metaphors that epitomize assumptions about knowledge. One is an acquisition metaphor (like a squirrel collecting and storing increasing numbers of acorns) that characterizes constructivist and symbolic-processing theories of knowledge. This depiction assumes that knowledge is acquired through the use of an individual's sensory inputs and must be stored in the mind somewhere. Her contrasting participation metaphor illustrates the notion that knowing requires some activity, interaction or application. Through learning tasks (like a group of children planning some kind of investigation in science or organizing a sketch in drama) what emerges, through discussion and exchange of ideas and views about the assignment, are fresh, even new, shared understandings related to the undertaking. Some educators may differentiate these forms of knowledge as knowing what and knowing how. The former relating to subject matter and the latter to skills respectively.

Piagetian views of learning would advocate a tiered and scaffolded approach to developing subject knowledge beginning with concrete experiences and progressing to develop more abstract ideas (Shayer & Adey 2002). Wiggins and McTighe (2005) would promote a backward design approach when planning for teaching. They consider that you should start with what you wish the children to *know* and then work back to consider how you would scaffold them to achieve those objectives. Their view focuses much more on the 'pedagogical' knowledge that Shulman emphasizes, that is, *what do I need to have my learners do, so that they understand what I wish them to know*. This view of thinking about what the children will learn by *doing,* draws on a teacher belief that learning is experiential and does not happen as a result of just telling, showing or discussing ideas with children. Shulman's model, though, recognises that intuition (how a teacher might instinctively, rather than by analysing existing literature and research), inform organised learning or institutional influences (the ethos of the school or community) may also shape the way that teachers present learning about a subject.

Appreciating, pedagogically, how management and organisation within the classroom can affect learning of subject content could be viewed as 'knowing how learning can develop'.

Provocation 4C

For a specific teaching topic consider how the different (planned) learning activities help children develop *knowing what* and *knowing how*.

Consider the strategies you could use as a teacher educator to enable student teachers to develop learning activities to help children develop knowing what and knowing how.

4.5 PERSONAL PERSPECTIVES

It is important that educators recognise that there is not necessarily one particular way to teach a concept, principle or aspect of subject matter. What works effectively for different learners depends on a range of factors, many of which have been considered here. However, an increased level of confidence to effectively teach subject matter will be greatly influenced by:

- How well you know your subject matter and understand curricular imperatives.
- How carefully you have thought about, planned and prepared, for the children's learning experiences and what you, as teacher, will do and say.
- How well you are able to assess the learning of your learners (and respond to their ongoing needs).

Your performance or enactment as a teacher educator will express your understandings (about your subject, its nature and sequence) and beliefs (about how your students learn) and the influences of the institution (daily routines, weekly practices and integral values). There is much evidence that suggests that the ways that educators were taught does influence (even if in a negative way, such as "I was taught awfully, I will not teach that way") beliefs and understandings about pedagogic practice and learning.

All these factors (and more) will impact on you as a teacher educator and how you present material to be learned about. As educators develop professionally and recognize something is not working too well, they may find it useful to take each of the aspects described above and reflect on them in turn, identifying where there is a need to focus further to facilitate more effective development.

4.6 THINKING FURTHER ABOUT SUBJECT KNOWLEDGE AND SUBJECT PEDAGOGY

4.6.1 Knowing Your Subject

What does it mean to 'know' English and literacy, for example? The challenge for an educator is to develop a sequence of learning experiences that make sense for the learner and scaffolds progressive development of understanding. This draws on

both knowing syntactically how subject matter should be organised as well as being informed about what is relevant curricular material (see Figure 4.1).

Pupils should be taught to:

listen and respond appropriately to adults and their peers

ask relevant questions to extend their understanding and knowledge

use relevant strategies to build their vocabulary

articulate and justify answers, arguments and opinions, give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings

maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments

use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas

speak audibly and fluently with an increasing command of Standard English

participate in discussions, presentations, performances, role play, improvisations and debates

gain, maintain and monitor the interest of the listener(s), consider and evaluate different viewpoints, attending to and building on the contributions of others

select and use appropriate registers for effective communication.

DfE (2013): 17

Figure 4.1: Extract of curricular expectations for Spoken Language (to be taught to primary school pupils in England).

The syntactic, curricular and pedagogic challenge as Shulman would see it, would be to consider the statements in Figure 4.1 and determine how best to teach to develop them in the classroom. Bruner (1962) would argue there are different ways to go about teaching, but emphasizes that the optimum sequence should be sought.

As a teacher educator, what is key is to ensure that would-be teachers understand the meaning of each of the statements in Figure 4.1 and can effectively plan for development of each within a meaningful context. The learning objectives to be achieved should be devised appropriately for different year groups. The learning processes and outcomes should be measurable in some way (from evidence of various kinds, e.g.: nature of discussion or written product etc) to indicate when they were achieved by learners.

Provocation 4D

For each 'topic' or 'theme' or 'subject matter area' you are preparing to teach teachers about, a useful introductory exercise is to:

i. identify all the key learning outcomes that need to be achieved;

ii. provide these in tabular or card format (for flexibility) to consider where they might be best placed on a timeline of teaching;

iii. agree that there are a variety of 'routes' through the subject matter that are possible;

iv. have each group explain why they think their 'route' would work best or have the groups review each others;

v. consider the benefits and constraints of each route or pathway through the material.

All these steps will require teacher educators to draw on their experience to inform and guide the reflective discussion.

Knowing how to frame learning tasks and mediate (that is question, respond to learners difficulties, offer different forms of support, formatively assess progress etc) is key pedagogic eruditeness. These are different forms of subject and pedagogic knowledge that Shulman refers to. Teaching literacy, for example, requires understanding how and when to encourage and engage in varied kinds of reading (to understand words and comprehend), writing (to spell and scribe clearly as well as articulate well structured ideas), listening (actively) and speaking (fluently and effectively). Phonics, embedded in each of these processes, is widely discussed and there are varied opinions about the best ways to support this in primary classrooms.

Muijs and Reynolds (2005) suggest there is a difference in approach to teaching analytic phonics or synthetic phonics. Analytic phonics requires the child to first learn a few words that include common phonic components, eg: first letter 'p', such as that found in *pill*, *pot* or *park*. The way that the 'p' sounds is then compared and other similar sounding 'p's (or phonemes) are collectively sought. Synthetic phonics requires children to convert groups of letters into phonemes to form words. In this way they think about families of words that have similarities in the ways they sound.

Consolidating understanding about how words, sentences and prose (of different genres) are constructed, as well as conforming the use of grammar punctuation and other linguistic structures is key in learning about language and through language. Previous schemes of work (QCA 2003) for different stages (or phases of education) included clear routes and progression through subject matter and offered much pragmatic advice for teachers.

The current National Curriculum (DfE 2013) for England offers much year by year specificity of the aspects of literacy to be developed but there is still an expectation that the educator will make professional decisions about *how to* teach. There are, however, many moments in teaching when a learner asks an unanticipated question or makes a comment you didn't expect and you realize there is a rich opportunity to go 'off piste' to focus on something that is relevant at that instant, but not necessarily in the scheme of work or a given Curriculum. Knowing your subject will inform your decision about seizing appropriate moments to teach (or not) unscripted material.

4.6.2 Knowing and Understanding Your Subject

Teaching to develop numeracy requires cognisance of a variety of concepts involving knowing the geometry of different shapes, knowing number bonds, place value, addition, subtraction, multiplication and division, fractions etc. all of which can be taught in different ways. As a teacher educator you need to be aware of the different approaches (Numicon; Maths Makes Sense; Be a Mathematician, BEAM; Lets Think through Maths etc) that can support learning in maths. This is part of your syntactic knowledge.

'Knowing' your subject requires an investment in time and effort. It usually develops, not just through self auditing, reading texts, engaging in learning blogs etc, but most insightfully advances through working with learners themselves, either adults (in-role as young learners) or the children the learning is aimed at.

Recognising what and when to teach particular concepts can be somewhat perplexing. In mathematics, there are many abstract (Piaget 1950) ideas that can be challenging, concepts related to algebraic understanding, probability, risk and uncertainty, for example, demand higher level thinking. Other skills that are required at primary level include collecting, presenting and analysing data, which require practice and regular opportunities to apply ideas and explain them.

Problem solving is also something that children are expected to be able to engage in. All these kinds of mathematical abilities require the educator to be knowledgeable about the subject matter and how it can make 'sense' to learners as well as appreciate when and why learners may face difficulties in relating to, understanding and applying arithmetical notions.

As a teacher educator, your potential teachers will benefit from exploring how the different approaches work for different age ranges, Special Educational Needs (SEN) or English as an additional language (EAL) children. So reflectively sharing how things worked (or not!) can be an important pragmatic approach to consider. After trying activities or reflecting on in-class experiences, the nature and depth of reflective professional discussion can be pivotal in helping would-be practitioners become effective teachers. It is important to deliberate over the ways that the activities, programme or approach (to teach something) provide objectivity about cognitive processes that are challenging.

4.7 THINKING FURTHER ABOUT PEDAGOGICAL SUBJECT KNOWLEDGE

4.7.1 Scaffolding the Learning

Knowing what your learners may find challenging or difficult as well as knowing what kinds of mis-understandings are commonly constructed or encountered is definitely fore-warned and therefore for-armed as an educator! A good science teacher does not just know his or her subject, they also need to be aware of learners difficulties in learning the subject.

Knowing when your learners are 'ready' is also something that Piaget (1950) and Vygotsky (1978) perceive quite differently. Vygotsky's view of readiness is related to his notion of the zone of proximal development (ZPD), that is whether or not the learner is sensitive to what is being taught and perceptive to (cognitively and affectively) process new material presented or be able to fully engage in the learning activities proffered. The Piagetian notion of 'readiness' defines whether a child has reached one level of cognitive competency and is ready to move to the next. Taking account of these perspectives can inform your pedagogic *know-how*.

4.7.2 Being Aware of Learners Capabilities

Children often develop science mis-understandings or alternate conceptions like "plants need feeding", whereas, in fact, plants manufacture their own food from water and carbon dioxide. Learners often adopt intuitive ideas, from evidence they can see or feel, such a taller people are older, or something that is bigger will sink, objects that are smaller will float in water.

They may also think that an electrical current travels only one way, and only when a switch is pressed, from the wall to the appliance. They often do not appreciate that there has to be a circuit within the wire within which the charged particles move because they can't see happenings on a microscale. There is much debate currently about whether learners can only be taught particular abstract ideas, particularly in mathematics and science, at a certain age (Piaget 1950; Blakemore and Frith 2005). This again is something to be aware of as a teacher educator.

Teacher educators, need to encourage student teachers to consider 'what do I know currently?' and 'what do I need to know before I start?' as well as 'what are learners likely to find challenging to understand and engage with'.

Raising awareness of the complexity of conceptualising "subject knowledge" is something teacher educators should be conversant with. There is a need to appreciate and understand the nature of syntactic, curricular and pedagogic knowledge before teaching any topic.

An effective approach to help make explicit particular subject concepts, concerns or issues is to engage student teachers in a (common) experience. This could be the teacher educator teaching a group 'as learners'. In this way a variety of pedagogic techniques can be modeled for the novice practitioners to experience 'learning'

subject matter. This could be demonstrating how to teach phonics, to develop literacy within science skills or tackle understanding geometry or number place value (something that may not be straight forward to teach).

4.7.3 Meditational Techniques

Depending on the learning processes and outcomes that as an educator you wish to illustrate to beginning teachers, it is appropriate to consider when individual work, paired discussion or collaborative working in bigger groups may work most effectively for learning. A wide range of discussion techniques can be promoted to engage children working together.

Various groupwork approaches underpin development of different kinds of talking (such as shoulder partner, face partner etc, explained by Kagan, 2013). The main aim, though, through all the above pedagogic strategies is to try and ensure that learners are effectively supported to develop their zone of proximal development (Vygotsky 1978), that is incrementally develop beyond what they currently know.

4.7.4 Auditing Personal Subject Knowledge

Hattie and Yates (2014, p.11) review evidence about the depth of subject knowledge that teachers need to effectively help their student's academic attainment. Although there is no direct correlation between a teacher's deeper knowledge of the subject and higher student achievement, there is evidence that a reasonable teacher cannot be ignorant of what is to be taught.

Paradoxically, too, a high level of knowledge about a topic does not automatically bring with it expert teaching of the subject. Sometimes an individual finding a discipline or concepts easy to understand find it difficult to appreciate how and why learners may struggle to grasp the associated ideas. They may even underestimate the task difficulty for novice learners.

As a teacher educator, knowing the subject matter, appreciating how it is organized and understanding how different components relate to each other and knowing what is relevant and what should be paid attention to, is key.

Educators need to know what's included in the Curriculum, so that they can make sure their own knowledge and comprehension of all aspects is up to date. For example, if teaching children about passive tense, teachers educators need to know how to define it and how to use it, that knowledge then requires 'translation' for would-be teachers to appreciate that and then be able to present it in such a way that a young child could come to know it and be able to understand it when reading and apply it appropriately when writing. Beginning teachers also need to be able to diagnose when and what learners are grasping or struggling with. A lack of understanding the subject matter would mean educators may 'miss' or not be able to recognise when learning is being hampered in some way.

It is advisable to anyone, setting about teaching something, to verify (audit) their knowledge of that principle, skill or concept to be taught, beforehand. Though, it is not always possible to ensure you have learnt everything prior to teaching, and there will inevitably crop up – some questions or learner issues that were not anticipated. Knowing subject matter, means that a teacher is likely to be more knowledgeable if questioned, and also more confident when standing in front of a class.

Reviewing what you know about a subject area can also highlight where you need to remedy what you 'don't' know or understand.

A tabular summary that is updated on a regular basis to indicate what and when personal development has been carried out to understand and appreciate subject material to be taught is suggested in Figure 4.2.

Figure 4.2 provides a summary of the steps that could be taken to prepare for teaching (for the first time or an unfamiliar area of) the curriculum.

Area of subject knowledge (identified from the curricular aims and statement of material to be learned)	Current expertise	Suggestions for further development	Target date by which additional development to be achieved	Evidence of further development

Figure 4.2: A suggested framework that could monitor personal subject knowledge development

4.8 REFLECTING ON THE DIFFERENCES BETWEEN TEACHING CHILDREN AND OTHER ADULTS

Experience of teaching children can provide useful and insightful reflections to draw upon to explain what new entrants to teaching might expect, or indeed, should anticipate. Subject pedagogical knowledge can inform how-to organize appropriate and targeted materials to teach a particular concept (like understanding fractions) or a skill (like being able to hold, manipulate and use a pencil to write a word).

Subject pedagogical knowledge is important to help inform how teacher educators teach student teachers. There is a need to know how adults and children learn and what distinct skills are required to teach the two contrasting age groups.

Teachers need to have knowledge of how children develop, as readers (Muijs and Reynolds 2005) for example. As teacher educators the following steps to nurture other adult's teaching prowess may be useful:

- Diagnose beginning teachers understandings and beliefs about the subject matter
- Create appropriate learning experiences to engage in effective learning (of the subject material and the ways that children may relate to the content to be learned)
- Make the tacit (learning processes and outcomes) explicit
- Review the progress made (since initial diagnosis)
- Reflect on the range of experiences that inform how *knowing what* and *knowing how* was achieved
- Discuss the range of personal theories and beliefs about effective teaching that beginning teachers may hold.

Various research studies have shown how novice teachers change their views of teaching and learning as they mature (Furlong and Maynard, 1995; Murphy 2005). As a teacher educator it is helpful to share these appropriately at key moments in teacher development.

4.9 CROSS-CURRICULAR KNOWLEDGE

As a teacher educator it is important to acknowledge how learning can be cross curricular; that different subject areas can be taught within a themed, topic or story telling approach. There is also a need to recognize that there are key skills that are integral to all subject areas too. Key skills such as ensuring correct grammar and punctuation are used for any writing; thinking about how to solve a problem (in maths, design and technology or history) and then being able to clearly explain how an answer was arrived at or being able to consider alternate ways to tackle an (art, drama or technology) task.

