

2015

Learning to teach: What pre-service teachers report

Dawn Naylor
Edith Cowan University

Follow this and additional works at: <https://ro.ecu.edu.au/theses>



Part of the [Education Commons](#)

Recommended Citation

Naylor, D. (2015). *Learning to teach: What pre-service teachers report*. Edith Cowan University. Retrieved from <https://ro.ecu.edu.au/theses/1626>

This Thesis is posted at Research Online.
<https://ro.ecu.edu.au/theses/1626>

2015

Learning to teach: What pre-service teachers report

Dawn Naylor
Edith Cowan University

Recommended Citation

Naylor, D. (2015). *Learning to teach: What pre-service teachers report*. Retrieved from <http://ro.ecu.edu.au/theses/1626>

This Thesis is posted at Research Online.
<http://ro.ecu.edu.au/theses/1626>

Edith Cowan University

Copyright Warning

You may print or download ONE copy of this document for the purpose of your own research or study.

The University does not authorize you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following:

- Copyright owners are entitled to take legal action against persons who infringe their copyright.
- A reproduction of material that is protected by copyright may be a copyright infringement. Where the reproduction of such material is done without attribution of authorship, with false attribution of authorship or the authorship is treated in a derogatory manner, this may be a breach of the author's moral rights contained in Part IX of the Copyright Act 1968 (Cth).
- Courts have the power to impose a wide range of civil and criminal sanctions for infringement of copyright, infringement of moral rights and other offences under the Copyright Act 1968 (Cth). Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Learning to Teach: What Pre-Service Teachers Report

Dawn A. Naylor

MEd; BEd (Hons); DipT; MACE

A thesis submitted for the degree of Doctor of Philosophy

Edith Cowan University

Faculty of Communication and the Arts

School of Education

Western Australia

Date of Submission

April 2015

Abstract

With universities and schools of education receiving recurring criticism for being ineffective in preparing graduates for school teaching, this study sought to understand the phenomenon of learning to teach in order to investigate universal questions about who was learning to teach and what, where, when and how did they learn to teach during their initial learning to teach experiences at university. The topic was approached by listening to the voices and stories of those who ought to know the most about the phenomenon: the pre-service teachers. A multiple case study analysis was conducted with seven pre-service teachers, enrolled in their final year of study towards a Bachelor of Education course in an Australian regional campus. The pre-service teachers volunteered to participate in three semi-structured interviews, in which they reflected on their personal, contextual and professional aspects of the experience of learning to teach. They were encouraged to provide any artefacts or documentation about their experiences.

The significance of my study—and therefore its contribution to theory—is the proposition that pre-service teachers' approaches to learning to teach are pivotal to what they will take from their teacher education experiences, and therefore their vision of teaching and how that might be enacted. The extent to which the personal, contextual and professional aspects are integrated and utilised by the pre-service teacher assert particular orientations to learning to teach. My study proposed three orientations to learning to teach. The influences of the personal aspects were found in all three orientations, but in the first orientation, the personal aspects were the single most influential impact on learning to teach. This orientation was described as a *pragmatic* orientation because the pre-service teacher relied on their previous experiences and observations of teachers and teaching, an established view of teaching that did not change and they were confident about their ability to teach. In the second orientation,

the personal aspects combined with some of the professional or the contextual aspects, and it was described as a *transitional* orientation. In the *transitional* orientation the pre-service teachers recognised they must engage with the knowledge and skills for teaching in order to review and refine their understanding about teaching and teaching methods. The final orientation utilised and activated all three aspects (personal, contextual and professional) and it was described as having an *integrated* orientation. In this approach, pre-service teachers actively constructed and made new and more complex meanings about teaching and teacher's work.

While the orientations found in my study were specific about the diversity of pre-service teachers entering a regional teacher education programme, they do offer teacher educators some insight into the complex, dynamic and idiosyncratic nature of learning to teach and make recommendations to attempt to address the pre-service teachers' learning needs.

Keywords: teacher identity; pre-service teacher education; pre-service teachers; epistemological beliefs; orientations to learning to teach; initial teacher education.

The declaration page
is not included in this version of the thesis

Acknowledgements

I wish to thank a number of professional and personal people for their inspiration and/or encouragement. To my original supervisor, Professor William Loudon: thank you for inspiring the conception of this thesis by advising me to pose the 100 year old question. Although this was a relatively short association, I believe it was at a crucial time in the planning of my research and your leadership was greatly appreciated.

To Associate Professors Glenda Campbell-Evans and Carmel Maloney, my long-standing supervisors: your endless reviewing of my ideas, which turned into a research proposal and then conceptualised into many drafts to become this thesis. I appreciated your patience, advice, expertise and our developing professional relationships.

I would like to thank my family for their support and encouragement throughout this marathon. To my parents Noreen (dec.) and Sinclair Stevens (dec.): I had this opportunity because of your beliefs and values about education, and your steadfast encouragement and belief in me. I am saddened that you did not see the final product, but I hope I have made you proud. To my children, Alex and Sarah, who are not really children anymore, thank you for pushing me on, asking how I was going and being interested! I know this was the third research thesis I have put you through. To my partner, Rod: your support has been invaluable, you understood the commitment I needed to show and you never complained (well, maybe once).

To the pre-service teachers who played a major role in this thesis: you gave freely of your time, and spoke honestly of your experience for the benefit of research. I am indebted to you.

Finally, a number of people have read drafts and parts of this thesis and have been critical friends and colleagues: thank you for your time and expertise. I also

acknowledge this thesis was edited by Elite Editing, and editorial intervention was restricted to Standards D and E of the *Australian Standards for Editing Practice*.

Table of Contents

Abstract.....	i
Declaration.....	iii
Acknowledgements.....	iv
List of Figures.....	ix
List of Tables	ix
List of Abbreviations	x
Chapter 1: Introduction	1
1.1 Background	1
1.2 Problem Statement.	7
1.3 Purpose of the Study.	9
1.4 Significance of the Study	9
1.5 Overview of the Thesis	11
Chapter 2: Literature Review	13
2.1 The Who in Learning to Teach	14
2.1.1 Demographics.	15
2.1.2 Epistemological beliefs.	22
2.1.2 Dispositions.....	27
2.1.3 Self-efficacy.	30
2.1.4 Implications of the who question to my study.	34
2.2 The Where and When of Learning to Teach.....	35
2.2.1 Campus-based contexts.....	37
2.2.2 School-based experiences.	43
2.2.3 Implications of contextual aspects to my study.	49
2.3 The What and How of Learning to Teach.....	50
2.3.1 KLA content knowledge.	54
2.3.2 Pedagogical content knowledge (PCK).	58
2.3.3 Knowledge of learners.	61
2.3.4 Professional relationships.	63
2.3.5 Assessment and monitoring.	67
2.3.6 Professional ethics.	71
2.3.7 Implications of professional aspects to my study.	74
2.4 Theoretical Perspective of My Study.....	75
2.5 Conceptual Framework of My Study.....	78
Chapter 3: Methodology.....	81
3.1 Design	81
3.2 Sample.....	88
3.3 Data Sources	90
3.3.1 Background knowledge and survey.	90
3.3.2 Interviews.....	93
3.3.3 Artefacts.....	94
3.4 Data Analysis	94
3.5 Credibility, Dependability, Ethical and Generalizability Considerations	97
3.6 Limitations of the Methodology	101
Chapter 4: Case Studies	103
4.1 Case Study One: Annie	103