4.10 THINKING ABOUT SHORTCOMINGS IN YOUR SUBJECT KNOWLEDGE

The next section introduces suggestions about activities that you could engage with as a teacher educator to 'up-date' and sustain your subject knowledge.

4.10.1 Initial Needs Analysis

A needs analysis can be carried out in a variety of ways. It could be simply done by listing all the curricular concepts and skills that need to be taught (in a table like Figure 4.3) and then reviewing personally whether or not it is known.

	Science teaching preparation – teaching forces	Achieved (mid-July latest)
Specific	Ensure know and understand: What is a force? How is does a force come to be? What are good examples to show forces across a range of contexts or situations? Know where (and how) forces are referred to in National Curriculum. Know how 'forces' will 'fit' with other work children are doing in literacy and numeracy. Know what kinds of questions (tests and any assessments) will require children to know and understand (check school policies on safety, assessment and alignment with planned themes/topics).	
Measurable	By beginning of September have: Understood all concepts related to forces for that particular year group/stage. Have scheme of work/teaching plan written for each session/ lesson. Have prepared/obtained all resources (all teaching and learning activities and assessments etc) required for this topic.	
Achievable	All the above to be achieved (from June) over next few weeks in readiness for beginning of next term (i.e.: preparatory time is adequate to create and collate all above components together). Have organized for mentor or science co-ordinator and SEN or EAL teacher to have checked through all materials and intentions.	
Realistic	Time is available to ensure that the above (meetings with others, development of materials etc) is possible.	
Time targets	Clear deadline (mid July) by which to achieve the targets.	

Figure 4.3: Example of a SMART (Specific, Measurable Achievable, Realistic, Timed) targets to prepare for teaching 7year old children at beginning of a school term.

If there is a lack of comprehending a particular subject area then resources that are available to help develop that can be listed. The 'action' to read it by a certain target time (usually before teaching that topic or area of the curriculum) can be addressed.

Provocation 4E

Consider the SMART targets above.

How could they be improved to help provide a scaffold to teach a different topic?

4.10.2 Identifying Gaps, Weaknesses or an Out-Datedness in Knowledge

Preparing to be an educator of primary education requires knowledge about a wide range of subject matter, Literacy, numeracy, science, art, music, humanities (including geography, history, religious education) physical education etc. Recognising what you know and don't know is sometimes not straight forward, as Loughran (2006) highlighted, teaching teachers is very complex and requires careful reflection to notice and see anew what is important.

Teaching outside of your area of experience and expertise can mean that you are not fully conversant with all subject matter. Take, for example, an educator sharing with his or her class, the notions about learning styles.

There is a popular approach in primary classrooms, currently, to ask children simple questions that then identify their learning style. Questions such as do you like to learn by reading or looking at pictures (identified as visual learning), or do you prefer to learn by listening or talking (identified as auditory learning), or do you prefer to learn by doing (identified as kinesthetic learning) are used to then label the children with their preferred learning style.

If you are up-to-date with your reading on neuroscience research and education, you will realize that this is now an out-moded approach and Frith et al. (2013) discuss how there is a lack of evidence that supports this commonly held view of children as Visual, Auditory or Kinesthetic (VAK) learners.

Teaching science is another challenging area to retain an up-date knowledge and understanding. There are many mis-understandings (often referred to as misconceptions) in this subject area, held not only by the children (Driver et al., 1985), but teachers too (Willians, 2013).

4.10.3 Reading

A wide variety of material can be read to help with subject matter understanding. There are also many 'how-to' books that help with ICT and other key skills development. Texts can be sought that provide 'subject matter' expertise and advice or pedagogical support.

The really useful primary books series are very well written, as are many other books that are entitled 'How to be an outstanding primary teacher'. 'Being a primary school teacher' or 'Primary teaching' will provide general information and ideas that could be adapted to support you as a teacher educator. Other subject specific books on literacy, numeracy, science, key skills etc can also help. It is useful to read reviews (in general academic journals and subject specific journals as well as on-line reviews) before investing in these kinds of resources.

4.10.4 Accessing and Using Web Based Resources

The internet can be used in a wide variety of ways to support both subject understanding and pedagogic knowing for teacher educators. Web searches can be carried out to

explore perspectives of subject knowledge, novel ways to teach and even access innovative materials and resources. Involvement in webinars and/or conferences run by museums or other societies can offer subject enrichment and enhancement.

There are a wide variety of different kinds of web-based resources that can help. There are audit materials, whereby the reader can self-assess their knowledge of English (Sage 2013). There are also many archived teaching materials, such as videoed extracts of teachers-in-action or professional discussions between educators (and mentors) that can be found through web searches.

4.10.5 CPD Courses

Professional development is possible through a variety of means. Visiting, observing and talking to other teacher educators recognized for their subject and/or pedagogic expertise can provide insightful and exemplary approaches and/or resources that can be adapted or used in an inspirational way. There are also CPD courses available through independent providers, including regional and national conferences, special events at museums, libraries, professional associations, webinars, local subject association teach meets, and subject specific activities at Universities and within (teaching) school partnerships.

4.10.6 Working with Colleagues

Team teaching with some-one is a great way to develop your subject knowledge. Planning, preparing and pooling your expertise in a joint endeavour is a great way to learn what you do/don't know about an area of the curriculum. This is discussed in more detail in this book in the chapter on reflection where the authors describe co-teaching. Reflecting after teaching is also a way of jointly making sense of what you 'intended' to do as well as the 'learning' that arose (not only for teachers, but also that of the learners).

Planning with colleagues requires clear articulation of the learning objectives. This can be challenging because it can be difficult to differentiate between conceptual knowledge and skills (*knowing what* and *knowing how*). A joint task of this nature, however, can result in effective mutual learning from each other. Consider, particularly how having an expert (in subject matter) and a novice (in subject knowledge, but highly organized and pedagogically insightful) working together planning, teaching and reflecting on lessons can produce very effective learning outcomes as well as additional associated resources.

4.10.7 Joining Subject Associations

There are many subject associations that provide a range of professional support for educators. Membership of these subject groups can offer a rich reservoir of resources that can be very helpful to beginning educators. Many have traditionally published professional magazines (offering brief up-dates on professional matters).

There are also an increasing number of extensive websites (although some are with password access only). There are also subject-based journals that publish research into teaching and learning (and many articles in these are focused on the nature and development, not only of training teachers, but also those of the children in classrooms) that teacher educators will find informative. Many subject associations also offer low-cost professional development seminars, workshops and conferences (all of which can provide rich learning opportunities).

4.10.8 Internet and Associated Resources

Retaining up-to-date thinking of CPD, subject issues, pedagogic developments can be possible by following key educationalists. Other sources of information can also be usefully followed, e.g.: the Times Educational Supplement (TES) or the BBC for Educational updates and news reports, the National Geographic or the Literacy Trust, for example.

Provocation 4 F provides a list of activities that can be used to help you audit your subject knowledge

Provocation 4F

Check through the Curriculum (organised in a table of) statements and assess levels of knowledge and understanding for each. Categorise on at least a three point scale of 'don't know'; 'unsure'; 'know'.

These categories can then determine what is included in a 'needs analysis' and inform an action plan to address the 'don't knows' and the 'unsures' through various strategies.

Engage in on-line self-assessment tests that are objective measures of subject knowledge. Where performance is poor or responses incorrect add these to your 'needs analysis'.

Test yourself as you will be testing the children.

Use the three strategies described earlier to inform your 'needs analysis'.

Reflect on your needs analysis and consider how best to address where confidence and competence in knowledge and understanding is lacking. Consider 'mind-mapping' topics so it is clear what you do know and what you still need to work on and understand. Read acknowledged texts that are (peer reviewed) deemed helpful by other educators.

Engage in similar tasks that you would set the children (and consider how you would respond to them as a child, as well as thinking about pedagogic implications).

Observe experienced teachers, in school, teaching the subject matter you are concerned about. Watch archived video clips of teachers in action concerned with developing understanding of the appropriate subject matter.

4.11 KEY LEARNING POINTS

As teacher educators we need to help our student teachers to understand that subject knowledge is about knowing what content is important and relevant in the curriculum. It is also about knowing how different subject matter areas, such as numeracy and literacy and science are structured. It is also important to know how the subject matter in one area might relate or corroborate another, especially within a thematic, topic or storytelling approach.

Educators also need to recognize that key skills that can be developed by learners within different subject contexts, can inform 'transferable' cognitive and affective knowing and understanding and thus general academic development. Pedagogic knowledge can inform how teachers intended learning should happen and the ways that subject matter is presented and mediated for learners can influence the process and outcomes of learning. Pedagogic knowing includes consideration of learners, their needs, the ways they may learn effectively and how to formatively and summatively assess the progress and success (or otherwise) of their learning.

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5. PROFESSIONAL AND PERSONAL INTEGRITY

5.1 INTRODUCTION

Having personal integrity implies acting in ways that fit with one's philosophy and one's related values and principles; and professional integrity involves acting in accordance with the social and moral standards of the profession. These two aspects of integrity imply being true to oneself, and being an effective professional role model—but sometimes teacher educators and teachers in schools find that their personal philosophy, values and principles vary somewhat from those of their institution and those of their students and the school community.

In such situations conflict can arise. Consequently we all need to be able to make explicit and be prepared to negotiate our perspectives in a professional manner—but this is difficult if our philosophies are tacit rather than well considered and we have not consciously considered how our practice links with our philosophy.

Differences in philosophies are often linked with age difference—a teacher educator and a student teacher, a young teacher and a senior staff member, a teacher and a pupil (and possibly the pupil's parents); and differences can also be influenced by different cultural perspectives.

The range of philosophies of teachers commonly lead to differences of opinions regarding teaching approaches, learning theories, collaboration with individual assignments, discipline and school rules, and teacher/student relationships; and philosophies influence personal aims for education.

Logically, educational practice depends on the aims of education, so a fundamental question that needs to be addressed is:

'What are the aims of education?'

However, at different times and in different settings the aims of education have varied considerably so perhaps a more useful activity is to consider a number of possible aims and to prioritize them. These aims may be personal, school-based, curriculum, or legislated aims.

Provocation 5A provides a starting point for considering aims, both with colleagues in discussion groups, and privately.

S. Rodrigues (Ed.), Handbook for Teacher Educators, 67–77.

Provocation 5 A

Consider the following aims for education. Add any aims that you believe have been omitted. Group the aims under headings (e.g., intellectual, personal, social, vocational).

Change the wording and combine aims wherever appropriate.

The aims of education are to develop and promote:

- academic excellence
- community participation - concern for others
- thinking
- cultural harmony
- ecological awareness
- employment skills
- enquiry
- examination success
- financial literacy
- group skills
- language and symbol use
- life skills
- life-long learning skills
- obedience
- subject/content knowledge
- relationship skills
- religious tolerance
- respect
- responsibility
- self-awareness
- self-management skills
- self respect
- social development
- racial equity
- appropriate use of technology
- cultural and cross-cultural values

Now, reduce the list to no more than six aims.

Rank your short list of aims in order of importance.

Educational aims often appear in government documents; and most educational institutions have explicit aims. Such sets of aims are commonly aspirational and little is done to ensure that they are addressed; instead the focus is on covering the curriculum and preparing the learners so that they will successfully gain assessment

qualifications. This situation is understandable as a common tacit aim at all levels of education is about covering the curriculum and gaining qualifications. The consequence of this situation is that all educators with professional and personal integrity have the task of attempting to address five sets of aims:

– official (government) educational aims
– individual institution's aims
– tacit aims of curriculum coverage and assessment
– personal educational aims
– student and community aims

Addressing the first four of these sets of aims is not simple, and it becomes more difficult when the ideas of students and the community are considered. The complexity of the situation increases further as one considers how these aims impact on the approaches we use. In spite of these difficulties, we are obligated as professionals to do what we can to achieve our aims while at the same time respecting the views and different aims of others including our students and their communities. Indeed, most aims are usually addressed, at least partially, by the way that we as educators foster learning in our classes.

5.2 INTEGRATING KNOWING, DOING, AND THINKING

Traditionally, education in schools and at the tertiary level assume a focus on teaching curriculum knowledge and associated processes for which the knowledge is useful—but, is this the ideal focus? Even when we consider universities where the espoused focus is on research we often find a focus on transmission modes of education—commonly a pattern of three years of undergraduate work that involves attending lectures, then graduate courses for a year, followed finally by a one-year research project.

There seems to be little recognition that for most of our lives our learning involves finding things out for ourselves. Perhaps as educators we should emphasize life-long learning skills—and realize that these are also relevant for students who are still involved in formal education.

The words 'thinking' and 'enquiry' are common in curriculum documents and in the rhetoric of educators, but we wonder how common they are in our practice, and how common they could be. Indeed, integrity in our professional work involves integrating thinking and enquiry with knowing and doing. However, this might well clash with institutional or, more likely, governmental philosophy. Indeed, in 2014 there was a publicly aired conflict in the UK between the Ministry of Education (the policy makers) and the Office for Standards in Education (Ofsted – the quality assurance agency) regarding the value of group work in class (BBC, 2014). Professionals, were left to wait for the fall out before knowing whether they were safe to continue encouraging their students to plan for group work or not.

Provocation 5B

1. Consider the students in a class you might teach:

   What modes of thinking would you expect them to have?

   What other modes of thinking would you like them to develop?

   What enquiry skills do they currently possess?

   What other enquiry skills would you like them to develop?

2. With respect to your students' thinking and enquiry:

   What strategies could you use to expand their thinking?

   How might you expand their enquiry skills?

3. Consider any topic that you currently teach or might expect to teach:

   Could you teach this topic by only asking questions?

   Could this topic be taught by using an enquiry-based pedagogy?

In an attempt to emphasize thinking in schools some teachers approach the subject by teaching numerous thinking 'strategies'—unfortunately this can lead to procedural learning with limited thinking. An alternative approach that preserves the integrity of thinking is to consider its many forms.

Traditionally three forms have been considered--critical, creative, and meta-cognitive. This traditional perspective has been broadened by Lipman (2003) who introduced the idea of caring thinking (caring for self, others, and the environment); and can be further broadened to include contemplative thinking which includes intuitive thinking, meditation, and the traditional forms of thinking of numerous indigenous people.

Of course other classifications of thinking exist, but these five forms can be considered to incorporate other forms including the various subject-specific ways of thinking. Yet, no matter how much you may promote such an approach, you may then place students in schools, which demand a more functional approach to learning. How do you cope with this?

We consider this aspect in more detail later (see provocation 5G).

5.3 CULTURAL INTEGRITY

The majority of teachers, lecturers and students in most countries usually belong to the dominant culture, but this is changing as countries become more culturally diverse. This emerging cultural mix implies a need to consider what might be called a cultural dimension to integrity. Some people believe that their philosophy and

values accommodate cultural differences but as the backgrounds of people we work with becomes more diverse, so do the opportunities for misunderstandings to occur. Very simple actions such as the following are examples of actions that can be easily misinterpreted by teachers who lack a full understanding of the culture of their students:

– not making eye contact with a teacher (because that would be disrespectful)
– slouching instead of sitting up (because respect implies being in a lower position)
– not asking a question (because that involves interrupting an authority)
– not answering a question (as that implies pride in knowing something).

Cultural integrity implies that one has an openness to learn about different cultural traditions and ways of interacting, the difficulty being one is not aware of what one is not aware of!

Provocation 5C

What would it be like in a culture with no words for 'please' or 'thank-you'?

How could a teacher cope with a student who honestly thought that the teacher knew everything, was never wrong, and should never be questioned?

How might class discussions be organized in a setting where it was not culturally appropriate for people of different gender or people of different social standing to talk with one another?

What other different behaviour patterns have you observed because of different cultural backgrounds?