4.1.1 Personal aspects.	103
4.1.2 Contextual aspects.....	107
4.1.3 Professional aspects.	111
4.1.4 Summary of aspects that influenced Annie's induction into teaching.	116
4.2 Case Study Two: Lulu.....	119
4.2.1 Personal aspects.	119
4.2.2 Contextual aspects.....	123
4.2.3 Professional aspects.	129
4.2.4 Summary of aspects that influenced Lulu's induction into teaching.	134
4.3 Case Study Three: Dallas	137
4.3.1 Personal aspects.	137
4.3.2 Contextual aspects.....	143
4.3.3 Professional aspects.	148
4.3.4 Summary of aspects that influenced Dallas' induction into teaching.	154
4.4 Case Study Four: Lara.....	156
4.4.1 Personal aspects.	156
4.4.2 Contextual aspects.....	161
4.4.3 Professional aspects.	167
4.4.4 Summary of aspects that influenced Lara's induction into teaching.	172
4.5 Case Study Five: Barb.....	175
4.5.1 Personal aspects.	175
4.5.2 Contextual aspects.....	178
4.5.3 Professional aspects.	185
4.5.4 Summary of aspects that influenced Barb's induction into teaching.	190
4.6 Case Study Six: Jacqui	192
4.6.1 Personal aspects.	192
4.6.2 Contextual aspects.....	196
4.6.3 Professional aspects.	204
4.6.4 Summary of aspects that influenced Jacqui's induction into teaching.	209
4.7 Case Study Seven: Leah.....	212
4.7.1 Personal aspects.	212
4.7.2 Contextual aspects.....	214
4.7.3 Professional aspects.	224
4.7.4 Summary of aspects that influenced Leah's induction into teaching.....	227
4.8 Summary of findings.....	229
Chapter 5: Cross-Case Analysis	230
5.1 Influences of a Personal Nature	231
5.1.1 The decision to teach.....	232
5.1.2 Readiness to commit.	234
5.1.3 Life experiences and education.	235
5.1.4 Temperament for teaching.	236
5.1.5 Concepts of learning.	237
5.1.6 Approaches to learning to teach.....	240
5.1.7 Summary from influences of a personal nature.	241
5.2 Influences from the Contexts	243
5.2.1 Same but different campus experiences.....	244
5.2.2 Transmission versus constructivism campus experiences.	246
5.2.3 Collaborative learning versus cohort campus experiences.	248
5.2.4 Assignments in the campus experience.	249
5.2.5 Fragmentation versus cohesion in course design.....	251
5.2.6 Practicum-based experiences.	251

5.2.7 Summary of influences from contexts.	253
5.3 Influences of a Professional Nature	254
5.3.1 Teachers' and learners' roles and theoretical beliefs.	255
5.3.2 Self-efficacy about the six dimensions of teachers' work.	256
5.3.2.1 <i>Professional relationships</i>	257
5.3.2.2 <i>Pedagogical content knowledge</i>	258
5.3.2.3 <i>Professional ethics</i>	259
5.3.2.4 <i>Knowledge of learners</i>	259
5.3.2.5 <i>Key learning area content knowledge</i>	260
5.3.2.6 <i>Assessment and monitoring</i>	261
5.3.3 Summary of influences of a professional nature.....	262
5.4 Conclusions from the Cross-Case Analysis	264
Chapter 6: Discussion and Conclusions	267
6.1 Pragmatic Orientation	270
6.2 Transitional Orientation	274
6.3 Integrated Orientation	278
6.4 Implications for Teacher Educators, Educators and Research.....	281
6.4.1 Implications for teacher education.....	281
6.4.2 Implications for school educators and professional development providers.	288
6.4.3 Implications for research.....	291
6.5 Conclusion	292
References	297
Appendices.....	310
Appendix I.....	310
Part 1: Demographic Survey	310
Part 2a: Epistemological Statements According to Constructs.....	313
Part 2b: Epistemological Beliefs.....	314
Part 3: Dispositions	318
Part 4: Self-Appraisal Questionnaire on Dimensions of Teaching	319
Appendix II: Interview Questions for Pre-service Teachers.....	320
Appendix IV: Framework for Case Studies	324

List of Figures

Figure 1. A model representing the socio-cultural relationships between the personal, contextual and professional aspects of learning to teach.....	79
Figure 2. How data were analysed (adapted from Neuman, 2011).....	96

List of Tables

Table 3.1 <i>Overall rating of epistemological beliefs</i>	92
Table 5.1 <i>Themes of the Study</i>	231
Table 5.2 <i>Influences of a Personal Nature</i>	232
Table 5.3 <i>Influences from the Contexts</i>	243
Table 5.4 <i>Influences of a professional nature</i>	255

List of Abbreviations

AAMT	Australian Association of Mathematics Teachers
ABS	Australian Bureau of Statistics
ACARA	Australian Curriculum Assessment and Reporting Authority
AISWA	Association for Independent Schools of Western Australia
AITSL	Australian Institute for Teaching and School Leadership
ASTA	Australian Science Teachers Association
ATAR	Australian Tertiary Admission Rank
ATP	Assistant Teacher Program
CEO	Catholic Education Office
CLEV	Checklist of educational values
DEST	Department of Education, Science and Training, Commonwealth of Australia
DET	Department of Education and Training, Commonwealth of Australia
DETWA	Department of Education and Training Western Australia
DEWA	Department of Education, Western Australia
ERO	Education Review Office
IEP	Individual education plans
INTASC	Interstate New Teachers Assessment and Support Consortium
IRA	International Reading Association
IT	Information technology
K-12	Kindergarten through year twelve
KA	Knowledge of assessment of learning
KC	Knowledge of the curriculum
KISR	Knowledge of instructional strategies and representations

KLA	Key learning area
KSU	Knowledge of students' understanding
MACQT	Ministerial Advisory Council on Quality of Teaching
MCEETYA	Ministerial Council for Education, Employment, Training and Youth Affairs
MEB	Ministry of Education Board
NAPLAN	National Assessment Program—Literacy and Numeracy
NCRTE	National Centre for Research on Teacher Education
NBPTS	National Board for Professional Teaching Standards
NPQTL	National Competency Framework for Beginning Teachers
OECD	Organization for Economic Cooperation and Development
OT	Orientation towards teaching subject matter
P&C	Parents and Community group
PCK	Pedagogical content knowledge
PDS	Professional development schools
S&E	Society and environment
SOSE	Studies of society and environment
STELLA	Standards for Teachers of English Language and Literacy in Australia
TAE	Tertiary Admissions Exam
TAFE	Technical and Further Education
TEE	Tertiary Entrance Exam
TLCQ	Teaching and Learning Conceptions Questionnaire
TRBWA	Teacher Registration Board of Western Australia
TSES	Teacher's Sense of Efficacy Scale
TSM	Teacher schools model

TTA	Teacher Training Association
UPC	University preparation course
WACOT	Western Australian College of Teaching

Chapter 1: Introduction

The motivation for my research came from my early experiences as a tertiary educator. As I commenced as a lecturer, I recollected my own experience of becoming a teacher some 25 years earlier, and I remember asserting that ‘I had learnt more about teaching in my final practicum, than in my whole time at university’ (Personal communication, December, 1979). During the following ten years as a teacher I refined my professional knowledge and skills by reflecting on the success—or otherwise—of my lessons, and also by pursuing further studies and research. This was followed by another ten years as an administrator of primary schools, before I finally moved into tertiary education. In 2004, I attended my first graduation ceremony as a teacher educator. I was eager to talk with the newly qualified teachers (my ex-pre-service teachers) about their first semester of teaching, and how well we (the teacher educators) had prepared them for their experience. I was surprised by the responses, which were congruent with my own some 25 years earlier: ‘I have learnt more about teaching in this first term than I did in the four years at university’ (Personal communication, April, 2004). Therefore, the purpose of my study is to explore the initial learning to teach experiences, from the perspectives of pre-service teachers who have recently completed their pre-service teacher education.