5.4 EVIDENCE-BASED DECISION MAKING

For the past several years, there has been a growing emphasis in education for teachers and administrators to become more evidence oriented; that is, to use data to inform their instructional and administrative decisions. If teachers are to use data effectively and ethically; they need to be data literate; but little attention and few resources are available to help build teachers' capacity to use data. Data-literacy can be developed through professional development or in-service opportunities for the current cohort of educators, or through teacher preparation courses in schools of education for student candidates. Preparing teachers to be data literate so that they can meet the expectations of policymakers implies that courses on data use need to be available for teachers. While data literacy matters, teachers must be warned:

> Not everything that can be measured counts, and not everything that counts can be measured.

Further, professional integrity means that decisions depend not only on data, but also on principles, aims, experience, and sometimes teachers have a professional responsibility to question results and their potential implications for practice.

There is also an issue with student expectation. Consider for instance a question, which asks if students were satisfied with the support they received from their tutors. The response to this might well be very different in a large institution with a culture of little personal engagement from tutors, compared with a small institution, which prides itself on personal relationships. Ironically, the latter may fare worse in national surveys because there was a higher expectation from the outset which individual tutors may not always be able to live up to.

5.5 EVALUATING TEACHING

In many educational environments there are external pressures and expectations that evaluations will be imposed on teachers. Such evaluations could be at institutional level, subject level or individual teacher level and may focus on content, pedagogy, behaviour management, and so on. External pressures could be from several agencies and will involve competing and possibly conflicting demands from both professional and academic quality assurance.

For instance, in England teacher education is scrutinised by Ofsted, which also draws on the outcome of a newly qualified teacher (NQT) survey. Yet there is also a National Student Survey to be accountable to. The first two of these are concerned wholly with professional development of the students whereas the third is from an academic perspective. This is just an example of course but it illustrates the fact that you may be subject to potentially conflicting demands. You would be well advised to have a clear understanding of precisely which pipers are calling the tune for you! While such imposed evaluations may seem a burden, they may well be integrated with one's personal evaluations of one's work that every professional should be doing in a more or less continuous and often informal way. Indeed, being a reflective practitioner implies self-evaluation and introspection, and this involves not only the evaluation of achievement (that outsiders are often concerned about), but also about behaviours that are often of more concern to classroom teachers.

The outcome of teaching is not just about test results. In order to understand and evaluate teaching, there must be a comprehensive collection of diverse sources of data that provide insights into how well teachers are performing. Relying solely on students' achievement ignores that issue that there is so much beyond a teacher's control that influences how students perform.

Getting evaluative feedback from students is as important as getting data from other teachers or external authorities on all aspects of classroom activity—after all, our students are why we have jobs! While student feedback can use texting and other technologies, it can also be done with simple post-it notes. Methods which are successful with schoolchildren can also be employed in teacher education.

As an example, one teacher used the 'post-box' method with year 7 students. His 'postbox' was a cardboard box with a slot cut in it for the mail and this was positioned by the door so students leaving the room could 'post' their comments.

To encourage the students to comment he gave them each a piece of paper after the lesson and asked them to anonymously write three things:

- what they had learnt that session
- what they were not clear about
- what they would like to do on the next day on this topic

Next day he would put up three or four activities in response to their comments and ask them to freely choose which activity they wished to pursue, and then to move to the appropriate table(s) for this activity.

Provocation 5D

Do you think the postbox method would work in your teacher education classes? Would it need adapting?

What methods have you used in the past?

Which of these might be most successful in teacher education?

Speak to or observe a range of colleagues. What ways of getting feedback do they use?

Are their approaches formal or informal? Is their feedback formative or summative?

Evaluation of teaching on both a daily basis and long-term is important. Such evaluation can involve:

– content interest, accessibility, and challenge
– relevance, and originality,
– teaching approaches, learning activities, and assessment tasks

Not only can you review a course overall so that it can be adjusted for the future, but during term audits enable you to make minor adjustments to the remainder of the programme. For instance, an audit mid way through an eight-week teacher education module might reveal that the students were happy with the content of the sessions, but wanted more explicit examples of how they might construct a lesson on the subject. So, without changing the content of the remaining sessions, one could adjust one's programme to incorporate a planning activity.

One thing for certain is that you will only get answers to the questions you ask—so think about the questions you want to ask your student teachers. There is also a cultural dimension to consider: in some cultures, individual feedback will be a

normal activity whilst in others not. Refer back to section 5.3 for more on cultural issues.

5.6 DIMENSIONS OF TEACHING

Integrity in teaching involves much more than the academic/knowledge component of education that most beginning teacher educators would like to emphasize; it also involves a social/behavioural component. Despite the fact that your students are no longer children, social and behavioural issues will arise. Issues range in seriousness from being persistently late to class, to being suicidal.

Managing your own classroom should not be significantly different to the way a school teacher would behave. You still need clear rules and must be assertive. However, the fact that you are dealing with adults means that you (hopefully) will not need to spend as much time enforcing your rules.

One aspect of the change from another profession to teacher educator, which many find difficulty with is that of pastoral involvement. Those who have taught young children really do act very much 'in loco parentis'. Teaching in a high school typically requires less, but still significant, pastoral involvement.

In higher education you may find that you teach so many students for such a short amount of time that it is impossible even to know them all by name, never mind offer them individual care. On the other hand, you may have close and frequent contact with a particular group. Although most will not discuss pastoral issues with you, it is likely that some will.

You may even find, despite the fact that the students themselves are adults, that parents become involved.

Provocation 5E

Identify an example of student teacher behavior with which you are not comfortable.

Reflect on the actual actions of the student teacher. Consider what might have upset the student teacher and what caused the upset? How did you deal with the situation?

What other ways could you have dealt with it? Did you talk with the student teacher about the incident?

Discuss with colleagues whether they believe the issue should be managed or whether your expectations need to be adjusted. If the former, how do they suggest you tackle the issue? If the latter, how do you respond?

How would you deal with a similar situation in the future?

Fortunately, in most institutions, there are support services available to help students with serious pastoral issues. You should make yourself familiar with these and the following provocation should guide you. But, regardless of any institutional services and despite the best of professional advice, the caring teacher in you will most likely (subject to cultural norms) still want to offer a human and compassionate hand to any student who needs it. You will just need to learn how to manage that within the scope of the job.

Provocation 5F

What support services exist in your institution for handling social and behavioural issues?

Does your institution have counsellors that can help your troubled student teacher (or help you cope with them)?

Can student teachers self refer for counselling? If so, what is their point of contact?

Find out from colleagues what advice they give if a parent of one of your student teachers contacts you.

If you do intend to get to know student teachers by name, you will find that this is worth the effort – student teachers will respond positively in the knowledge that you care about them. The sort of techniques you might employ need not be different to those, which work in a school setting. It is virtually impossible to employ a sensible strategy for learning identities in a large lecture group but for class sizes of 30 or less things such as seating plans, name badges, 'tell me your name when you answer a question' can all help to get to know a class.

If some of these seem a little childish, simply pass them off as role modelling! You may find that your institution has a facility to print registers with student teacher photos attached, which can certainly help!

5.7 COLLEGIAL INTEGRITY

Areas of sensitivity occur within schools, and between schools and teacher education institutions when different professionals have different viewpoints and perhaps competing interests. Each of us will only be familiar with the ways of a small number of schools. We need to recognise our prejudices and be able to accept with an open mind practices with which we are unfamiliar. Working in teacher education will necessarily involve working in partnership with many schools with a variety of cultural and philosophical outlooks.

Provocation 5G

Consider this scenario: A teacher educator visits a school with high-achieving pupils to observe and check the progress of a student teacher. The single teaching point of the (ICT) lesson is 'to know how to attach a file to an email'. On completion of the lesson (for a group of 13 year olds), during the feedback session, the teacher educator questions the student teacher about the lack of challenge in the lesson; and suggests that they could have gone on to consider the implications of attaching files.

The teacher who normally takes the class, and who shared in the observation, interrupts to state that this is something the children are not required to know.

How would you as a teacher educator respond?

Each individual professional within any given partnership will have their own particular way of working. In such situations it is important that the people involved interact in a collegial way. For example, to what extent is it useful for a new teacher to copy the lesson plans of a more experienced teacher, and is the experienced teacher happy that this occurs? Should a student teacher's lesson plans be approved by the class teacher before the student teacher teaches the class? Many people in education take such partnerships for granted, but it would be good practice, at the very least, to first gain approval for one's actions.

Professional integrity among teachers also extends to the trust that is necessary when teachers work together. Increasingly, teachers are being asked to collaborate in professional learning communities, data teams, grade-level teams, or content-based teams. Such collaboration often requires teachers to discuss instructional strategies, challenges with particular students, successes, and even failures. They have to put themselves on the line in front of colleagues, without fear of looking bad or reprisals for their performance or feedback.

Such frank and constructive discourse requires trust among colleagues and with supervisors. It necessitates integrity and confidentiality in the interactions.

5.8 CONCLUDING THOUGHTS

In many educational institutions there is the view that the staff is a team and should all be 'singing from the same song sheet.' An alternative perspective is that as team-members we all have different strengths and contribute in different ways. With this second viewpoint diversity is seen as positive, thus ideally as educators we will enact our roles with considerable variation and this is valuable in that it adds to the richness of our students' experiences.

The notions discussed in this chapter are not intended primarily as topics we should teach our students about, they are notions that should underpin our practice as educators. To have integrity is to act in ways that fit with our beliefs, which implies:

– that we enact our educational philosophy as well as espousing it
– that we regularly revisit and revise our educational philosophy
– that we state, implement, and review our educational aims
– that we give learning primacy over teaching
– that we value both the diversity and the limitations of theory
– that we shift our focus from knowing to include thinking and enquiring
– that we acknowledge the rights of our students

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6. RESEARCH-INFORMED PRACTICE AND ETHICS

6.1 INTRODUCTION

Signature pedagogies can be defined as "the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions (Shulman, 2005, p.52). One of the three dimensions in signature pedagogy is the implicit structure, which includes the moral dimension that comprises a set of beliefs about professional attitudes, values, and dispositions (Shulman, 2005, p. 54-55). In this chapter we focus on the implicit structure.

It is interesting to recall our own times as a learner and remember if and when we ever felt that a teacher, a lecturer, or an institution made demands on us, or our classmates, that seemed unreasonable even although no concern was voiced at the time. Perhaps also you might remember a time when your parents were concerned about a demand that the school was making on you, or alternatively, not making.

6.2 AREAS OF CONCERN

Areas where numerous viewpoints abound include:

1. teaching/lecturing approaches and teachers' and lecturers' roles
2. the value and place of assignments and homework
3. the place of assessment including examinations
4. institutional rules and related consequences for infringement
5. teacher, student and parent rights
6. extra-curriculum activities
7. individual and group work
8. teacher-directed and self-directed (project) work
9. learner choice of areas for study

and no doubt everybody could add more areas of concern.

Provocation 6A

Pause now and consider each of the nine areas of concern listed earlier. Think of some alternative options within each.

List at least one advantage and one disadvantage for each of your options.

S. Rodrigues (Ed.), Handbook for Teacher Educators, 79–89.

Everyone in education has views about these nine areas, and these views are likely to depend on prior experiences within and reactions against education—they are rarely part of a consistent set of beliefs or an educational philosophy. A preferable way of considering these areas is to begin by developing a personal educational philosophy. To do this it is useful to work with colleagues in a group to consider alternative responses to each area of concern and whether these responses fit your educational aims. While your experiences together with discussion of options all contribute to the formation of a personal and theoretical philosophy of education, this is not enough. Integrity implies acting in ways that fit with one's philosophy. What we all require as educators is an *enacted* philosophy. This takes a considerable time to develop. Like one's theoretical philosophy, it continually develops as one's career unfolds.

6.3 FOSTERING LEARNING

For most people the word 'teacher' implies that the fundamental task of an educator in schools is to 'teach'; and associated with this task is the assumption that: "teaching is a necessary and sufficient requirement for learning"

Provocation 6B

This 'necessary and sufficient' condition can be rewritten as two statements.

(i) teaching implies learning

(ii) learning requires teaching

Pause for a moment and recall counter examples involving:

(i) something a teacher taught you that you did not learn/understand

(ii) something you learnt without anyone teaching you.

Your two counter examples are enough to disprove the two statements of the assumption. However, these counter examples do not negate the notion that good teaching can make a difference. This leaves us with the obvious question, what is good teaching? But, is this the best question? Surely teaching is only good if students learn, so a better question might be, how do students learn? And then one might ask, how do we best foster good learning? Many educational researchers have developed theories about learning, teaching and knowing, and some of these are listed in the table below.

Table 6.1: Teaching, learning and knowing: What is the X-factor?

Activity-based learning, activity theory, alternative education, apprenticeship, assessment-driven learning, associationism
Behaviourism, Bloom's taxonomy, Bronfenbrenner's ecological system theory
Cognitivism, communities of practice, community-based learning, competitive learning, complexity, computer-assisted instruction, concept-based learning, conditioning theories, connectionism, constructionism, constructivism, contextual learning, cooperative/collaborative learning
Dewey's experiential learning, direct instruction, discovery learning, discussion-based learning, drill and practice
E-learning, emancipatory learning, emergence, enactivism, enquiry-based learning, Erikson's stage development theory, evidence-based teaching, experiential learning
Facilitative teaching, fact-based learning and teaching, Freire's critical education
Gagne's conditions of learning, gestalt theory, goal-based learning, group learning
Hands-on learning, holistic learning, humanist education, hypothesis-based teaching
Imitative learning, incidental learning, inclusive learning, indigenous ways of knowing, individualised learning, inquiry-based learning, interactive teaching, intuitional learning
Job-based learning
Kinaesthetic education, koan-based learning, Kohlberg's moral development theory
Language-based learning, lecturing, living is learning, logic-based learning
Mastery learning, memory-based learning, multi-media learning, multiple intelligences, multiple representations
Narrative pedagogy, natural education (Rousseau), neo-behaviourism, neo-Deweyism
Observation-based learning, on-line (virtual) learning, operant conditioning
Participatory learning, phenomenological knowing, peer-assisted learning, Piaget's genetic epistemology, problem-based learning, procedural learning, programmed learning, progressive education, project-based learning
Question-based (Socratic) pedagogy
Radical constructivism, reflective teaching, reflexive learning, reinforcement theories, relational learning, research-based learning, research-led teaching, Rogers 'freedom to learn', role-playing, rote teaching, Rousseau's natural education
Self-directed learning, sensory knowing, situated cognition, social constructivism, student-centred learning
Tabula rasa, thinking-focussed learning, threshold-based teaching, training, transformative learning, trial-and-error
Unconscious knowing, untaught learning
Visual learning, vocational education, Vygotsky's socio-cultural constructivism
Waldorf education, women's ways of knowing, writing-based learning
X
Yin-yang learning
Zone of proximal development

The listed theories above have all been 'proved' to be 'true' by researchers who designed studies and gathered data to 'prove' them, yet many of these theories contradict one another so they cannot all be 'true' even although there is evidence to support each one—hence the question in the table title, what is the *x*-factor?

Of course all the researchers would have made some assumptions when designing their studies. In particular they would have made assumptions concerning what constituted learning and knowing. But without knowing what these assumptions are it is problematic to claim a best theory about learning.

As an educator confounded by such a list, a typical response is to consider one's own successful learning and what influences made it successful. But this can be problematic as we as educators are not a typical sample of people. However, the exercise is still useful.

The Provocation 6C has two parts. Both might be of use when working with student teachers.

The provocation might be useful in terms of helping student teachers to consider the values and beliefs they hold. It might also help encourage them to develop informed practice by reflecting on the way their views inform their practice.

Provocation 6C Part 1

Think of a number of things you learnt, for example:

1 the sky is blue

2 the past tense of 'is' is 'was'

3 8 + 9 = 17

4 the capital city of Italy is Rome

5 water is made up of hydrogen and oxygen

6 to walk

7 to swim

8 boys and girls are different

Provocation 6C Part 2 asks you to use different standpoints to consider your responses to each of the Provocation 6C Part 1 replies.