1.1 Background

Worldwide, education systems and the general public desire and demand their teachers be able to teach an increasingly diverse student population and an evolving curriculum (Kind, 2014; Roofe & Miller, 2013). High quality teaching has been identified as having the greatest effect on students’ achievement and their ability to participate effectively in society (Hattie, 2012; 2009). As asserted by Darling-Hammond (2006) and many others, teacher quality and student outcomes are

inextricably linked to teachers' preparation. As such, teacher education has often been at the centre of many government reports, research investigations and media attention over the past 30 years, conclusively and persistently calling for reforms in teacher education in order to 'fix the problems in schools' with few actual reforms (Beare, Torgerson, Marshall, Tracz, & Chiero, 2012). The focus of my inquiry is also on pre-service teacher education, but in particular on what pre-service teachers report about learning to teach during their pre-service teacher education period. I sought answers from pre-service teachers directly because their voices have rarely been sought in the many reports and investigations of learning to teach (Allen & Wright, 2014). Essentially, I asked pre-service teachers what was learnt during their pre-service teacher education experience, and where, when and how learning to teach was supported and enhanced, or denied and impeded.

There is a common misconception among the general public and lay persons that teaching is a task that most educated people can do. However, effective teaching goes beyond simply knowing subject matter or theory, having interpersonal dispositions to teaching, or a 'bag of tricks'. Effective teaching involves deliberate and calculated ways of creating learning environments in which students are engaged and challenged to fulfil their potential. Effective teachers know about their students, subject matter, and how best to teach them, and teachers are able to recognise students' misconceptions, diagnose and readily adapt learning to cater for these differences. Darling-Hammond and Bransford (2005; cited in Darling-Hammond (2006) presented a clever analogy comparing the teacher to the conductor of an orchestra:

There he stands, waving his arms in time to the music and the orchestra produces glorious sounds, to all appearances quite spontaneously. Hidden from the audience—especially the music novice—are the conductor's abilities to read and interpret all of the parts at once, to play several instruments and understand the capacities of many more, to organise and coordinate the disparate parts, to motivate and communicate with all of the orchestra's members. In the same way as conducting looks like hand waving to the uninitiated, teaching looks simple from the perspective of the student who sees a person talking, listening, handing

out papers and giving assignments. Invisible in both these performances are the many kinds of knowledge, unseen plans and backstage moves...that allow a teacher to purposely move a group of students from one set of understandings and skills to quite another over the space of a few months (p. 301).

Like a conductor, the skilled teacher may make teaching look smooth and easy to the lay person. However, what is not seen is the planning, deliberation and organising prior to the lesson; purposeful and spontaneous decision making and responses to students' needs and events during the lesson; and reflection on what students achieved and how the students reached the desired outcomes.

Researchers on learning to teach have described the phenomenon as a complex, dynamic and idiosyncratic process that takes time and is constantly evolving (Angus, Olney & Ainley, 2007; Commonwealth of Australia, 2007; Darling-Hammond, 2006; Grossman, Hammerness & McDonald 2014; Morrison, 2013; Zammit, Sinclair, Cole, Singh, Costley, Brown a'Court & Rushton, 2007). Grossman, Hammerness, and McDonald (2014) reported that over the past 30 years, 'teaching has evolved from emphasis on teachers' characteristics to teachers' behaviour to the more recent cognitive view of teachers as decision makers and reflective practitioners' (p. 274). Britzman (1991; cited in Bloomfield [2010, p. 8]) claimed:

Teaching must be situated within one's biography, present circumstances, deep commitments, affective investments, social contexts and conflicting discourses about what it means to learn to become a teacher...Teaching can be reconceptualised as a struggle for voice and discursive practices amid a cacophony of past and present voices, lived experiences and available practices.

Korthagen, Loughran, and Russell (2006) asserted that pre-service teacher education courses have received persistent criticism over the past couple of decades. Surveys of graduates, teachers, principals and education systems, both nationally and internationally, report that pre-service teacher education programs did not adequately prepare graduates for real teaching (Commonwealth of Australia, 2007; Roofe & Miller,

2013). Moreover, many pre-service and in-service teachers have asserted that their practicum experience had the greatest impact on learning to teach (Adoniou, 2013; Hastings, 2010) and pre-service and in-service teachers often claimed that in-school contexts allowed for immersion in the ‘practical, real and immediate’ teaching contexts, whereas the university context was often seen as ‘theoretical and remote’ (Allen, 2009, p. 653). However, some recent studies have provided contrary evidence in so far as pre-service teachers were satisfied with the degree to which their pre-service teacher education experience prepared them for teaching (Hammerness et al., 2012; Ingvarson, Beavis & Kleinhenz, 2004). Hence, it is important to investigate how pre-service teachers can be exposed to similar pre-service teacher education experiences and yet have such sharply contrasting evaluations of their experiences. I assume that knowledge about possible causes for this discrepancy would assist teacher educators’ understanding of the diverse nature of learning to teach, and enable them to adjust teacher education programs accordingly.

Several research studies concluded that the impact of pre-service teacher education was meagre, and had limited transfer to the workplace (Brouwer & Korthagen, 2005; Darling-Hammond, 2006; Kildan, Ibret, Pektas, Incikabi, & Recepoglu, 2013; Roofe & Miller, 2013; Wideen, Mayer-Smith, & Moon, 1998; Zeichner, 2010). These research findings identified the causes of the minimal impact as one or a combination of factors: a lack of practical experience (inadequate funding); too much or too little theory; the traditional lecture and tutorial delivery style; fragmentation of coursework; tension between university and school-based staff (theory and practice gap); and pre-service teachers’ conflicting and inconsistent expectations of their coursework (Bronkhorst, Koster, Meijer, Woldman, & Vermunt, 2014; Brouwer & Korthagen, 2005; E. Fuller, 2014). While universities have made some changes—by increasing practicum and in reforms advocating a constructivist theoretical perspective

(Korthagen et al., 2006)—the traditional structures and organisation remain in place (Tardif, 2001). By investigating a sample of pre-service teachers' learning to teach experiences I aim to identify the practices of teacher educators and their programme characteristics that affect what and how pre-service teachers learn about teaching. My understanding of which practices and strategies are considered more or less effective by these pre-service teachers would inform teacher educators about the effect that some tasks and practices have on certain pre-service teachers. This in turn would indicate that some practices may need to be customised and differentiated in order to make learning to teach experiences more meaningful.

The first few years of teaching are not within the scope of the present study; however, in recognising that learning to teach takes time, it is important that I investigate pre-service teachers' perceived levels of teaching skills and their preparedness to teach by the end of their coursework. Identifying the extent of pre-service teachers' skills and knowledge about teaching is important for both pre-service teachers and teacher educators. A sense of their confidence about aspect of teachers' work is important for pre-service teachers because it can highlight areas where they need further skills and professional development. For teacher educators, a sense of pre-service teachers' knowledge and teaching skills can indicate the effectiveness of the pre-service teacher education programme to enhance skills and knowledge, so that informed decisions can be made about improving programme elements.