Consider your replies and reflect on how and when you came to know, or understand or do the things you learnt.

Provocation 6C Part 2

a) When did you first learn this?

b) What did the learning process involve?

c) When did you first think you knew this?

d) How long was it until you really knew and understood this?

e) Do you think you really know and understand this completely?

f) What made you certain (or uncertain) about this?

g) Did your understanding precede rote learning?

h) Who taught you this?

i) Did you ever question your knowing of this?

A number of conclusions might be drawn from the responses to this activity. For example, possible conclusions include:

- Some learning was when I was so young that I cannot recall how I learnt it.
- Sometimes understanding emerged over time with later events either reinforcing what I had learnt or helping me to revise my understanding.
- Knowing with understanding often involved a considerable time (months, sometimes years) and much of my knowing is only partially complete.
- Some learning began with adult help (usually a parent or a teacher), but a fuller understanding of ideas or ability with skills evolved very slowly and with practice.
- Some understanding began with chanting: for example, chanting addition tables; understanding followed with pattern building; but was later disrupted (for example, 8 + 9 = 5 when I look at my watch [clock or modulo arithmetic]), and I became aware of the importance of context.
- Some things I think I 'know', but I am also aware that I am not absolutely certain about them.

Having come to your own conclusions with this activity, and having looked at the possibilities given earlier, how might you now encourage student teachers to theorize about learning and teaching and the role of educators (and assessment)?

6.3 STUDENTS' RIGHTS

Many new teachers think that they deserve respect, but quickly learn that it must be earned. And, reflecting on your time as a learner in primary school, secondary school and in tertiary education, most people can recall teachers who gained and retained

respect from the first day in their class, others for whom earning respect took some time, and others who were tolerated rather than respected.

Looking back on such recollections one influencing factor seems to be how these teachers respected and interacted with their students. This suggests that teachers need to be concerned with students' rights from the very first time they interact with them, and this leads to the question:

What rights do our students have?

One way of exploring this is to think of the 'rights' we appreciate as educators, and then consider how the same rights are relevant to our students regardless of their age.

Provocation 6D

List the 'rights' that you, as a teacher, believe that you deserve.

For each of these rights rephrase them as rights (rather than responsibilities) for your students.

Consider each of these rights and think of ways that you can change your practice to ensure that your students experience these rights.

6.4 ETHICS OF GOOD PRACTICE

Criticality and ethics requires us, as teacher educators, to look not just at our belief and value system but to also pay due diligence to personal actions in teaching, research and administration. As Giardello, Parr, McLeod and Redman wrote in chapter 2 in this book, modelling pedagogy in teacher education is not simple for there are unavoidable pressures and responsibilities. It is more than likely that you will find yourself working in culturally diverse environments. It would therefore make sense to understand and demonstrate respect for educational policies and the various practices and strategies associated with working within your environment. The institution that you work with, for, or through, will no doubt have hard text publications and/or online documents that address issues of workplace behaviour and conduct. It is worth finding and reading these good practice guidelines. In addition to reading these in-house documents, it is also worth perusing materials and documents produced by other agencies and institutions.

Considering the definition, description and policy of good practice from a variety of perspectives will enable you to develop a more informed view. It would also be useful. For the relationships a teacher educator develops with other educational and professional agencies are vitally important. Having an understanding of their view of good practice is therefore invaluable, otherwise there might be issues that arise. For as Beijaard, Meijer and Verloop, (2004) indicated, if expectations do not

align, conflict may arise. Various conference organisers, editorial boards, journals, professional agencies and research councils publish good practice guidelines. Reading various guidelines may help you to develop a broad perspective with regard to what counts as good practice and what may be construed as misconduct.

From a research perspective, organisations tend to identify misconduct in terms of two categories: (a) fabricated or false data and results and (b) misappropriated work. Misappropriating work includes plagiarism (in some cases this may be unintentional plagiarism). It may be that the manner in which the material or data is documented or reported does not accurately or comprehensively identify the source. Obviously, as teacher educators we need to avoid misappropriation or fabrication.

Protecting intellectual property rights is important. But at the same time we are also expected to find ways to share our work with others. However, just because others share resources with us does not mean we can freely disseminate their work. Likewise if you generate a body of work and share it, ensure you have been clear about the acceptable level of dissemination. If for example you send material for perusal in confidence then you need to make explicit the fact that you want your work reviewed, and that it should not be disseminated further without your consent. Misappropriating work can also stem from using resources (which could take the form of information, data or materials) that are provided in a privileged way. For example, if we are sent a proposal to review and there is an agreement that it is not for public consumption or further or wider dissemination then sharing it is not acceptable. From a research perspective, good practice includes paying attention to the demands of ethical practice.

As many of the chapters in this book have indicated, teacher educators work with an array of others in different ways. For example, we critique student work, we write with colleagues and we work in teams. As reviewers for journals we review the work of relative strangers. All of these forms of engagement warrant consideration with regard to what constitutes ethical practice.

Does critiquing a student teacher's work, commenting on an essay, or refining an idea developed during the process of helping them become teachers mean you are entitled to co-ownership of the work, the essay or the idea?

In general as teachers it is rare to have a pupil generate work that is deemed to be novel, or cutting edge, or adding to a body of knowledge, that was connected to you as a teacher. In contrast, as a teacher educator, you will deal with student teacher work that takes the form of a minor or major thesis that you supervised, or takes the form of a new software programme that you reviewed, or involved you in discussing a new body of knowledge during a supervision meeting. You may well have played a significant role in helping to progress their academic profile or practice and/or your support may have helped to generate or trigger their product. So, in terms of intellectual and professional property rights, where does that leave you? Likewise, you may have supported a colleague in developing their academic profile. You may have commented/edited articles they were preparing for publication. In terms of intellectual and professional rights, where does that leave you?

This merging of the research and scholarship cultures means that it is necessary to find a way to acknowledge that you may have contributed to the intellectual and professional skills development of colleagues or students. But does that automatically mean you are entitled to claim a right to their body of work? Respecting the rights of colleagues and students is important and determining whether you are really entitled to be included as a co-author, for example, might warrant more than cursory perusal? Did you contribute significantly to the ideas? Did you contribute significantly to the writing? How much counts as a significant contribution? Who becomes the lead author? What order do we use for co-authored writing?

These questions need to be discussed with colleagues and student teachers before decisions are made and credit assigned. There needs to be a respect for the joint or solo creation of new knowledge, while recognizing that contributions and assistance takes different forms. It should become standard and routine to discuss intellectual and professional skill contributions and to ascertain how the contributions of colleague and student collaborators will be acknowledged when materials, resources or ideas are disseminated.

6.5 RESEARCH-INFORMED PRACTICE AND TEACHER EDUCATION

Twenty-first century education has to prepare teachers to live and work in a complex and changing environment. They have to become life-long learners and explorers who can cope with emerging trends and technologies. Research-informed practice in education can be seen as supporting the development of a critical understanding of a body of knowledge and experience.

As teacher educators we are expected to help our student teachers to mediate through assimilated experience and to see how education is structured, promoted, governed and enacted. A challenge for teacher educators lies in the fact that the methods we choose, have to ensure that we support student teachers who bring with them different levels of subject content knowledge, different types of learning styles, a variety of educational or cultural backgrounds and career pathways, and different beliefs and value systems. As teacher educators we hope student teachers will leave prepared to cope with uncertainties and changes, to cope with different perspectives and to overcome cultural or philosophical barriers. As such, teacher educators look to emphasise critical and autonomous thinking rather than simply promote the assimilation of knowledge. Therefore as teacher educators, we need to provide opportunities for our student teachers to develop these skills in a way that enable the skill to become natural to them. This calls for a teaching practice, which incorporates reflective learning activities that promote critical thinking and collaborative work. This is discussed in more detail in earlier chapters in the book. Suffice to say at this point, that we need to support active learners who show initiative, collaborate with others and take responsibility for their own learning. If teacher education was simply the equivalent of training circus animals to perform in particular environments then the task may have been simpler.

As teacher educators we model criticality and questioning to support those who journey to become teachers. Learning to teach is considered a personal activity as the student teacher has to deal with personal existing beliefs and values, as well as manage to operate and understand the teaching context as viewed through a university, a school, or their society's culture (Wideen, Mayer-Smith, and Moon, 1998). Sometimes, as teacher educators we will be expected to challenge and critique some of the students' existing beliefs. Critique in this sense can have three different stages: early critiquing, guided critiquing and late critiquing. In early critiquing we are engaged in critical tasks such as discussion, analysis, or evaluation in terms of the expectation of other people. Guided critiquing includes a little more personal active engagement such as understanding the objective of the task and analysing the outcomes of the task. In late critiquing, we willingly engage in critical tasks and are able to engage in more than one critical task with ease and with less dependence.

Some teacher educators digitally record student teachers' practice, in order to both observe and evaluate student teacher performance or teaching situations, while affording some measure of distance during the process of observation. Studies exploring the use of digitally recorded practice, in particular the use of video, have reported that it improves student teacher reflective practice and this reflective practice becomes more critical (Kurz and Batarelo, 2010). A more common practice is to observe the student teacher by 'sitting-in' one of their lessons and then providing feedback after the lesson. The opportunity to discuss the shared teaching experience might be better appreciated by the student teacher if they knew the ground rules, and knew whether the critique was taking the form of early critiquing, guided critiquing or late critiquing.

In addition to the challenge teacher educators face in critiquing student teacher practice comes the additional pressure of working with institution or cultural requirements that may appear to be at odds with each other. Nurturing criticality while juggling the demand to guide student teachers new to the profession whilst fostering the development of independence, and working with others who operate beyond the confines of your own institution while ensuring academic rigour is maintained is a testing. For example, using research-informed practice to support teaching is subject to various codes and regulations. Thus while a student teacher may be set an assignment as part of their academic requirement, and this assignment requires the student teacher to try and evaluate a form of practice, in reality that student teacher may well find that the school in which the student teacher is placed does not support a deviation from a particular strategy. As a result the student teacher may struggle to address the academic assignment requirements.

As a teacher educator you may think you are encouraging your student teachers to develop valid arguments, to provide supporting evidence and to seek conceptual clarity by looking at the ways in which teaching standards are supported, interpreted or deployed. But if you fail to take into consideration the role of the others (who form part of the extended teacher education team) in terms of the 'who', 'where', 'when' and 'why', then your influence is likely to be limited.

As a teacher educator you work within the constraints of your own institution, and within the constraints of the institution(s) that the student teacher experiences. Reconciling the challenges posed by these different organizations warrants some thought.

Education systems foster and reinforce attitudes, values and beliefs. What if the attitudes, values and beliefs experienced by your student teacher on teaching practice are not the attitudes, values and beliefs espoused in your institution? As Freire wrote, "Critical consciousness is brought about not through intellectual effort alone but through *praxis* — through the authentic union of action and reflection" (Freire 1970, p.48). Thus advocating criticality in teacher education requires *praxis* — both reflection and action, both interpretation and change.

Combined with this balancing act in maintaining academic rigour while providing critical support that questions, problematises and fosters education, comes the additional challenge of dealing with constantly changing political and contextual goal posts. For example, higher education is increasingly becoming a right for all citizens rather than a privilege intended for few in an elite group. At the same time the quest for value for money and changing student–staff ratios is echoed in various academic instructions. Thus, dealing with increasing numbers of students, may pose challenges with regard to modelling effective teaching and learning practice in which student cohort size is a significant factor.

Provocation 6E

As a teacher educator what would you do if your student teacher claimed to be unable to deploy a particular strategy or conduct a lesson in a particular way because the school/department has a scheme of work that they expect the student teacher to follow and that does not allow for any deviation in approach?

List a couple of strategies you could deploy to address the situation?

In what way do you include the issues and voices that this school/department brings to this educational encounter?

What value system are you assigning your stance and that of the other organization? What difference does it make to the experience of the student teacher?

In all institutions teacher educators are expected to enact their roles with considerable variation. In some educational institutions there is the view that the staff is a team and should have a shared understanding of strategies, goals and values, or all be 'singing from the same song sheet.' Other institutions recognise team-members as bringing different strengths and contributing in different ways. There may be a division of labour separating teaching staff and research staff, while other institutions expect all teacher educators to be research active. In these instances

teacher educators are under pressure to publish research papers, secure research funds and attend research conferences. While the additional pressure is problematic, engaging in research activity is valuable in that it adds to what is contributed to the richness of our students' experiences.

6.6 CONCLUDING THOUGHTS

The ideas discussed in this chapter are presented to help those new to the profession to reflect on our practice as educators in terms of criticality and ethics. To have integrity is to act in ways that fit with our beliefs. This implies that we enact our educational philosophy as well as espouse it. Which in turn requires us to regularly revisit and revise our educational philosophy.

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7. WORKING WITH OTHERS

7.1 INTRODUCTION

This is the age of globalization with offshore campuses, international schools, a growing number of international students, and multinational companies. Often colleagues are collaborating halfway across the globe and across time zones to meet deadlines and targets which would be unimaginable a couple of decades ago. Teacher educators of the twenty first century have to be well prepared to live and work in a world that is constantly changing and evolving. They are expected to adapt to these changes and learn as they go as well as prepare their student teachers for this dynamic world. Consequently, student teachers and teacher educators have to be prepared to work effectively with others and these 'others' are not always limited to their immediate colleagues.

In this chapter we look at various levels at which people may be required to work together in today's educational scene, including teacher educators and student teachers. A key role for a teacher educator is to demonstrate a range of partnership working. This chapter will consider the benefits to you and your students as a result of you working effectively in partnership with others.

7.2 WORKING IN A TEAM

7.2.1 Collaboration and Cooperation

Even though teacher educators are expected to work with each other, they often confuse the terms collaboration with cooperation. According to Brody (1995), these two terms are repeatedly used interchangeably because they share the following characteristics:

- a group of individuals work together to reach a specific goal;
- members of this group combine efforts to complete the task at hand;
- while working to reach this goal they construct and scaffold knowledge.

It is important to shed light on the differences between collaborative and cooperative partnerships while acknowledging they are two powerful ways of working in partnership.

S. Rodrigues (Ed.), Handbook for Teacher Educators, 91–105.

There are a few points in which collaboration differs from cooperation (Brody, 1995). Examples of these differences are listed below:

- In cooperation, an individual's contribution can be replaced whereas in collaboration this might not be possible and an individual's input can significantly affect the final product.
- In cooperation, if a member withdraws from the group, the work at hand is not necessarily affected as in collaboration.
- In cooperation, individuals share information with other group members that any one of them could have contributed. In collaboration each group member shares specific knowledge and has distinctive skills and talents. In other words each group member brings something new to the project.
- In cooperation, all group members work together on a common task whereas in collaboration they work together to solve a problem.
- In cooperation, the group is structured whereas in collaboration it is organic.

7.2.2 Team and Group Work

It is also important to differentiate between working in teams and working in groups in the understanding of the connected teacher educator. Usually when individuals work in groups they do not formally elect a leader. Also, individuals in groups tend to gather informally and they do not necessarily have a common goal to achieve as their congregation may well be for social reasons.

On the other hand, institutional teams are designed with an intention, a goal or an assignment. Team members are strategically chosen, so that each member of the team is competent to work towards the final outcome. Further to this, leaders in teams are elected to avoid ambiguity on authority.

Roles for each member in the team are usually assigned, so each one is clear about what is expected from each teammate. In other words, the work of each individual in a team is in coordination with his/her fellow team players.

Tuckman and Jensen (1977) identified stages which most teams go through namely: Forming, Storming, Norming, Performing and Adjourning.

- In the Forming stage, members start to associate themselves with the team. At this time, they lack a clear vision, purpose and structure of their team.
- In the Storming stage, members understand the complexity of the problem they intend to solve and might divide the task into sub-tasks and the team into sub teams.
- In the Norming stage, team members establish relationships with each other and other colleagues and define clearly what is expected from each of them.
- In the Performance stage, the team performs the task.
- In the Adjourning stage, the team members end the project or the task and the relationship and go to the next challenge.

7.2.3 Working in Interdisciplinary Teams

Working in interdisciplinary teams is recognised as fundamental to contemporary workplaces in the knowledge economy (De La Harpe, 2010). As part of their teacher education journey, how well are student teachers prepared to work in partnership with others? Teacher educators need to reflect on the ways to help student teachers develop team skills.

> *Provocation 7A*
>
> Working together as professionals.
>
> Think of a time when you worked in a team with other people and reflect on what worked well and what difficulties or conflicts you faced.
>
> List the characteristics of team work that you would like to emphasize to your student teachers.
>
> What are the implications of working in a team for classroom practice?

Your responses have probably identified some characteristics of team work to be nurtured and others to be avoided. The positives you have listed may include:

- The ability to draw on the strengths of various members,
- Increased motivation,
- The ability to keep you on the task,
- Lessened workload and greater obligation to meet deadlines.

Negatives might include a possibility of conflict due to difference of opinion or lack of communication.

It is essential to harness the advantages and minimize potential for conflict. A group can work efficiently if clear goals are set at the very beginning, and the project is broken into smaller chunks with a clear understanding of responsibilities. It is important that all members of a team contribute to the planning and setting of these goals and all are in agreement on the responsibilities allocated to each member.

Agreeing to work standards is another important aspect that allows everyone to know what is expected of them and those in the team. This enables the team to work together effectively. It is essential to set a timeline and for all group members to abide by it.

Partnerships and group work can take various forms and can occur at many levels in education. As a teacher educator you may be required to work:

- in collaboration with another colleague in teaching a course or for research;
- with a school or teacher(s) during the student teacher teaching placement in school;

- with technologists as part of the use of teaching technologies;
- with government or private departments in order to support programme accreditation (this may depend on your Country's requirements);
- with other faculties within your own university if they teach in your programme;
- with other education systems or cultures if you have interstate or offshore campuses to deal with.

Some of these cases are discussed in greater detail in various sections of this chapter. Your student teachers, after graduation, may be required to work in collaboration with other teachers, schools, other professionals, industry, or government departments in their workplaces. Hence, it is necessary to incorporate the skill of 'working with others' as part of their teacher education programme. This can take several forms such as group work in class, or by setting group projects or assignments. Students could be given tasks where they are required to liaise with other professionals (such as technicians or psychologists) in the university. They could also be given tasks where they are required to reflect on operating in teams. A sample task is described below. It might encourage a student teacher to reflect on aspects of team work in a professional setting.

Provocation 7B

List the different teams that a teacher could be part of within a school and describe the responsibilities of each team. Outline the teacher's role within each team considering:

Participation and contribution in team meetings

Interaction with other members of the team

Sharing of responsibilities

Dealing with deadlines for themselves and others in the team.

The list of teams could include:

- teachers teaching the same subject (say three teachers at a particular year level who teach a particular subject discipline in the school),
- all teachers of a subject discipline,
- laboratory technicians, curriculum planners, assessment writers, sports coaches, library staff,
- teachers from different schools working on a specific project,
- teachers from different campuses,
- year level or discipline coordinators and any such teams that a teacher may be required to be part of.

It is good for a student teacher to have reflected on these aspects before they enter a school.

The concept of service teaching is based on this premise where one department in an educational institution 'outsources' the teaching of a certain discipline to another department which uses its own specialist staff and existing resources. The taught discipline needs to be compatible with requirements of the programme to which it belongs and compliant with institutional guidelines and policies. For instance, the Mathematics department teaching Mathematics or Statistics courses in programmes for the departments of Engineering, Business or Education would be an example of service teaching. This calls for collaboration between the departments involved and good planning and implementation with regard to timetabling, enrolment, assessments, and funding arrangements. This in turn requires consistent and clear communication between the departments and staff involved.

Collaboration between education and industry is another important partnership especially in vocational education, health education or business studies. Industry is considered a teaching resource in these areas and hence courses educating teachers for these disciplines have to prepare students for this (Huddleston and Abbott, 1993). In addition to TAFE (Tertiary and Further Education) Colleges and some universities, many secondary schools in some countries like Australia provide Vocational Education and Training (VET). This emphasizes the need for teacher education to incorporate industry partnership experience.

Working together in teams can thus take many forms in the educational context. Some of these collaborative partnerships between teacher educators from diverse backgrounds are discussed in greater detail in the following sections.

7.3 WORKING WITH COLLEAGUES

Working as a teacher educator in collaboration with colleagues is important but challenging, especially in areas where professionals other than teachers are involved (Hanich and Deemer, 2005). Indeed, educational psychologists sometimes experience difficulty when they explain to teachers what they do (Sternberg, 1996), and this situation is similarly felt by those in teacher education (Nezhad and Vahedi, 2011). This section reviews some general theories and experiences about how to work with other professionals in teacher education, as well as the relevance of learning from peers, teacher educators and student teachers.

7.3.1 Educational Psychologists in Teacher Education

Educational psychology is part of teacher education, especially nowadays in the context of reforming teacher education programmes around the world (Nezhad and Vahedi, 2011).

Educational psychologists usually have experience in learning development, classroom management and assessment, and all of these areas of knowledge shape

effective teaching (Patrick, Anderman, Bruening, and Duffin, 2011). Hanich and Deemer (2005) argue that this knowledge serves as a foundation for other courses in teacher education. The topics that educational psychologists usually address in teacher education include cognitive, moral and language development, motivation, management, diversity and teacher-pupil interactions (Lohse-Bossenz, Kunina-Habenicht, and Kunter, 2013). These areas of knowledge are expected in teacher education standards and certification (Nezhad and Vahedi, 2011). However, working in collaboration has more potential than just access to other professionals, such as educational psychologists, who provide related courses in teacher education programmes.

The challenges for working in collaboration in teacher education derive from the rocky relationship between educational psychologists and in-service teachers (Hanich and Deemer, 2005), in which educational psychologists have had to defend the inclusion of their work in the teaching field (Nezhad and Vahedi, 2011). This might be a consequence of the unsettled position of psychology within the usually overloaded curriculum in teacher education (Lohse-Bossenz et al., 2013). Furthermore, the courses that educational psychologists offer to teacher education are usually allocated at introductory levels. This means, it is offered at the beginning of a teacher's career, when student teachers have little prior knowledge about the topics (Hanich and Deemer, 2005). This makes the transference and application of knowledge by student teachers very difficult. Indeed, Hanich and Deemer (2005) mentioned that many student teachers consider psychology topics to be nothing more than common sense. Thus, the discipline's role in teacher education tends to be marginalised (Patrick et al., 2011).

One of the most important ways to face these challenges is through a practical connection between the courses that different professionals conduct in teacher education. This means, for educational psychologists and teacher educators, they need to not only know what the main areas are in other courses, but also coordinate their practical activities. These activities might ask student teachers to interpret educational situations from an educational psychology point of view, take educational decisions based on that, or have case studies to encourage the use of pedagogical and psychological knowledge interchangeably, etc.

Moreover, another challenge is demonstrating that decisions taken by teachers based on knowledge related to educational psychology are more complete than those decisions taken by teachers without educational psychology understanding. This means, educational psychology as a body of knowledge should contribute to teachers' action frames and teaching methods (Doyle and Carter, 1996; Nezhad and Vahedi, 2011), enhancing relevance for teacher educators and usefulness for student teachers (Nezhad and Vahedi, 2011). Nonetheless, this knowledge is not the only valuable aspect for teacher education.

The progress of competences about analyzing and diagnosing human learning, motivation and development is a key component in which educational psychologists can support teacher education communities, upgrading professional development not only for student teachers but also for teacher educators (Nezhad and Vahedi, 2011).

According to Nezhad and Vahedi (2011, p.328), "the diagnostic expertise with regard to learning/cognition, motivation and development is the critical missing element in typical teacher education programmes". This is practical knowledge about learners and learning situations (Doyle and Carter, 1996).

Along this line of thinking, Patrick et al. (2011) call for the greater use of cases to contextualize content, promote its applicability and illustrate its relevance in the complexity of classrooms. This is something that educational psychologists working in teacher education must do in collaboration with teacher educators. It could include developing collaborative relationships and shared visions with colleagues and producing evidence of the benefits of educational psychologists' involvement in teacher education (Patrick et al., 2011).

7.3.2 Educational Technologists in Teacher Education

Educational technology has been included in teacher education programmes around the world, because it has been suggested, the future development of technology, information and communication may ultimately rest in the hands of educators. Hence, it is an essential tool for teachers (Larson, 1995). As a consequence for instance, in China, teachers' perceptions of their role in the adoption of educational technology in schools is in terms of being an expert, authority and model for learners (Zhu, 2010). However, in other countries such as Chile, educational technology is positioned as an organized learning area in teacher education (Silva, 2009), and includes standards for teachers when they complete their initial teacher education (Gobierno de Chile, 2009).

One of the most important challenges that educational technology carries into teacher education is the redefinition of the competences that teachers and teacher educators need. These are mainly -but not restricted to:

- creativity,
- flexibility,
- logistic skills for assigning groups of pupils
- setting learning environments,
- skills for project work,
- collaborating skills
- computing competence (Zhu, 2010).

This implies that teacher educators and teacher education programmes should diagnose and monitor these competences in order to encourage student teacher acquisition of these compentencies. Also, the programmes need to offer student teachers opportunities to experiment, explore and apply technology in their practical work. This requires teacher educators to have knowledge and IT skills to guide them. This requirement might affect teacher educator confidence especially if they have not kept abreast of technology developments. The teacher educator's lack of confidence might make interaction with educational technologists problematic.

However working with educational psychologists and technologists could enhance the development of student teachers teaching skills. These professionals can provide recommendations in the design of courses for student teachers, suggesting new approches to teaching according to their student teachers' skills (Nezhad and Vahedi, 2011). When pursuing the objectives of working with other colleagues, having fluent communication is crucial. This means, sharing the objectives of the programme, expectations and understanding of the programme's basis (Patrick et al., 2011), negotiating courses, developing a common language and valuing different perspectives.

Another aspect could be the development of collaborative research networks or projects. Indeed, how student teachers learn to teach and how teacher education programmes help in this objective is a joint focus of interest between educational psychologists, technologists and teacher educators. This could be an area of mutual influence and future research (Nezhad and Vahedi, 2011), which would be more fruitful if it is conducted by groups of teacher educators coming from multi-disciplinary backgrounds.

Provocation 7C

Consider one area of development with wide interest in your programme. Think about the collaboration you can ask from other professionals, benefits and posible risks. Outline each one's role within this multi-background team, taking into account:

Which would be each professional's contribution? Why the group needs each one of the members? Sharing of responsibilities, expectations, language and objectives. How the monitoring system of tasks between peers would be?

7.3.3 Professional Development Between Teachers in Teacher Education

Another positive aspect of working with others in the context of teacher education is the professional growth between teachers. Lu (2010) presented an interesting review on the benefits and procedures of implementing peer coaching between student teachers in teacher education. One of the most important benefits was the promotion of practicum as a shared means to improve teaching skills and scaffold each other when learning to teach. This is a way of working towards professionalism based on collaboration with others, because a greater openness to criticism, commitment, and professional dialogue are consequences of well-implemented work with peers (Cabello, 2012.)

An experiment in Spain conducted by Andreu et al. (2006) showed how a teaching quality improvement network enhanced motivation and performance of lecturers. The members worked together, observing the lessons of their colleagues

in the role of "critical friends". They mutually peer assessed lectures and established a dialog with the assessee about their own personal reflections on the lesson. The members of the network gave and received feedback, making more visible the strengths and weaknesses of the lesson. As a result, teacher educators demonstrated enhanced clarity when discussing ideas and content, they encouraged more student participation, they used better visual resources and practical examples and they reported a higher motivation for teaching after collaborating with their peers.

7.4 WORKING WITH OTHER INSTITUTIONS

Provocation 7D

Considering your role as a teacher educator list the range of potential partners you think you might develop, why you wish to develop these partnerships and the potential benefits arising from such partnerships.

A list of possible headings is outlined below to record your thoughts. You may wish to work in partnership with others and compare and contrast your responses in this list.

Types of partners

Reason(s) for partnerships

Potential benefits to your professional development

Potential benefits to your students' development

Effective partnership working takes account of context; requires good communication, time, leadership, mutual trust, clarity of roles and responsibilities, and the support of senior management. Training needs must be identified and addressed. Planning, monitoring and evaluation are crucial and a shared ethos and sense of purpose are essential (Hallam, 2011, p.155). Your list may have included some of the following:

- schools; other schools/faculties within your own institution;
- other universities (international partnerships are discussed in the next section);
- professional, statutory or regulatory bodies or industry partners.

As well as your own reasons for forming partnerships there may also be external drivers such as changes in education policy at local and national level along with changes in accreditation requirements by professional, statutory or regulatory body as appropriate.

One of the key partnerships is between schools and the initial teacher education establishment (ITE). This partnership provides the teacher educator with a number

of professional opportunities. The main purpose of the school-ITE partnership is to provide opportunities for students to develop their professional practice in situ and begin to makes links between their understanding of education theory to their practice and begin to recognize how the findings from research in education can inform their practice. For example in Scotland, the General Teaching Council of Scotland (GTCS, 2012) have produced a series of professional standards that student teachers, teachers and teacher educators must meet if they wish to practice in Scotland. Below is an extract from the Standards for Provisional Registration.

> Student teachers will know how to:
> access and apply relevant findings from educational research;
> engage appropriately in the systematic investigation of practice.
> (GTCS, 2012, p.12)

Provocation 7E

When you are developing your partnerships with schools what strategies might you adopt to:

1. Ensure consistency in student mentoring by school-based colleagues during student practice placements?

2. Consider student peer mentoring?

3. Ensure assessment of student practice is consistent within and across schools?

4. Support student teachers during professional practice placement?

When recognizing the benefits to developing student teachers' confidence and competence during professional placement it is also important to realize that the quality of a student's experience is very dependent on the professionalism of the supporting teacher(s). More can be read on this in the chapter on professional and personal integrity. Thus, the assessment of student teachers during placement could be inherently unreliable unless there is an agreed understanding of assessment criteria by all partners (Hattie, Warwick, and Bruce, 1982).

Provocation 7F

An accusation sometimes leveled at more established or longer serving teacher educators is that they begin to lose touch with the reality of current classroom practice and have been 'away from the classroom' too long.

As a teacher educator how will you ensure in your continued practice that you maintain your credibility with your future student teacher cohorts?

Although supporting student teacher development during provisional placement may be the most common reason for teacher educators to develop school partnerships, there are several other benefits to such partnerships. These include:

- inviting practicing teachers to share their current experiences with students so that students learn about current practices thus giving the teacher education programme greater credibility;
- using the school partnership to enhance the teacher educator's knowledge and skill base in any recent curriculum change or impact of policy changes;
- as a potential source for research enquiry and data collection.
- If the teacher educator has an effective partnership with a school and a very good understanding of the school's context then the school may be more willing to engage in research activity.

Working in partnership with Government agencies as a consultant policy maker, advisor to assessment policy or curriculum reviewer/developer is very useful to the teacher educator as it ensures the teacher educator is at the forefront of policy change and/or implementation. This not only has influence on the student teachers' future practices. It also instills confidence with the student teacher body and enhances the teacher educator's credibility in the mind of the student cohort. This a consequence of the students acknowledging that their tutors' knowledge and expertise is recognized and valued by policy makers at local and national levels.

Teacher educators are also well placed to form partnerships within their own institutions whether this is with related cognate areas such as Educational Psychology, Social Work, Community Education and Further/College education (the nomenclature may vary depending upon the Country) or from other areas across the institution. The partnerships with related cognate areas are extremely important as they help develop student teachers' understanding of the roles of these groups of people and how their input/influence can impact on a pupil's learning experiences. They also help the student teachers to learn how to best use these resources to support their pupils' learning.