Another reason for me to investigate the pre-service teachers' learning to teach experience are the more recent, alternative 'fast track' pathways to becoming a teacher. Across the world—especially where teacher shortages are present—alternative routes to teacher registration have emerged, which have raised concern about teaching being promoted as a didactic and prescriptive task (Darling-Hammond, 2006). The most recent example in Australia was the Teach for Australia programme, in which graduates

completed a six-week intensive summer school traineeship, after which they were ‘parachuted into the nation’s most disadvantaged schools’ (Maiden, 2014, p. 3). Although these programs targeted postgraduate students, Darling-Hammond (2006) maintained that the alternative routes served to ‘water down’ teaching and emphasised practice at the expense of evidence-based research and theory about effective teaching. Spalding, Klecka, Lin, Wang, and Odell (2011) commented on the widespread perception of the public and policy makers that learning to teach is relatively simple and is best learnt ‘in the trenches not the towers’ (p. 3). Indeed, Spalding et al. (2011) attributed this perspective to the fact that most people, including potential pre-service teachers, have spent considerable time in classrooms, observing teachers or have been in roles (sibling, parent or coach) in which they have had opportunities to ‘teach’ others and, hence, regard teaching as relatively easy. My study will provide further understandings about learning to teach in contemporary times.

Other alternatives to initial teacher preparation include professional development schools (PDS). PDS offer a similar model to Teach for Australia, but the first year of teaching involves working alongside an experienced teacher, with access to university supervisors on the school site to take units of study (Darling-Hammond, 2006). While such programs go some way to finding an attractive alternative, they come with some drawbacks. For example, one problem with ‘learning on the job’ is that there are not enough ‘good’ role models. Consequently, the practice might perpetuate transmission and didactic teaching practices, as opposed to a strong theoretical understanding of practice and reflective practitioners who seek the best outcomes for students from increasingly diverse backgrounds. Likewise, learning from a more experienced other does not necessarily mean the trainees will be exposed to expertise thus the quality of mentors is important. Furthermore, the full-time teaching load and study is intense, and requires a considerable amount of time and effort for pre-service teachers, mentor

teachers and school administration (Darling-Hammond, 2006). Hence, there are a number of alternative ways and contexts for learning to teach that warrant further investigation into the effect of the place of learning and the various ideologies of such contexts on pre-service teachers and what they learn

Finally, and perhaps most importantly, the quality of the teacher will directly affect students in schools. Teaching affects students' achievements and their futures significantly, hence the urgency to provide the best possible model for pre-service teacher education to produce a 'good' start for both graduates and their students (De Courcy Hinds, 2002; Hattie, 2012; Loudon et al., 2005; Ramsey, 2000; Zammit et al., 2007). Schools and classrooms are continually evolving and changing in an increasingly globalised, multicultural, economic, political, environmental and technological world. Rather than teachers (teacher educators) disseminating knowledge and students (pre-service teachers) reproducing knowledge, it is recognised that learners (pre-service teachers) need to be active participants in their construction of knowledge, and teachers (teacher educators) need to facilitate learning in social, political and ethical contexts and with technological affects (Brownlee, Schraw, & Berthelsen, 2011). Brownlee (2004) concluded that the changing nature of education requires teachers who can solve ill-defined problems, recognise diversity and be 'flexible [and] tolerant of multiple realities and reliant on [a] professional rather than intuitive knowledge base' (p. 8). The continual changes in education, teaching, and the diverse nature of teachers and students mean that pre-service teacher education experience is under constant review. My study is an attempt to explore learning to teach by discerning what happens, when and where, what is learnt, by whom and how from the perspective of the pre-service teacher.

1.2 Problem Statement.

One of the problems with learning to teach in contemporary times is that it is much more complex, dynamic and idiosyncratic than has been the case over the past

thirty years (Darling-Hammond, 2006). Learning to teaching is complex because of what has to be learnt. The plethora of competency frameworks and standards developed by international, national and state teacher registration boards and professional learning area organisations over the past 18 years attest to this fact (Australian Institute for Teaching and School Leadership [AITSL], 2011; Commonwealth of Australia, 2007; Department of Education and Training [DET], 2004; Maloney & Barblett, 2003; Ministerial Council for Education, Employment, Training and Youth Affairs [MCEETYA], 2003). My study attempts to describe what professional skills and knowledge are/are not learnt during the pre-service teacher education period.

According to Hattie (2012) and Opfer, Pedder, and Lavicza (2011), learning to teach is dynamic because there are influences from students, curriculum, policy, leadership, school environments and pre-service teacher's personal beliefs about teaching and learning. While many researchers have investigated the characteristics and behaviours of teachers to identify what 'effective' teachers do, these skills and knowledge are not easily transferred or imitated, and that many contextual factors also affect teaching, teachers and learners (Louden et al., 2005). My study will identify what contextual aspects and ideologies influenced learning to teach.

Learning to teach is also described as idiosyncratic (Darling-Hammond, 2006). For example, a number of researchers found that pre-service teachers enter teacher education courses with diverse dispositions, educational experiences, life experiences, beliefs and values (Guarino et al., 2006; Sheridan, 2013; Watt & Richardson, 2008). The pre-service teachers' prior knowledge, experiences and beliefs are thought to act as filters, influencing what is taken from the knowledge, skills and experiences presented in their coursework or in schools (Bloomfield, 2010). Bloomfield claims that 'there is no single road to becoming a teacher, nor a single story of learning to teach' (p. 221).

Thus, my study sought to investigate what personal aspects concerned with the pre-service teacher enhanced or inhibited learning to teach.

1.3 Purpose of the Study.

My purpose in this study is to expand my understanding of learning to teach. I did this by listening to the voices of a sample of pre-service teachers who described aspects of their learning to teach experiences as they neared course completion in 2009. In assuming that learning to teach is complex, dynamic and idiosyncratic, I aim to examine what is learnt about teaching in the pre-service teacher education period, the extent to which learning to teach experiences vary or are similar for particular pre-service teachers, and to uncover what types of instruction and experiences made a difference or impeded their development as teachers. Hence, the following research questions were generated:

1. How do pre-service teachers describe how they have learnt to teach?
2. To what extent, and in what ways, did pre-service teachers attribute the personal, contextual and professional aspects as contributing to and influencing learning to teach?

1.4 Significance of the Study

This study is significant because it is a comprehensive examination of the learning to teach experience from the perspective of the pre-service teachers. Firstly it is comprehensive because it asks universal questions about who is learning to teach, where when and how are they learning and what do they learn about teaching. Essentially these questions relate to the personal, contextual and professional aspects of learning to teach and my study is interested in the extent to which these aspects integrate and influence each other. Much research has been conducted on aspects of learning to teach, however, my study contributes to the research on learning to teach by considering it from a broader perspective and how each aspect may or may not be interrelated and

interwoven and whether there are any similarities or differences for pre-service teachers. The variety of experiences emerging from this study will inform teacher educators about the range of needs and the type of skills and knowledge pre-service teachers report learning during their pre-service teacher education experiences. Additionally, it will inform school principals and professional development providers about pre-service teachers' developmental needs as a graduate and early career teacher.

Secondly, my study will contribute to the learning to teach research by asking pre-service teachers about their initial learning to teach experience, thereby authorising and validating their voices and stories (Allen, 2009; Allen & Wright, 2014). Allen and Wright (2014) argued that pre-service teachers' voices have been overlooked in the learning to teach research. My study will attempt to identify how pre-service teachers interpret their experiences and if any patterns of behaviour influence what they learn, where, when and how.

Additionally, the profile of the pre-service teacher has changed as a result of inclusivity and discrimination legislature. Universities have seen increases in the enrolment of students from more diverse backgrounds—such as low socioeconomic backgrounds, Indigenous/First Nation, mature-aged, parents, those working full time while studying part-time or vice versa (Hastings, 2010; Tigchelaar, Vermunt, & Brouwer, 2014; Wagner & Imanuel-Noy, 2014). Pre-service teachers, like other tertiary students, make a considerable investment in time, emotional energy and finance to gain their qualifications. They have lives outside of university that can make this preparation stressful, because pre-service teachers often juggle part-time employment and family commitments with their studies. The learners' (pre-service teachers') personalities, life experiences, day-to-day events and learning styles also affect their learning to teach experience. My research will provide a contemporary understanding of learning to teach from the pre-service teachers themselves.

1.5 Overview of the Thesis

This chapter described my initial motivation for the current study, background to the problem, the nature of the problem, the purpose and significance of further investigating learning to teach in the 21st century. Chapter Two contains a review of the literature, public views of teacher education, and what is involved in learning to teach. Learning to teach involves who is learning, where and when learning takes place, as well as what is learnt about teaching. This second chapter concludes with an explanation of the theoretical and conceptual framework.

Chapter Three is a description of the methodology. The research design is qualitative, more specifically case study research. This chapter provides a rationale for the design, sample and data sources, and how data were analysed to form the conclusions. A sample of pre-service teachers was approached to discuss their experiences of learning to teach. The pre-service teachers participated in three semi structured interviews. Interviews were transcribed and data was coded for analysis and to report key findings and themes. This chapter concludes with limitations of the methodology.

Chapter Four provides a synopsis of the data in the form of seven case studies. These comprise the participants' biographical narratives including their pre-university and coursework experiences, and self-evaluation of their skills and knowledge of teaching. In Chapter Four, I also make assertions about the factors and features influencing the learning to teach experience for each participant, and what was most or least valued.

Chapter Five consists of the cross-case analysis, which looks across cases to identify common themes and key findings that pre-service teachers report as influencing their experience of learning to teach.

In Chapter Six, I describe and discuss the findings from my study, and their implications for teacher educators and research. Finally, I draw conclusions and make recommendations for future research.

Chapter 2: Literature Review

According to De Courcy Hinds (2002) less than 30 years ago, teachers who could manage children, cover the appropriate texts and topics, ensure most students were learning and be able to reproduce content were considered quality teachers. Today, teaching is regarded as far more complex. Levine, president of Teachers' College at Columbia University, said that a teacher must:

know about children's development, differing learning styles, pedagogy and a plethora of different ways for reaching children, curriculum, assessment, classroom management, ways to teach students who don't speak English, and children who have disabilities and of course the teacher must know the subject matter as well (cited in De Courcy Hinds, 2002, p. 3).

Ramsey (2000) asserted that teaching involves social justice, diversity and inclusivity, economic, societal and technological changes, and their effects upon delivery methods. Another view of teachers is that they are practitioners (De Courcy Hinds, 2002; Halpern, 2005). Proponents of the latter perspective have argued that just as the medical practitioner must be fully cognisant of the science of biology, teachers need to be fully cognisant of the science of cognition. Teachers should understand how students learn, what factors affect learning, and how to diagnose and intervene for positive outcomes for students. Halpern (2005) argued that the importance of successful student outcomes in education dictated the need for teachers to be 'physicians of the mind' (p. 2).

There has been much research on factors influencing pre-service teachers as learners of the profession; the content and skills needed for teaching, and how these might be developed; and the various models and contexts for learning about teaching in universities, schools and more recently online. Essentially, the nature of learning to teach involves universal questions about who, where, when, how and what (Brown & Day, 1983; Feiman-Nemser & Remillard, 1994; Flavell, 1976). I use these universal

questions as a framework for organising and reporting on the findings of the literature reviewed in this chapter. In addition, most of the research studies were conducted in western countries such as USA, UK, Europe and Australia; however some research was taken from other countries and where this was so the country was mentioned.

The *who* question refers to the learner; in this case, the pre-service teachers. Pre-service teachers have ideologies, qualities, abilities, motives and background experiences that are brought to the learning context and influence *what* is learnt, *how*, *where* and *when* (Feiman-Nemser & Remillard, 1994; Knowles, 1980; Schussler, Stocksberry, & Beraw, 2010). The *where*, *when*, *what* and *how* questions involve university, schools and other places where pre-service teachers claim to have learnt about teaching (Schwab, 1973). I also use the questions to identify the knowledge, skills, strategies and tasks that were or were not learnt about teaching, and how these were developed.

2.1 The Who in Learning to Teach

Pre-service teachers enter teacher education programs with a variety of experiences and knowledge that are challenged or affirmed by the learning opportunities provided in their courses and on practicum experiences (Cheng, Chan, Tang, & Cheng, 2009; Loughran, Mulhall, & Berry, 2008; Rinke, Mawhinney, & Park, 2014). The prior experiences of pre-service teachers are important because they influence behaviour, motivation, perspectives, beliefs, expectations and contribute to the quality of experience (Brownlee et al., 2011; McInnis, James, & Hartley, 2000; Rinke et al., 2014). My review of the literature relevant to the profile of the pre-service teacher identifies four areas believed to affect learning to teach: pre-service teachers' demographics, epistemological beliefs, dispositions and self-efficacy. I now deal with each of these in turn.

2.1.1 Demographics.

Research on demographics identifies age, gender, ethnicity, socioeconomic backgrounds and academic abilities as factors that influence learning to teach (DET., 2004; Hodgkinson, 2002; Ingvarson, Beavis, & Kleinhenz, 2004; Lortie, 1975; McInnis et al., 2000; McKoy-Lowery & Pace, 2002; Sanford, 2002; Scottish Executive, 2005; Sharplin, 2002). The demographics reported here are generalised, so caution should be taken because learning to teach takes time and is contextualised, unpredictable and often idiosyncratic (Darling-Hammond, 2006; Hammerness et al., 2012).

Typically and traditionally, pre-service teachers (of various nationalities) are aged between 19 and 30 (DET, 2004; Hodgkinson, 2002; Lortie, 1975; McInnis et al., 2000; McKoy-Lowery & Pace, 2002; Sanford, 2002; Scottish Executive, 2005; Sharplin, 2002). While this has remained fairly constant over the last 40 years, some evidence from Western countries have shown increases in minority groups entering teaching—low socioeconomic, Indigenous/First Nations, mature age or career switchers (Guarino, Santibanez, & Daley, 2006; Tigchelaar et al., 2014; Wagner & Imanuel-Noy, 2014). In relation to the mature-age demographics, Watt and Richardson (2008) reported that mature-age and career switchers represented approximately one-third of pre and postgraduate teacher education candidates in their 2006 data from Australia.

Motivation changes during a person's life, and is influenced by cognitive, socio-emotional, personality and moral development (Baltes, 1987; Curuso, 2002; Erikson, 1968; Havighurst, 1972; Kohlberg, 1981; Maslow, 1954). Erikson (1968) asserted that pre-service teachers were generally either exiting the identity phase, or entering the intimacy phase. In the identity phase, pre-service teachers have established a career pathway and made a personal commitment to the career, whether in training or studies. However, they may also be in the intimacy stage, in which they seek to establish significant relationships with others. Friesen and Besley (2013) found that this intimacy

stage may be revisited in later adulthood. Similarly, Havighurst's (1972) social phases theory proposed that the pre-service teachers were in the early adulthood phase, which involved social roles to do with career and vocation, home and family, personal development, enjoyment of leisure time, health and community living (Knowles, 1980). According to Maslow's (1954) hierarchy of needs, pre-service teacher may be in the self-actualisation or transcendence phases, needing to fulfil and realise their potential, and as a result help others, namely children. Finally, Kohlberg's (1995) work on stages of moral development contended that pre-service teachers were in the post conventional-autonomous and principled phase. In this phase, adults have strongly held moral views of right and wrong, which make beliefs more difficult to change or modify. So, age might affect the pre-service teacher's motivation towards their coursework in the form of commitment, persistence and resilience. Age also alludes to the fact that there may be competing priorities in terms of time spent on study, in employment, and establishing a significant relationship or family commitments. Having strongly held beliefs might also influence their willingness to embrace ideas that are different to their own.