Partnerships beyond the cognate groups also offer the teacher educator wider research and teaching opportunities. For example, in one institution there was a partnership between a teacher educator and a lecturer form the school of architecture in their university. This partnership developed as both colleagues were exploring how school environment design can impact on pupils' learning. This partnership resulted in the joint development and delivery of module content, thus encouraging the student teachers to consider the impact of the physical school environment on pupil learning. It also provided an opportunity for the teacher educator to co-author a journal article and engage in further research.

Depending on external factors, teacher educators may have to consider other approaches to student teachers' learning. For example, as a result of a Scottish Government report there was the recommendation that the traditional four year undergraduate primary teacher programme (then commonly known as the B.Ed)

should provide student teachers with a wider university experience. In response, several institutions have developed programmes to enable students (not just student teachers) to study modules from other programmes across their university. In some cases the modules were supported by lecturers from completely different disciplines e.g. environmental science, mathematics etc. This approach has interesting implications for teacher educators as the work of the teacher educators is no longer only evaluated by their student teachers, it is also being evaluated by students beyond the teacher education arena.

Teacher educators should also give consideration to developing effective partnerships beyond their institution. These partnerships can involve people from a range of backgrounds and those making provision for differing purposes. For example, the teacher educator may form partnerships with informal education providers such as museums, galleries, science centres and young people groups such as the Guides and Scouts.

These partnerships provide student teachers with an insight to how the informal sector provide educational experiences to pupils. They also provide the teacher educator with research enquiry possibilities and the opportunity to develop continuous professional development programmes for the staff of these institutions.

The teacher educator may also wish to form partnerships with local business and employers so that their student teachers develop a more informed understanding of the qualities that future employers are looking for when pupils make the transition from school to the world of work. It is important that student teachers understand their responsibilities in providing their pupils with the best careers guidance. Further understanding of what employers are looking for will enable student teachers to meet their responsibilities.

7.5 THE CONNECTED TEACHER EDUCATOR

Most studies on collaboration advocate that working together has a positive impact on instruction and students' learning (Goddard, Goddard, and Tshannen-Moran, 2007). Unfortunately, in our professional lives as teacher educators, we often lack significant collaboration or genuine collegiality. In fact we seldom have meaningful professional conversations about teaching and learning that could actually lead to some positive changes in our practice and hence enrich our students' learning experiences and achievements. Added to this, as argued by Fullan and Hargreaves (1996), there is a limitation to one's learning if we work individually. Therefore, by reinforcing and expanding our connectedness to a genuine collaboration through global communication with like-minded professionals, we could enhance our ability to cater for the needs of our student teachers.

Wide-net collaboration is simply an extension to what we know about face-to face collaboration, be it with colleagues with whom we work daily or with other professionals in other institutions. Indeed, technology nowadays has made online collaboration and learning much easier to access through networked spaces like

blogs, wikis, microblogging, social bookmarking and social networking in which educators share, discuss, and reciprocate knowledge.

It is a new dimension in our profession where, as teacher educators, we can easily find professionals from further afield with whom we can interact, learn from, collaborate, share objectives and expectations, and construct knowledge useful for teacher education. This knowledge is then brought to the institution to drive change (Hagel, Brown, and Davidson, 2010). In fact, teacher educators through interaction with others, designing new research opportunities and a constant evolving content find endless opportunities to partake of, reflect, and consequently, feel ownership for their professional development and learning in the programme.

7.6 CONCLUDING THOUGHTS

This chapter provided an overview about working with others in teacher education, drawing on experiences from different countries, involving not only teacher educators but also student teachers. This chapter discussed the importance of working in teams. It also discussed effective partnership and a range of potential partnerships, working with other teacher educators, and other professionals in teacher education.

The possible benefits derived from effective team and partnership working were highlighted with the intention of encouraging you as a teacher educator to get involved in working with other groups, colleagues, departments or even countries as part of their professional work. Nonetheless, challenges for this collaboration are present and need to be faced. These are related to the structure of teacher education programmes, the issue of communication between professionals from diverse backgrounds, a shared understanding of the mission of the programme and an understanding of the responsibilities in terms of for example, time concerns, distribution of roles, perception of fairness on the assignmnets and assessments. These challenges could be overcome in a cooperative manner in order to make the best of the multidisciplinary staff involved in teacher education.

This chapter presented sugestions for teacher educators with regard to engaging at a glocal level. It proposed activities that might be useful for everyday work, and it identified common problems and issues to anticipate and tried to provide solutions or mechanisms to consider to address the issues. Working with others not only contributes to connect people within the Faculties of Education, but also supports the construction of a cooperative culture in connection with schools and other members of the staff. This can only serve to enhance the ongoing professional development of the teacher education community.

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HEATHER FEHRING & DAN DAVIES

8. QUALITY ASSURANCE IN STUDENT TEACHER EDUCATION: AUSTRALIAN AND UK PERSPECTIVES

8.1 INTRODUCTION

Adapting to change is a common expectation for citizens of the modern societies; particularly those involved in the complex business of education. Populations of the world have experienced the Agricultural Revolution, the Industrial Revolution and now we are changing and adapting to the challenges to our life styles in the Digital Revolution. This new knowledge-based economy or knowledge market has been extremely well documented by the OECD (1996) and the World Bank (1998/1999). Teacher education is key to the development of knowledge-based economies and must respond to the drivers of change.

As teacher educators in Higher Education Institutions (HEIs) we must ensure that our graduates are prepared for the world of work by providing them with access to high-quality professional practices and experiences. Quality in education is often defined in terms of its products (Aspin, 2006); in this case the newly-qualified teachers emerging from our programmes.

Quality assurance (QA) – a term originating in the production lines of industry – refers to the processes by which we know that our 'products' are emerging with the attributes they need to flourish in the knowledge economy. QA processes must be embedded into all teacher education programmes to develop, maintain and improve the delivery of high-quality and relevant instruction.

The reason for this imperative is because there is strong evidence that well-prepared teachers make a difference to student learning, achievement and development (Dinham, 2008, 2011a, 2011b; Dinham, Ingvarson, and Kleinhenz, 2008; Hattie, 2009, 2012; Wright, Horn, and Sanders, 1997).

> Research has consistently shown that improving the quality of teaching is the most effective way to achieve better educational outcomes for individual students. Excellent teaching is the key to increased students engagement and higher levels of achievement, regardless of student background. (Dinham et al., 2008, p. 2)

Therefore, teacher education providers must maintain cutting-edge quality in the preparation of excellent teachers. Furthermore, these programmes can no longer just be country-specific, since newly-qualified teachers are increasingly mobile in the international knowledge market. Barrie (2006, 2007, 2012) has written extensively

S. Rodrigues (Ed.), Handbook for Teacher Educators, 107–119.

about the need to develop graduate attributes or capabilities in a global market. He has highlighted the importance of not only articulating what graduate capabilities are, but also, understanding the relationship between graduate attributes and the achievement of high-calibre performance in a range of professional contexts, including teaching.

It is important to note that in the international literature the concept of graduate qualities has a range of nomenclatures: "... generic, core, key competencies or skills, personal or transferable skills and generic attributes of graduates (Barrie, 2006, p. 217). NCVER (2003) has listed the different labels being used for generic skills in various countries as follows:

United Kingdom	Core skills, key skills, common skills
New Zealand	Essential skills
Australia	Key competencies, employability skills generic skills
Canada	Employability skills
United States	Basic skills, necessary skills, workplace know-how
Singapore	Critical enabling skills
France	Transferable skills
Germany	Key qualifications
Switzerland	Trans-disciplinary goals
Denmark	Process independent qualifications

(NCVER, 2003, p. 2)

In Australia and the UK the development of the graduate attributes or capabilities can be traced back 25 years (National Committee of Enquiry into Higher Education, 1997; Quality of Education Review Committee (Chair P. Karmel), 1985).

The report *Achieving Quality* produced by the Higher Education Council (1992) was the foundation work from which definitions of generic graduate attributes are often drawn:

> These are skills, personal attributes, and values which should be acquired by all graduates regardless of their discipline or field of study. In other words, they should represent the central achievements of higher education as a process. (Higher Education Council, 1992, p. 20)

In this chapter we use England and Australia as examples, as both countries' HEIs have been asked to justify their programmes in terms of the skills, attributes and knowledge, which their graduates will gain. They have also been asked to demonstrate how the curricula will effectively achieve such outcomes. For universities, which have been historically an elite and privileged educational environment, this has led to considerable academic debate.

However, the impact of accountability in relation to public funding to universities, the increasing effect of globalisation on market economies and the increasing expectation that universities must respond to the demand that they produce

employable graduates have all been strong drivers of quality assurance procedures in this direction. University-based teacher educators in the UK face particular challenges in responding to the international graduate attributes agenda, since the main academic route into teaching (as distinct from the multiplicity of school-based routes) is a postgraduate one, therefore most of the entrants will already have needed to meet graduate attributes before they start the course.

Provocation 8A

In relation to quality assurance expectations a student teacher should be able to read in your Faculty, Department or School course/subject guide the attributes that your course content will be developing.

Undertake an audit of your teacher education course handbook and identify if you have explicitly stated the relationship between your course content and expected graduate capabilities and professional standards.

In addition, check that your assessment tasks reflect the attributes and standards outlined in your course/subject handbook.

Although there are also Master's-level generic attributes defined by the Quality Assurance Agency (QAA 2008), PGCE courses tend to be driven by professional standards (Department for Education (DfE, 2013) against which providers are inspected, so there is little incentive to pay attention to generic graduate or postgraduate attributes. However, there is some degree of overlap between the *Teachers' Standards* (DfE, 2013) and graduate attributes, e.g.:

> keep their knowledge and skills as teachers up-to-date and are self-critical… (p. 7) (commitment to a life-long learning philosophy)
>
> develop effective professional relationships with colleagues, knowing how and when to draw on advice and specialist support… deploy support staff effectively. (p. 9) (Teamwork and Leadership qualities)

Therefore, by mapping student teacher education against graduate capabilities, we are indirectly contributing to the quality assurance of our programmes against professional standards, and vice-versa.

8.2. CHANGING DEMANDS IN TEACHER EDUCATION FROM AN AUSTRALIAN PERSPECTIVE

The Australian education system is a complex multi-layered arrangement of Commonwealth Government and eight State and Territory regulatory agencies.

Within this complex structural arrangement there are public or government schools and private or independent schools. The Federal, or Commonwealth Government, has a major funding function. Once jealously protected State and Territory independence has now been gradually changed as the Commonwealth Government exercises more regulatory control over not only funding, but also, over curriculum and educational standards of Australian Primary and Secondary students and over the professional standards of the teaching profession.

A national curriculum, now entitled the Australian Curriculum, has been developed by ACARA (Australian Curriculum Assessment and Reporting Authority). ACARA commenced in May 2009, is considered an independent body but in fact represents the Australian Government and all education streams (independent, government and Catholic).

ACARA (2010) is responsible for:

- A national curriculum from Kindergarten [now known as the Foundation Year and refers to the first formal year of schooling] to Year 12 in specified learning areas.
- A national assessment program aligned to the national curriculum that measures students' progress.
- A national data collection and reporting program that supports:

a. analysis, evaluation, research and resource allocation; and
b. accountability and reporting on schools and broader national achievement.

The Australian Curriculum has been in operation throughout all States and Territories since 2013 and covers Foundation (first formal year of schooling in Australia) to Year 12. This national curriculum framework is now tied to national testing in Years 3, 5, 7 and 9, known as NAPLAN (National Assessment Program –Literacy and Numeracy) a yearly assessment regime (ACARA., 2010b). However, it is worth noting that NAPLAN began in 2008 before the national curriculum was launched. Individual Primary and Secondary schools across Australia have their NAPLAN results reported in a highly controversial MY School web site (ACARA., 2010a).

Teachers are expected to engage with the Australian Curriculum and incorporate this knowledge into the syllabi and courses they create in their students' learning environments. Accompanying this changing educational scenario has been the introduction of national professional standards of teacher qualifications, through AITSL (Australian Institute of Teaching and School Leadership). AITSL's policy document *Australian Professional Standards for Teachers* comprises seven standards detailing what teachers should know and be able to undertake in their classrooms and schools. The Standards are clustered into three domains of teaching: Professional Knowledge, Professional Practice and Professional Engagement. The Standards are differentiated into four phases of a teacher's career: Graduate, Proficient, Highly Accomplished and Lead levels (Australian Institute for Teaching and School Leadership (AITSL) 2010).

Teachers are expected to engage and demonstrate the Professional Standards in their working lives. The Federal/Commonwealth government has proceeded to introduce national certification of teachers using these standards and also national accreditation of teacher education programmes. Further consolidation of the national Australian scenario has also occurred through the introduction of national Higher Education standards. The Tertiary Education Quality Standards Agency (TEQSA) is an independent statutory authority established in 2011. The Tertiary Education Quality and Standards Agency (TEQSA) regulates and assures the quality of Australia's large, diverse and complex higher education sector. The Australian higher education system comprises both public and private universities, Australian branches of overseas universities, and other higher education providers with and without self-accrediting authority.

Provocation 8B

As a lecturer in teacher educator programme, check your own country's statutory requirements in relation to the accreditation of graduate capabilities. Look for the criteria and descriptors of the graduate attributes or capabilities considered essential for this qualification and for the program to obtain registration. You will no doubt identify broad based sets of Knowledge, Skills and Application of Knowledge and Skills. How are these reflected in course/subject structures, and reflected in the assessment tasks set by you for students to achieve and be differentiated in terms of accreditation expectations?

Qualifications available from higher education providers range from undergraduate awards, (bachelor degrees, associate degrees or advanced diplomas) to postgraduate awards, including graduate diplomas, masters' degrees and doctoral degrees. TEQSA is responsible for both compliance and quality assessments, and registers and assesses the performance of higher education providers against the Higher Education Standards Framework (HESF). The introduction of the AQF - Australian Qualifications Framework has further added to the nationally driven agenda.

> The Australian Qualifications Framework (AQF) is the national policy for regulated qualifications in Australian education and training. It incorporates the qualifications from each education and training sector into a single comprehensive national qualifications framework. (AQF., 2013, p.9)

In Australia, Bachelor Degree qualifications, such as a Bachelor of Education (a four year qualification), are located at Level 7 of the AQF.

8.3. CHANGING DEMANDS IN TEACHER EDUCATION FROM A UK PERSPECTIVE

The UK government has taken an increasingly keen interest over recent years in how its teachers are prepared – at least in England, where it has more control over

the regulatory framework than it does in Wales, Scotland or Northern Ireland. The general direction of government policy in student teacher education has been towards an apprenticeship model, with schools seen as the main (or in some cases only) providers of legitimate professional knowledge and skills. This has resulted in a multiplicity of routes into teaching – School-centred Initial Teacher Training (SCITT), School Direct, Assessment Only, Teach First, Troops to Teachers – all competing within a 'free-market' which is stacked in favour of those options which are school-led.

Universities have been progressively marginalised, with the clear message that 'academic' learning – by implication that which might be critical of other government education policies – is a distraction from the preparation of teachers whose principal role is to implement those policies in the classrooms. The skills, competencies and knowledge required by new teachers have been defined in increasingly technicist terms, with the clear message that teaching is a craft rather than a profession.

Compliance with these policies and the framework of 'standards' that new teachers must meet is enforced by an increasingly draconian inspection regime, undertaken by the Office for Standards in Education (OfSTED). Established in 1995 to inspect schools, OfSTED was given the brief for teacher education in 1997, setting out on its mission with zeal to declare university programmes of teacher education 'non-compliant' and remove their accreditation. This came as a profound shock to the university sector, which had been used to more considered external scrutiny of quality involving the time-honoured academic tradition of peer review. Suddenly a university department of education could lose its student teacher education programmes overnight, with profound implications for staffing and financial viability, not to mention the local supply of new teachers. Little wonder then that some universities in England have withdrawn from teacher education altogether. It is into this febrile atmosphere that newly-appointed university teacher educators must venture with caution.