Researchers have noted that pre-service teachers in Western contexts are predominantly female, white, Anglo-Celtic and lower-middle class (Commonwealth of Australia, 2007; DET, 2004; Ingvarson et al., 2004). Wylie (2000) conducted a survey for Organization for Economic Cooperation and Development (OECD) countries to determine levels of feminisation in the primary school teaching profession, and found that in 11 out of 20 countries, 70 per cent of teachers were female, a finding consistent with Department of Education, Science and Training (DEST, 2004) statistics in Western Australia (71 per cent). In 2010, the Australian Bureau of Statistics (ABS) reported a national average of 81 per cent female teachers in primary schools. Drudy (2013) predicted that this global phenomenon would be likely to continue.

The significance of gender is its effect on pre-service teachers' reasons for choosing teaching and it is also believed to affect pre-service teacher's approach to learning. Drudy, Martin, Woods, and O'Flynn (2005) surveyed 1049 final year school students and 457 pre-service teachers in Ireland, to identify the reasons why more women entered teaching than men. The most common response was the perception of teaching as women's work related to the role of a mother, and that women were more suited to the job. Wylie (2000) claimed that attraction to the teaching profession was associated with nurturing dispositions, compatibility with motherhood and increases in women's employability.

Baxter Magolda (1992) conducted a longitudinal study on American male and female college students' epistemological beliefs about ways of knowing and approaches to teaching and learning interactions. She concluded that there were developmental changes in how students reasoned, and what they valued in the teaching/learning interaction. Within the first and least sophisticated stage, described as 'absolute knowing', male students were more motivated to mastery, whereas female students relied more on received knowledge. In her 'transitional' stage, Baxter Magolda found males were more inclined towards an impersonal style, and female students preferred an interpersonal style. In the 'independent' knowing stage, males favoured individual styles, while females preferred inter-individual styles. However, in the final, most sophisticated stage—known as 'contextual' knowing—there were no substantial differences between genders. Both genders, in the evaluative contextual knowing phases, approached learning based on contextual factors and multiple sources of information to form a constructed meaning. This implies that in their first year at university, females and males may have different expectations of their coursework, and different approaches to their roles and responsibilities, and that these differences are likely to change during their coursework period. The pre-service teachers' expectations

about their roles and responsibilities as learners are also relevant to this study because it will influence their approach to studying and learning.

Gender, therefore, has potential implications for this study in terms of sample of participants and the pre-service teachers' decision to teach. Ideally, the sample or participants in the study should be from both genders or at least representative of the male/female ratios in pre-service teacher education. The decision to teach has implications because pre-service teachers may feel their personalities, qualities or skills—such as compassion and caring—are more suited to the profession. The compassionate and caring dispositions may also influence their beliefs and understanding about teaching and teacher's work as being somewhat intuitive and natural and based on teacher personality rather than academic and pedagogical knowledge (Sheridan, 2013). Hence, it is important to identify pre-service teachers reasons for wanting to teach and skills they believe they have that are suited to teaching.

The ethnicity and socioeconomic status of pre-service and in-service teachers show that currently, they are a homogenous group: white, Anglo-Celtic, monolingual and lower-middle class (DEST, 2004; Hodgkinson, 2002; McInnis et al., 2000; McKoy-Lowery & Pace, 2002; Ryan, Carrington, Selva, & Healy, 2009; Scottish Executive, 2005). However, in the USA, the typical classroom that newly graduated teachers will face, 25 per cent of students live in poverty, 10–20 per cent have learning difficulties, 15 per cent are speakers of languages other than English and approximately 40 per cent are members of a minority race or ethnic background (Darling-Hammond, 2006; Sleeter, 2001). Kumar and Hamer (2012) reported that the US predicts that by 2035, half of the school aged population will be students of colour, while the majority of teachers will remain white, monolingual, middle class and female. The significance of this gap between pre-service and in-service teachers and their students is its effect on their expectations and approaches to teaching diverse students.

According to Kumar and Hamer (2012), pre and in-service teachers have very little cross-cultural background, knowledge or experiences. Other studies have found pre-service teachers often harbour stereotypical views of diverse students' attitudes to school and learning (Decastro-Ambrossetti & Cho, 2011; Kumar & Hamer, 2012; Ryan et al., 2009), limited visions of multicultural teaching and many pre-service teachers are unsure and apprehensive about teaching diverse students (Down & Woollorton, 2004; Lee, 2001; Ryan et al., 2009; Sharplin, 2002). Sleeter (2001, p. 95) also refers to this as 'colour blindness' and it depicts a deficit view of learning, which implies that some pre-service teachers form the opinion that certain students have personal histories and preconceived abilities based on ethnicity, gender and socioeconomic background that predisposes them to learning difficulties. As such, pre-service teachers may often believe any learning difficulties are situated with the learner (McKay, Carrington & Iyer, 2014). A number of researchers have found that pre-service teachers tended to have lower expectations of students from diverse backgrounds, influencing pre-service teachers provision of instruction (Darling-Hammond, 2006; Decastro-Ambrossetti & Cho, 2011; Jordan, 1995; Kumar & Hamer, 2012; Lowery & Pace, 2002).

McKay, Carrington, and Iyer (2014) conducted a single case study of an Australian pre-service teacher's journey to becoming an inclusive educator, and revealed it was a 'messy' transformation that was neither one-dimensional nor linear, but rather 'rhizomatic: growing and changing, sometimes returning to the original forms and then growing and changing in a new direction or remaining dormant ready to grow at another time' (p. 190). McKay et al. (2014) concluded that their pre-service teacher's journey required negotiation and critical reflections on the structural, political and personal obstacles, in order to create an inclusive learning climate. McKay et al. (2014) claimed being a critical and reflective practitioner was important for pre-service teachers learning to work within institutional boundaries and in challenging ideological

influences that impede the development of an inclusive learning environment, professional growth and teacher identity.

In Australia, inclusivity legislation and teacher registration standards indicate that teachers need to learn to teach increasingly diverse groups. Pre-service teachers' ethnicity is relevant to my study because I need to understand their perceptions of diverse students—in the form of stereotypical and biased views based on ethnicity, gender and socioeconomic background. Additionally, it would also be important to identify the degree to which the pre-service teachers report learning about the impact of gender, inclusivity, equity and multicultural teaching approaches as advocated in the pre-service teacher education programs. Finally, ethnicity may need to be reflected in the sample of participants in the same way as gender, ideally represented in the same ratios as is common in the population of pre-service teachers.

Discussion of the academic backgrounds of pre-service teachers included years of schooling and entry requirements for teacher education programs (DET., 2004; Lanier & Little, 1986; Lortie, 1975; McInnis et al., 2000). McInnis et al. (2000) claimed that 74 per cent of Australian undergraduates had completed 12 years of schooling. In Western Australia, the most common entrance requirement for teacher education was the year 12 aggregated exam score, commonly referred to as the Tertiary Entrance Exam (TEE) pre-2000, and the Australian Tertiary Admission Rank (ATAR) post-2001. Recently, Australian and teacher education institutes around the world have accepted entry to university through university preparation courses, acknowledgement of prior learning or via interviews to ascertain suitability. According to Fenwick and Cooper (2013) and Lortie (1975), pre-service teachers' recent school experiences or extensive, emotional memories of school experiences have a significant influence on their approach to university learning and their beliefs about teaching and teachers. Fenwick and Cooper (2013) call this a 'habitus that has been extensively defined by the culture

and social contexts of the family as well as educational experiences within school environments' (p. 99). Views about teaching are based on experiences with authority figures such as parents, coaches and teachers (Feiman-Nemser & Remillard, 1994; Hammerness et al., 2012).