One of the earlier indications of the desire to control student teacher education was the introduction of a curriculum for 'teacher training' by the Department for Education and Employment (DfEE), otherwise known as *Circular 4/98* (Department for Education and Employment (DfEE) 1998). For primary student teachers this involved following a tightly-prescribed syllabus in the subject areas of English, mathematics and science, which specified minimum numbers of hours to be allocated to each of these 'core' elements, together with the requirement for at least 90 school-based days.

By 2002, however, the government had realised that it was no longer necessary to specify the curriculum for teacher training; simply by defining the end-points by which new teachers would be assessed and inspecting the accuracy by which providers made these judgements it could exert the control it desired.

As with many other aspects of education, the assessment tail could be made to wag the curriculum dog. Hence *Circular 4/98* was superseded by the *Qualifying to Teach* Standards, jointly published by the renamed Department for Education and Skills (DfES) and the newly-created Teacher Training Agency (TTA – later the Training and Development Agency, then the Training Agency before its final abolition in 2013) (Department for Education and Skills (DfES)/Teacher Training Agency (TTA), 2002). This body, charged with the planning and quality assurance of student teacher education in England, was to have a profound impact upon university providers as it allocated their number of 'training places', published data by which they could be compared and inaugurated the Newly Qualified Teacher (NQT) Survey, whereby former 'trainees' could rate the performance of their provider in the light of their subsequent teaching experience.

The *Qualifying to Teach* Standards were written in the form of outcome statements that set out what a 'trainee must know, understand and be able to do to be awarded Qualified Teacher Status (QTS)' (Department for Education and Skills (DfES)/ Teacher Training Agency (TTA, 2002, p.3). The statements were organised into three categories that described the criteria for the award: Professional Values and Practice; Knowledge and Understanding; and Teaching.

The statements within these categories did not describe graduate attributes or transferrable skills; they were unrelated to any academic benchmarks then in use within the UK higher education sector. Instead, they were an attempt to codify the craft of teaching through reference to attitudes (e.g. high expectations of all pupils); subject and pedagogical knowledge; and the day-to-day mechanics of classroom practice such as planning, assessment and discipline. Whilst this might appear to be a sensible approach – all teachers need to be competent at these activities – it marked a separation between professional accreditation and the academic component of what had become the main university-based route into teaching, the Postgraduate Certificate in Education (PGCE).

Universities were no longer to award QTS, they merely *recommended* candidates for the award, which was to be made by another newly-created body, the General Teaching Council (GTC – another victim of the change of government in 2010).

Whilst the *Standards for the Award of QTS* went through another two and a half iterations, the academic component of university-based student teacher education was to face a challenge from a different direction. In April 2005, the Universities Council for the Education of Teachers (UCET), the Standing Conference of Principals, Universities UK and the Quality Assurance Agency (QAA) issued a joint statement on the PGCE qualification title, in which they argued that as a postgraduate award it should be at Master's level (level 7 in the *UK Qualifications Framework* (Quality Assurance Agency for Higher Education (QAA), 2008).

Since very few PGCE courses were then accredited at level 7, they proposed a parallel qualification at level 6 (third year of an honours degree) which would be called the *Professional Graduate* Certificate in education. In response to this, many universities revalidated their PGCE courses at both levels, so that student teachers could opt to take the qualification at level 6 or 7.

Some higher status institutions decided that their PGCE should be at Master's level as the default option, with the Professional Graduate Certificate conferred only when a student had failed their level 7 assignments.

Over the years, this has become the favoured option as it has come to be seen as a 'unique selling point' (USP) for university-based training in the face of competition from an increasingly favoured school-based sector. Some universities have gone as far as only offering Postgraduate certificates, with the implication that a student teacher unable to raise their academic writing to Master's level whilst undertaking an exceptionally rigorous professional training might not qualify. It also raises the somewhat bizarre possibility of being recommended for QTS whilst failing the PGCE! The drive towards level 7-teacher education does reflect international trends, where in high-performing countries such as Finland and Canada teaching has become a Master's profession. In England, this trend was also reflected in the ill-fated introduction of a Master's in Teaching and Learning (MTL) by the outgoing Labour administration (Training and Development Agency (TDA), 2009).

The MTL was the first government-funded Master's programme for serving teachers, enabling them to build upon the 60 level 7 credits many had carried forward from their PGCE courses to achieve a qualification, which was designed to be both academically rigorous and closely related to the government aim of improving pupil performance. It represented in some ways an attempt to reintegrate the professional with the academic elements of teacher education but was unfortunately doomed to failure once the funding was withdrawn by the incoming coalition government.

Provocation 8C

University-based teacher educators tend to be caught in a quality assurance dualism, between the academic standards of the PGCE qualification – In England, they are regulated by the QAA – and the professional standards required for QTS, now regulated by the National College of Teaching and Leadership (NCTL) and policed by OfSTED. To which should they pay most attention?

If you face this quality assurance dualism in your Country, what will you pay most attention to?

As custodians of a university award they should of course assure the maintenance of academic standards through moderation of assessment and the external examiner system, however it is the professional QA which carries by far the greater risk.

8.4. HOW TO MEET GRADUATE CAPABILITIES IN TEACHER EDUCATION PROGRAMMES

Provocation 8D

Check your own Country's statutory requirements in relation to the accreditation of graduate capabilities.

Then cross check your graduate capabilities with the following list of graduate capabilities.

Although the list below is not an exhaustive collection of graduate attributes it is a synthesis of key capability expectations of teacher education programmes around the world. Although they are not required of UK student teacher education, the links between these attributes and *Teachers' Standards* (DfE., 2013) outlined above make this list relevant to a UK context

1. Problem-solving capabilities
2. A commitment to a Life-long learning philosophy
3. Communication and Information literacy skills
4. Critical and Creative Thinking attributes
5. Enhanced Information Technology (IT) skills
6. Teamwork and Leadership qualities
7. Logical and Independent thought processes.

Provocation 8E

Life-long learning is seen to be an essential characteristic of workers of the Digital Revolution or Knowledge-based economy era.

Make a list of what professional development opportunities you see as essential for the maintenance of teachers' attributes in this new educational and learning environment?

Share your list with a fellow staff member and discuss what is common and different to you both. Are these qualities reflected in your teacher education course material?

8.5. HOW TO CREATE INNOVATIVE AND CHALLENGING QUALITY ASSURANCE PRACTICES WITHIN TEACHER EDUCATION PROGRAMMES

In UK teacher education, the primary motivation for QA is to ensure that student teachers meet professional standards at as high a level as possible ('good' or 'outstanding' in OfSTED terms). Institutions are also judged on the proportions of

students that complete the programme and find teaching jobs, so clearly selecting high-calibre candidates for the programme is crucial. Many HEIs involve senior colleagues from their school partnership in pre-course selection interviews, since they will be able to apply the professional criteria they would use when interviewing for an actual teaching post.

Keeping detailed records of the performance of each successful candidate on the various selection activities (e.g. presentations, aptitude tests, group exercises) enables us to monitor the quality of the 'input' and compare it with the grades achieved on graduating from the programme to provide a measure of progress.

To assure the quality of the training programme itself many providers use a combination of written and verbal evaluation feedback from the student teachers during and after the programme. Academic and school-based staff will often meet representatives from the student teacher at regular intervals, with a clear mechanism of reporting back on changes that have been made in response to issues made. University-based providers also have a team of external examiners who may monitor a sample of the academic work produced and observe some student teachers in action during their school placements, providing another valuable source of feedback on high-quality features of the programme and aspects to be improved.

As teacher educators we may watch student teachers in the classroom, but are less used to being observed ourselves. Establishing a peer observation and review process, with clearly identified criteria for excellence and guidance for improvement, can provide valuable opportunities for professional development and contribute to raising the overall quality of the programme. Finally, 'benchmarking' our output data against other local or similar providers can provide us with a sense of how our programme compares with the sector as a whole.

Most HEIs with strong indications of quality in a particular aspect of their training are only too happy to welcome visits from others seeking to learn 'their secrets'. Becoming an external examiner of a teacher education programme based in another university can give us invaluable insights into our own practice and thereby help us learn and improve. Here are some more creative suggestions for QA activities to help us ensure that our programmes promote the generic graduate attributes outlined above:

1. Introducing an international professional practice experience into teacher education programmes has been an innovative development in a number of countries. In both Australia and the UK all teacher education programmes incorporate extensive professional practice experience for their student teachers, though the regulations governing teacher education in England generally preclude international placements. However, understanding cultural differences and cultural expectation of students in any classroom around the world is enhanced by such a practice. This experience also contributes to the global employability of teacher education graduates and is a key indicator of quality in such programmes (Aspin, 2006).
2. To develop the problem-solving and critical thinking capabilities of students, research projects have become an embedded practice within many teacher

education programmes; indeed at Bath Spa University they are known as 'teacher-researchers'. For student teachers to be able to conduct small scale research projects within their own classrooms they need to be introduced to the rigour of academic research processes. Setting an assessment task that requires them to research professional literature, design a viable small scale project using an appropriate methodological approach, take into account consideration of pertinent ethical issues, defend the research design by communicating the project plan to an audience is a very challenging task relevant to 21st Century workforce expectations.

Provocation 8F

In relation to quality assurance practices embedded in your course/subject handbook, reflect on what might constitute a small research project, which would demonstrate one of the main objectives of your course or programme.

3. Introducing networks of professional mentors (colleagues both experienced and inexperienced and parents) in student and postgraduate teacher education programmes is one way to enhance a life-long learning approach and enhance the abilities of future teachers to articulate their pedagogical practices to a wide variety of audiences. Such communicative skills are essential for graduate teachers. In England, all HEIs are required to work in partnership with schools (schools increasingly taking the leading role), with the school-based staff being designated as mentors. Furthermore, encouraging students to join national and international professional discipline associations is also an excellent strategy to enhance life-long learning expectations required of the 21st Century workforce.

Provocation 8G

You have been asked if you would like to co-ordinate a professional mentor network in your partnership.

What characteristics would you list as essential for such a person to be effective in relation to your development as a teacher educator?

4. Teacher educators must be familiar with technological changes which impact on students' learning environments and facilitate students' learning opportunities. Information Technology (IT) changes rapidly so it is important for teacher educators to be constantly undergoing lifelong learning themselves in relation to IT advances in order to maintain their own currency in the Digital Revolution. Furthermore, such advances in IT must be embedded into teacher education courses to facilitate the knowledge transfer to the next generation of school students.

Provocation 8H

Check you course /subject handbooks to make sure you have embedded opportunities for the future teachers you are educating to experience current IT experiences.

How have you embedded such learning opportunities for your students?

Share you curriculum activities with a fellow colleague who is an acknowledged IT expert in order to expand your own knowledge in this field and maintain current practices for your students.

8.6 CONCLUSION

In this chapter we have argued that, in order to maintain and enhance quality in our teacher education programmes, we need to pay close attention to the fast-changing world into which our newly-qualified teachers will be emerging. As well as meeting the country-specific professional standards for teachers – to which most quality assurance processes are geared because of the strong culture of compliance in teacher education – we also need to look beyond our borders to the international knowledge economy and the generic graduate attributes that are needed to thrive in it. This requires a creative approach to QA; beyond the mechanisms of student teacher evaluation and data monitoring to carefully examining the opportunities within our programmes for teachers to take on an international perspective and develop core problem-solving and team work skills within a strong digital culture.

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9. TEACHER EDUCATION: A TRANSFER, TRANSLATE OR TRANSFORM MODEL

9.1 INTRODUCTION

This book arose as a consequence of a brainstorm with colleagues at a higher education institution where we discussed what the personality of the profession of teacher education might look like. We used this shared identification of the construction and personality of the teacher education profession to identify chapters that we thought might be of use to early career teacher educators (ECTE). These are people making the transition from their successful professional practice to the teacher education arena.

Thus the book is aimed at people who are early career teacher educators. While most might be within an academic institution there are growing numbers of mentors in school-based programmes of teacher education. Regardless of where you sit on this spectrum of teacher education provision, we believe that anyone apprenticing future teachers needs to have an understanding of the similarities and differences between their original status and their status as a teacher educator. An expert classroom teacher does not necessarily result in an efficient or effective teacher educator or mentor. However, if we can develop and support informed professionals such educators could make a difference to the learning experiences of students in education programmes.

The intention of this book was to provide a means to encourage those new to the teacher education profession to consider the signature pedagogy of teacher education by considering aspects of pedagogy, subject, reflection, ethics, working with others, and quality assurance. In essence, if you were a new teacher educator, what would be useful to know in order to develop an identity as a knowledgeable skilled teacher educator?

9.1.1 The influence of Sacred, Secret and Cover Stories in Teacher Education

The book began by trying to help you, the ECTE, determine what Connelly and Clandinin (1988) called personal practical knowledge from the perspective of your previous profession and from the perspective of a teacher educator. It attempts to do this because of the development of an intellectual and value laden landscape

S. Rodrigues (Ed.), Handbook for Teacher Educators, 121–132.

pertaining to the practices of teacher education (Clandinin & Connelly, 1995, 1996). Clandinin and Connolly (1996) discussed:

- sacred stories (which are usually anonymous and tend to be communally recognised);
- cover stories (these are created new stories to justify actual experience and sometimes are in direct contrast to the sacred stories) and;
- secret stories (these tend to be what goes on behind the closed door or is the experience that is not seen by other professionals).

Clandinin and Connolly (1996) showed how these stories for different individuals confirm or contradict the stories of colleagues, institutions and society. Thus in terms of values, dispositions and beliefs, some will be sacred, some will be cover and some will be secret, and they will all influence what is 'said and done' in school and university settings.

Take for example valuing fairness and equity for all. These attributes are unlikely to be disputed by teacher educators. It would seem safe to assume that these values are shared within, and beyond, school settings. They may be the sacred stories. However, the way in which the stories are enacted behind 'closed' doors may vary from teacher to teacher and from teacher educator to teacher educator and hence become secret stories. Teachers and teacher educators may create cover stories to marry the disjuncture between the sacred stories and the stories that they experience in their classroom.

Teacher educators develop and hold implicit theories about their adult students, the subject matter (discipline and pedagogy) they teach, their roles and responsibilities and how they should act. We believe that teacher educators' implicit theories about their work play an important part in the judgements, behaviours and interpretations that they make in their everyday engagement with adult student teachers.

So to recap:

- Sacred stories are the prescriptions imposed through policy documents and/or the vision of others (administrators, colleagues, researchers, policy makers).
- Secret stories are the things you as an individual consider important and these manifest in the reality of your day-to-day working with student teachers.
- Cover stories enable us to live with these two paradigms (one determined by the policy and practice of others regarding teacher education and the other determined by your views and beliefs about teacher education).

Let us see , to see whether your initial ideas and thinking have changed.

Connelly and Clandinin talk about the notion of identity as 'Stories to live by' where stories to live by "are shared by such matters as secret teacher stories, sacred stories of schooling, and teachers' cover stories" (Connelly & Clandinin, 1999, p. 4).

Provocation 9A

Make a list of the 'environment stories' you think you may have to subscribe to with regard to teacher education.

Make a list of the personal stories you have with regard to teacher education.

In what way are the environment stories and your personal stories similar?

In what ways do they differ?

What sort of cover story are you likely to construct?

This book asked experienced and novice teacher educators to share some of their experiences of these secret, sacred and cover stories in order to help you consider your stance on various teacher education characteristics. Through this sharing we hoped to illustrate how these secret, sacred and cover stories influence each other as teacher educators strive to deal with (sometimes the disjunction) between sacred stories that are determined by others and passed onto teacher educators, with the secret stories (which are the reality of enacted practice within the confines of personal teaching spaces).