Lortie (1975) described the 12 years of prior schooling experience as an 'apprenticeship of observation', whereby pre-service teachers have witnessed models of teaching, teachers' communication skills, how children (themselves included) learn and what should be taught. School experiences of pre-service teachers often view content or subject matter as being a fixed set of facts, concepts and skills and teaching as transmission of information (Walker, Brownlee, Exley, Woods, & Whiteford, 2011). A number of studies have found these beliefs and models of teaching to be well-established and implicit, and often remain stable throughout the pre-service teacher education (Moulding, Stewart, & Dunmeyer, 2014; Rinke et al., 2014; Weiner & Cohen, 2003). Indeed, both positive and negative school experiences are often the catalyst for deciding to teach (Cheng, Tang, & Cheng, 2014; Wagner & Imanuel-Noy, 2014). Rinke et al. (2014) concluded that it was paramount for teacher education programs to identify, acknowledge and perhaps disrupt preconceived ideas about teaching, learning and knowing in order for more transformative understanding about teaching and learning to develop.

Identifying prior school experiences and the degree to which pre-service teachers believe their prior schooling has influenced their concept of teaching and learning will also be relevant to my study. Additionally, it will be important to ascertain the impact of teacher education coursework and delivery on pre-service teachers' beliefs about teaching and whether they experience any disruptions to their beliefs as a consequence of learning conditions in university or in classrooms.

2.1.2 Epistemological beliefs.

Because my study focussed on beliefs about teaching, learning and beliefs about how one learns to teach, the concept of epistemological beliefs are relevant.

Epistemological beliefs are concerned with what is learnt (philosophy) and describe an individual's beliefs about the nature of knowledge, including constructs about the structure, certainty and source of knowledge (Murphy, Alexander, Greene, & Edwards, 2007). They are also about how knowledge is learnt (psychology) and describe an individual's beliefs about the process of knowing, including beliefs about ability and the speed of learning.

There are two perspectives on the development of epistemological beliefs. The first perspective reports that epistemological beliefs develop along a trajectory continuum from naïve, surface and factual recall to a more sophisticated, holistic, deeply connected and integrated group of concepts. Perry's (1968) seminal study on Harvard graduates was the basis of epistemological theories, culminating in the constructs of knowing and valuing (Hofer & Pintrich, 1997). Perry was interested in how students responded differently to the intellectual and social environment of university. He designed a Checklist of Educational Values (CLEV) based on the assumption that personalities would influence students' descriptions of university life. He concluded that undergraduates entered their coursework with relatively naïve views about the nature of knowledge and process of knowing, and viewed knowledge as simple, certain and handed down by experts. However, by the end of their courses, many of their views had become more sophisticated and knowledge was considered complex, evolving and empirically researched (Schommer-Atkins, Duell, & Hutter, 2005). From this research emerged a system of nine intellectual and ethical positions, representing four stages of development. The four stages were described as a continuum from dualism, multiplicity, relativism and a commitment to relativism. While Perry's

work had a number of limitations—one being the elitism and gender demographics of the participants—it laid the groundwork for future studies. Similarly to Piaget (1963), Perry concluded that changes were brought about when cognitive disequilibrium occurred. This was followed by interaction with the environment and responding to the new experience by either assimilation or accommodation.

Following from Perry's seminal study, others have researched epistemological beliefs, with the inclusion of females (Baxter-Magolda, 1992; Belenky, Clinchy, Goldberger, & Tarule, 1986), argumentative thinking (Kuhn, 1991) and reflective judgements (King & Kitchener, 1994). All concluded that learners had a similar trajectory from naïve and surface level understanding to sophisticated and deep understanding.

More recently, Schommer (1990) claimed that the constructs identified by Perry's study were uni-dimensional, and as such they developed independently. Schommer investigated how epistemological beliefs could influence comprehension and academic performance. Her studies were quantitative and analytical. Schommer challenged the idea that epistemological beliefs were one-dimensional and fixed in stages. Instead, she proposed that epistemological beliefs were far more complex, and that a system involving five independent constructs existed. The five constructs cited by Schommer were similar to Perry's, and included structure of knowledge, certainty or stability of knowledge, source of knowledge, control/ability, and speed of learning (Perry, 1968; Schommer, 1990). She also described the constructs along a continuum from naive to sophisticated. The structure of knowledge was viewed in the extremes, as isolated facts or integrated networks of ideas. The stability of knowledge was viewed as fixed and unchangeable, or tentative and evolving. Sources of knowledge were omniscient authority/expert, or empirically evidenced. Ability to learn was viewed as

fixed at birth or improvable. Finally, speed of learning was viewed as either quick, not at all or incrementally acquired.

Schommer (1990) concluded that students' predispositions to hold certain epistemological beliefs were influenced by demographic details. In particular, the more educated the parent, the more the children were expected to be responsible and independent, and hence the children's epistemological beliefs were more sophisticated rather than naive. In this regard, Schommer contended that a unity of family and educational influences 'may be the key to prevention and intervention of self-defeating epistemological beliefs' (Schommer, 1990, p. 503).

Although the research studies described above are quantitative by design, the information contained in the quantitative surveys offer my research some quite powerful statements that will generate strong discussion points about the pre-service teacher's expectation of learning and more specifically learning how to teach. In addition, these preconceived expectations about learning and learning to teach are likely to shape how they approach university learning. Their metacognitive understandings of how they learn are likely to influence the strategies they use, the amount of time and energy they put into learning and the degree to which they persist when faced with adversity in the form of complex language and concepts. Pre-service teachers' concepts of learning and how these might change during the pre-service teacher education course are highly relevance to my study.

More recently, epistemological beliefs have been applied to teaching. Chan (2001) surveyed 385 Chinese students in a Certificate of Education course (two year undergraduate course) about their personal theories and conceptions of teaching and learning. The Teaching and Learning Conceptions Questionnaire (TLCQ) was developed from both an analysis of the literature and dialogue with pre-service teachers about the work of teachers. Five constructs were identified about a concept of teaching

and learning, role and relationship of the teacher and student, role of peers and individuals versus group learning, students' abilities and needs, and teaching and classroom management. In the pilot study of Chan's work, pre-service teachers appeared to refer to two broad perspectives of teaching: a traditional perspective and a constructivist perspective that were not influenced by age, gender or fields of study. Chan concluded that prior schooling, observation of teachers' styles and being in 'survival' mode influenced pre-service teachers' epistemological beliefs. These results were different from Schommer's (1990) study, and as such, Chan (2003) proposed that cross-cultural and contextual differences intervened in the development of epistemological beliefs. Chan concluded that pre-service teachers views ranged along a continuum from traditional to constructivist, and these views may be difficult to change as a result of inherent beliefs shaped prior to university. Chan recommended that teacher educators learn about their pre-service teachers' personal learning theories and need to plan accordingly if they are to change their views.

An American study by Many, Howard, and Hoge (2002) focussed on how pedagogical approaches were framed with regard to epistemological stances, and how pre-service teachers described their epistemological beliefs compared with their practices. Data from interviews, surveys, reflective journals and practicum observations were analysed using a recursive-generative approach. The researchers found that the majority of their pre-service teachers displayed evidence of both dualistic, skills orientations and holistic, constructivist stances, but with no obvious awareness of their conflicting beliefs. Thus, most pre-service teachers drew on multiple lenses for framing their beliefs, and their epistemological beliefs were interconnected in a web-like fashion, rather than staged development. Moreover, these pre-service teachers held different views about knowledge depending on whether they viewed knowledge from the teacher's or student's perspective. When knowledge was viewed from a teaching

perspective it was considered outside of self and authorities, whereas when it was viewed from a learner's perspective, knowledge was a personal, subjective experience. Many et al. concluded that the way pre-service teachers viewed knowledge and the process of knowing was critical to whether particular approaches and methodologies were considered effective.