Many institutions, be they higher education or school environments, have long established strong traditions, values and practices that determine and promote the sacred stories. These sacred stories embed beliefs with particular pedagogy and assessment practices and assume that a novice teacher educator shares these beliefs, views on pedagogy and views on assessment. As teacher educators you work within these constraints while remaining true to your own secret story and that requires resilience.

In many countries, and in particular Australia, acknowledgement of resilience has been the domain of early career teachers (ECT) due to the documented loss of ECTs within the first five years of teaching (Johnson et al., 2012; McKenzie, Kos, Walker, and Hong, January, 2008). Johnson, et al., (2012) developed " …a 'human resilience' theoretical framework to study the complex lives of early career teachers to identify the practices, processes and resources they use to engage productively with the challenges of their professions" (p. 4). The Johnson et al (2012) framework of conditions supporting early career teacher (ECT) Resilience contains five considerations:

- Knowledge of the mandated official policies and practices of the profession.
- Teachers' Work "… refers to the complex array of practices, knowledge, relationships and ethical considerations that compose the role of the teacher (p. 5).
- School culture. An acknowledgement that understanding the values, beliefs and norms of the educational environment is essential to the development of teacher resilience.
- Relationships. A reference to social and professional networks acknowledged as facilitating belongingness and thus to the development of resilience.

- Teacher Identity. Resilience is enhanced when ECTs engage in self-reflection and self understanding thus building their teacher identity.

However, the concept of resilience is also very pertinent to early career teacher educators (ECTE). The Johnson et al., (2012) framework could easily be adapted for ECTEs.

Our book provides a framework of ideas to support the development of early career teacher educator resilience: by recognising the importance of social, cultural, economic and political influences that shape the workplace expectations of new teacher educators. Through understanding these influences on not only yourself as a teacher educator, but also your colleagues, you are in a more powerful position to make positive change.

Being an early career teacher educator might see the adoption of an apprenticeship model in the form of transference, translation or transformation. A competency based route would see teacher education as knowledge and skills that are defined and prescribed and can be accounted for or measured. As such, teacher education is about transfer, where the teacher educator is expected to impart sound knowledge and good skills. If however teacher education knowledge and skills are seen as being constructed (and in some cases reconstructed) by participants then teacher education apprenticeship is a translation between the teacher educator and the student teacher. But if a teacher educator is engaged in the creation of an environment that supports the process of inquiry and allows for personal and social change, then teacher education apprenticeship is transformative.

As chapter 8 showed, many teacher educators have to deal with a continual shifting professional landscape. These shifts in landscapes will shape teacher educators' identities and models of teacher education apprenticeship as teacher educators juggle their sacred, secret and cover stories.

9.1.2 Identifying a Teacher Educator's Signature Pedagogy

The book has briefly discussed what Shulman (2005) defined as signature pedagogies: "the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions" (p. 52). The various chapters have shed some more light on the surface structure (the operational acts of teaching and learning), the deep structure (assumptions about how best to share know how and a body of knowledge), and the implicit structure (beliefs about professional dispositions, attitudes values and beliefs) that are particular to teacher education.

Provocation 9B

In light of the chapters and your experience, how would you describe the signature pedagogy of a teacher educator?

In the first chapter, one of the provocations asked you to identify what you would consider to be the distinctive habits and characteristic disciplinary pedagogies associated with teaching children and with teaching teachers. For as (Farrell, 2001) suggested, opportunities have to be created for educators to employ critical reflection as a means to understand the relationship between their own thoughts and actions.

Provocation 9C

Return to your lists in Chapter 1 and reconsider the items in terms of your view regarding:

The operational acts of teaching and learning,

The assumptions about how best to share know-how and a body of knowledge

Your beliefs about professional dispositions, attitudes values and beliefs.

The book also outlines what some might describe as signature aspects in teacher education and what Cochran, De Ruiter, and King, (1993) called Pedagogic Content Knowing (PCK): teachers' integrated understanding of pedagogy, subject matter content, student characteristics, and the environment of learning. In our case this took the form of considering aspects such as: pedagogy; reflecting on practice; subject knowledge; research-informed teaching and ethical practice; working with others; developing professional integrity and issues of quality assurance.

It would be unwise to assume that schools and teacher education institutions have the same intentions and therefore as a successful school practitioner, one is equally likely to be successful as a teacher educator. Indeed Cope and Stephens (2001) suggested that schools and Higher Education institutions have different intentions that are seen in the nature of their goals and the criteria used to evaluate their activities.

While schools and universities fall within the general field of education because they share a number of principles, they can also be considered subfields by virtue of several key differences. The transitions involved in the movement across these subfields are potentially challenging. Our book draws on our experience in supporting colleagues to address this transition.

9.2 CHAPTER OVERVIEWS

The nine chapters in this book draw together a wealth of knowledge and experiences from practising teacher educators from around the world. The various chapters highlight fundamental principles for ECTE to incorporate into their own teaching and learning identities.

The chapter on U*nderstanding Pedagogy* draws our attention to the all-important significance of the balance of transfer of expert teacher knowledge and the

transformation of the learners themselves. The chapter explores 'bedrock principles' in relation to the development of a teacher educator and a teacher.

Using early years education as the lens, the chapter authors suggest that if your underpinning pedagogy is founded on 'bedrock principles' then you provide a role model for student teachers and principles for them to consider with regard to their own practice. Seems straightforward enough, until you see that understanding of self is a representation of our theories, attitudes and beliefs about ourselves (McCormick and Presslet, 1997), and as such means we do not simply assume the roles of others.

The third chapter is on *Reflecting on Practice.* It draws our attention to the need for sustained reflection. Reflection' and 'being reflective' provide the cornerstone for many professional development programmes (Pollard, 2005). Despite the prominence of reflective practice within professional standards often there is more of a focuss on expediency and efficiency (Larrivee, 2008) and reflection falls by the wayside. Indeed, ''in becoming everything to everybody, it (reflection) has lost its ability to be seen'' (Rogers, 2002, p. 843). The chapter on reflecting on practice attempts to show how we can engage in meaningful reflective practice if we create opportunities to support this process.

We also need to model different levels of reflection in order to make it accessible and a useful strategy. We need to ensure that we focus on the development of a positive disposition to reflection rather than focusing solely on the development of skills of reflection.

Chapter three considered the idea of teacher educator reflective practice as well as strategies teacher educators could use with student teachers to encourage the development of reflective practice. For, as it has been argued (see, Husu,Toom & Patrkainen, 2008), teacher reflection has not been as effective as expected. This may be because reflective analysis may not be an instinctive process and may require structure and dialogue.

Chapter four considered *Subject Knowledge.* Chapter four considered how teacher educators could help beginning teachers to understand how to nurture, support, scaffold and mediate learning subject knowledge. Shulman (1986**)** identified three influencing dimensions: Subject knowledge (what is known about subject matter), Curriculum knowledge (what is known about curriculum design) and Pedagogic knowledge (what is known about teaching). Subject knowledge is comprised of the key facts, concepts or principles that constitute it.

Student teachers need assistance in developing an understanding that subject knowledge relates to knowing what content is important and relevant in the curriculum, and also need to keep abreast of developments in their subject area. As teacher educators we also have to help student teachers to understand how different subject matter areas are structured and how the subject matter in one area might relate or corroborate another. As such, as teacher educators we need to recognize how key skills developed within various subject areas might inform 'transferable' cognitive and affective knowledge and understanding leading to general academic development (Rodrigues, Symington and Tytler, 2007).

Chapter five on *Developing Professional Integrity* was intended to support the exploration of your personal philosophy and your related values and principles. The aim was to help reflect on the development of professional integrity in accordance with the social and moral standards of the profession. The two aspects of integrity imply being true to you as well as being an effective professional role model. The chapter explored how in some instances the teacher educator's and teacher's personal philosophy, values and principles may be at odds with those held by their institution and those held by their students and the school community. The chapter considered the need to negotiate our perspectives in a professional manner. It also signals the need to ensure that our philosophies are well considered and that we have clearly considered and developed an understanding of how our practice links with our philosophy.

Chapter six on *Research-Informed Teaching and Ethics* considered the demands of the academic rigour necessary to maintain integrity and ethical conduct in research and teaching processes and in terms of educational professional conduct. Research-informed practice is a life-long learning journey that must be embraced by all teacher educators regardless of whether they are ECTEs, Mid Career Teacher Educators or Senior Mentors. Effective teacher educators use evidence-based decision making (Darling-Hammond, 2003, 2011; Hattie, 2012) to enhance the creation of powerful learning environments. Chapter six also highlighted the importance of reminding ourselves that the ethics of good practice requires us to pay due diligence to our own personal actions in teaching and in our dealings with students.

Chapter seven on *Working with Others* (Partnership) examined the importance of teacher educators working in professional, and often interdisciplinary teams. Collaborating with educational colleagues and industry partners is a skill that needs to be learned and continually developed. The authors identify a number of strategies to facilitate ECTEs abilities in this area. Foremost in this repertoire of skill development are proficiencies in the following:

- clear goal setting and communication of such decisions;
- team collaboration and responsibility identification;
- resource sharing to benefit the team as well as the individual;
- the enhancement of not only active teacher networks but also liaisons with Government agencies to maintain professional expertise and credibility in the field, and;
- effective partnership building with educational institutions such as museums, galleries and science centres.

Such connections enhance a teacher educator's capacity to deliver exemplary teaching and learning experiences.

Chapter eight on *Quality Assurance in Student Teacher Education* discussed an aspect that is common to many countries, although this chapter detailed the quality assurance expectations from an Australian and UK perspective. The chapter highlighted the country specific and global demands of preparing teachers to succeed in local and international workforce markets. The demands of the 21st Century have

brought major changes to teacher education programmes in the last decade. Teacher educators must be constantly vigilant and adapting their programme delivery methods, modes and content to reflect the changing nature of these new demands.

9.3 TRANSFER, TRANSLATE OR TRANSFORM

What is common to all the chapters in this book is a need for ongoing dialogue with self and with others. We suggest that the intuitive and analytical processes involved in making the transition from a previous professional post to that of a teacher educator can be viewed through a continuum of three thresholds: pre-critical, internalised and hypothetical. The three tables that follow attempt to identify the characteristics of these phases.

Table 9.1: The transfer apprenticeship disposition and the pre-critical, internalised and hypothetical thresholds

Disposition / **Threshold**	***Transfer*** *ECTEs have a view of what and how to teach based on their prior experience but ECTEs hold a belief that it is simply a matter of transferring their skill, disposition and attitude set to their student teachers.*
Pre-critical	ECTEs who hold a transfer disposition and operate at the pre-critical threshold usually engage in overt trial and error to make progress in their evolution as teacher educators. They use survival strategies to enable them to manage their time, their resources and their student teachers.
Internalised	ECTEs at this threshold have a more mentally rehearsed operation and outcome approach. They still rely pretty heavily on their previous experience to help them address potential situations. They still hold a view that their experiences, skills and know-how can be deposited into the head of the student teacher. However, they begin to be guided by the relations and structuring of their environment. They can be described as having grasped the competence of pedagogical practice but have not fully come to terms with the dynamic art of teacher education.
Hypothetical	ECTEs at this threshold consider hypothetical issues. Most ECTEs will not have anticipated things that are not present. They do not have a full repertoire of alternatives. But some start to consider the 'what if', and through what we would call 'refraction' (dialogue with self, text colleagues, student teachers and others over a period of time) come to address contingent factors. However, while being cognisant of these 'what-if' scenarios, they still adhere to a disposition toward apprenticeship that relies on information transfer.

Table 9.2: The translate apprenticeship disposition and the pre-critical, internalised and hypothetical thresholds

Disposition / **Threshold**	***Translate*** *ECTEs think that what is needed is an ability to act as a translator in helping the student teacher translate what the teacher educator knows to interpret it for use in a new milieu. A bit like knowing what you want to say in your native language but when abroad having to translate it into a new language to function in the new environment.*
Pre-critical	The ECTEs help the student teacher translate what they know to fit their new environment. The trial and error approach uses repetitive strategies to enable the teacher educator to manage their time, their resources and their student teachers. However, the 'language' taught is context specific. A bit like picking up a basic foreign language book that helps you to learn the fundamentals in order to help ask the cost of something when abroad.
Internalised	The ECTEs rely on previous experience and they are guided by the relations and structuring of the new environment. The ECTEs translation activity addresses more than the basics. The ECTEs understand the need for 'language' learning to be more than functional within a limited context.
Hypothetical	The ECTEs acknowledge that they do not have a full repertoire of alternatives but are in a position to encourage 'refraction' so as to coach the student teacher in preparing to address contingent factors. The ECTEs are interested in the scope of the 'language' to involve more than just function in a limited scenario.

The ability to design and cater for the flexible delivery of professional practice experiences to meet an international market, whilst simultaneously meeting the standards of registration requirements for national government requirements is not an easy task. However, it is a challenge that needs to be addressed for global market demands. Teacher education providers must maintain cutting-edge quality in the preparation of excellent teachers. This necessarily involves development of graduate attributes, or capabilities, to meet the legislated standards of the home country as well as enhancing programmes through international experiences.

An Early Career Teacher Educator (ECTE) may hold a transfer, translate or transform disposition toward teacher apprenticeship. As such they hold a transfer, translate or transform understanding with regard to how they intend to share their professional practice and experience.

Table 9.3: The transform apprenticeship disposition and the pre-critical, internalised and hypothetical thresholds

Disposition / **Threshold**	***Transform*** *ECTEs think that what is needed is an ability to 'coach' while recognising their personal skill set, they also understand that their skill set cannot be simply transferred. Nor does it allow for simple translation.*
Pre-critical	ECTEs use trial and error strategies when sharing their experience. They use survival strategies to enable them to manage their time, their resources and their student teachers. But their approach relies on coaching student teachers to acquire training and performing skills, attitudes and dispositions.
Internalised	ECTEs are guided by the relations and structuring of their new environment and accept that their prior experience is not a skill set that can by simply transferred or translated. Instead, student teachers are coached into considering more than the technical aspects of teacher education, and to see teacher education as more than teacher training.
Hypothetical	ECTEs consider hypothetical issues. Even though they may not have anticipated aspects they are at a stage where they try to use opportunities that allow them to share the 'what if' scenarios with their student teachers. They use dialogue (with self, text colleagues, student teachers and others) to help student teachers to consider, reflect on and address contingent factors, and as such encourage student teachers to see themselves as life long learners.

9.4 CONCLUSION

We have drawn together the fundamental principles for early career teacher educators (ECTEs) to not only reflect on, but also to act upon, as you develop your professional expertise in teacher education. Throughout the chapters of this book we have highlighted the importance of the following attributes of effective and efficient teacher educators.

i) Teacher educator and student teacher relationship: To create effective teaching and learning environments it is important to be constantly aware that active engagement of learners is essential in the interaction processes that occur.

ii) The principle of holding a philosophy of life-long learning and striving for excellence involves constantly revisiting and challenging one's own existing practices. Evidence based, or research-informed practices, is imperative to the development of quality learning environments.

iii) The ability and willingness to adapt to change is an important factor in the ECTE's professional career growth.

iv) Coping with conflict and developing conflict resolution skills is also an essential attribute of an ECTE in the 21st Century. The pace of change has escalated at an exponential rate, even in the last 20 years. Thus, as teacher educators being able to cope with the often resulting conflict related to changes in teaching practices is an attribute that needs to develop.

v) Teacher educators have a responsibility to keep constantly informed in relation to the professional standards governing the quality of the programmes they work within. Government agencies and teacher registration institutions change policy and procedures that reflect political influences of the time. As teacher educators we must be informed and adapt to such changes if we are to remain cutting edge practitioners in our field.

vi) All teacher educators need to be able to share and thus learn from both successes and failures. The ability to reflect on one's own teaching and to share this knowledge with other teacher educators is not always an easy task. However, it is an important ability to develop. For it demonstrates not only strength within an individual but also provides invaluable experiences from which others can learn.

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