Most recently, Walker et al. (2011) completed the first longitudinal study in Australia that investigated changes to pre-service teachers' personal epistemologies as a result of their university experiences, and the reasons attributed to the changes. Both quantitative and qualitative research methodologies were applied over a two year period. Walker et al. found that third-year pre-service teachers were more likely than first years to believe that learning might take time, that knowledge is integrated and uncertain. The data also provided support for the move from subjectivist practical (in their first year) to more complex, evaluative beliefs (at the end of the second year). Walker et al. proposed that these changes may be related to more effective, deeper approaches to learning and critical reflection. Such findings are in line with previous research that core beliefs about knowing influence peripheral beliefs about learning (Brownlee, Boulton-Lewis, & Purdie, 2002).

In summarising epistemological beliefs, there have been repeated findings that epistemological beliefs are considered critical in understanding pre-service teachers' practices, predicting classroom decision making and affecting pre-service teachers' behaviours. The research indicates some contradictions in terms of how epistemological beliefs develop and that pre-service teachers can have different epistemological beliefs dependent of whether they take a teacher or learner view of ways of knowing. It is also possible that epistemological beliefs can be both traditional and constructivist. Also evident was the fact that pre-service teachers with more sophisticated understanding of knowing tended to have more complex and effective approaches to learning. Luft and

Roehrig (2007) claimed that to change pre-service teachers' epistemological beliefs, a number of conditions need to be in place. First, learners must be dissatisfied or uncertain with their existing beliefs, followed by the presentation of feasible alternative beliefs, and finally, connections had to be made between the old and new beliefs. Luft and Roehrig (2007) also cautioned that other factors—such as life experiences—could also contribute to epistemological beliefs.

Hence, knowledge of epistemological beliefs of pre-service teachers are relevant to my study because they influence their concepts of teaching and learning, roles and relationships of the teacher and the learner, and the degree to which these might affect their approach to their studies and approaches to teaching. Most importantly, epistemological beliefs appear to directly affect pre-service teachers' willingness to take on board concepts or openness to ideas that maybe different to their own. My study is interested in pre-service teachers' approaches to learning as a student teacher and how this might influence their concept of teaching and being a teacher. Thus, I have borrowed some statements in my survey questions from Schommer (1990), Chan (2003) and Jehng, Johnson and Anderson (1993) to present ideas that would be useful to stimulate discussions about epistemology.

2.1.2 Dispositions.

Dispositions have been defined as personal qualities or characteristics, such as attitudes, beliefs, interest and values (Taylor & Wasicsko, 2000 ; Weiner & Cohen, 2003). However, Schussler, Stocksberry and Beraw (2010) described dispositions as 'exemplifying teachers' tendencies to act in certain ways under certain circumstances' (p. 350). The combination of intention with action sets dispositions apart from attitudes or beliefs. Pre-service teachers can have positive attitudes about teaching struggling students, but may not be able to accomplish this in teaching. Hence, Schussler et al.(2010) defined dispositions as 'the inclination of a [pre-service] teacher to achieve

particular purposes and the awareness of the self and the context of the given situation to employ appropriate knowledge and skills to achieve the purpose' (p. 351).

Dispositions about teaching and learning are often intuitive, not coerced and unlikely to change unless deemed important. In this regard, dispositions and epistemological beliefs are similar. Sheridan (2013) claimed that pre-service teachers' dispositions were important to their development of a teacher's identity, and that these changed from egocentric at the beginning of courses to more student-centred during their second and third year of coursework. Sheridan concluded that it was important to identify pre-service teachers' socio-cultural histories and preconceived ideas about teaching and learning, to provide opportunities for pre-service teachers to address misconceptions and deepen their understandings with critical reflection and analysis. In order to learn about themselves and their professional identity as a teacher it was important for pre-service teachers to identify and examine deeply held beliefs about teaching and learning (Schussler et al., 2010; Sheridan, 2013; Weiner & Cohen, 2003).

Schussler et al. (2010) analysed 35 pre-service teachers' journals to clarify their thoughts on teaching, according to a framework comprising of intellectual, cultural and moral dispositions. Intellectual dispositions were defined as pre-service teachers' knowledge about what to do, when, where and how to enact the practice to achieve desired outcomes. Hence, intellectual dispositions require continual reflection of one's practice. In their study, pre-service teachers were more often able to use appropriate language for their pedagogy, but were not able to show how this was manifested in students' learning. Cultural dispositions were defined as pre-service teachers' inclinations to meet the needs of all students (Schussler et al. 2010). This involved knowledge of their own cultural influence on teaching, awareness of students' culture and its influence on learning and how they use this knowledge of self and student to modify instruction to meet the needs of diverse learners. Schussler et al.(2010) found

pre-service teachers often identified students as different from themselves—more often a deficit model—but failed to note the impact of such views on their teaching decisions (such as lower expectations of students different to themselves). Moral dispositions were concerned with pre-service teachers' awareness of their moral values (right and wrong) and how these affect their responses to various teaching situations. Schussler et al. (2010) also found pre-service teachers in their study could articulate the desired outcomes but were unable to connect the goals to classroom practice. The pre-service teachers were often aware of the tensions they felt, but they did not know, or made limited conclusions about, how this translated into practice.

Whereas the pre-service teachers in the study by Schussler et al. (2010) reflected on a range of topics, only a few possessed the self-knowledge to identify preconceived assumptions and evaluate how these assumptions affected their teaching decisions. Schussler et al. (2010) concluded that pre-service teachers who were able to identify their assumptions were more likely to question their thinking and actions, had a balance between focus on self and students, and looked at problems from different perspectives. The ability to think through assumptions helped pre-service teachers understand how their dispositions affect their teaching decisions.

Stronge (2007) researched the dispositions of effective teachers assuming that the dispositions contributed to positive student outcomes. He listed the six most common as being caring, fairness and respect, enthusiasm and motivation, reflective practice, a positive attitude towards teaching and being friendly and personal with students. Day (2012) described five qualities of 'good teaching and teachers' (p. 14). First, good teaching is a combination of technical and personal competencies, deep key learning area content knowledge and empathy for learners. As such, the personal cannot be separated from the professional. Second, good teachers are universally described by students as those who care. Third, teachers' sense of teacher identity and agency are

crucial to their own motivation, commitment, well-being and capacity to teach to their best. Fourth, good teaching requires the connection of emotion with self-knowledge. Finally, to be an effective teacher takes time and requires hopefulness, resilience and the ability to manage and lead in challenging circumstances and changing contexts (Day, 2012).

Hence, the research on dispositions reported that it was important to identify dispositions such as assumptions about teaching, learning, students and teachers because these assumptions influenced pre-service teachers' visions of teaching. This has relevance to my study because I sought to investigate pre-service teachers' vision of teaching and how this vision may be influenced by the background experiences and coursework or practicum experiences. In particular, it would be important to establish important times during the course and on practicum when disposition were challenged and changed, and identify conditions that prevented or permitted this to occur.

2.1.3 Self-efficacy.

Self-efficacy is about peoples' confidence in their capacity to achieve an outcome. It influences thinking, motivation and behaviour (Roofe & Miller, 2013). Moulding et al. (2014) claim that in teaching, self-efficacy is a teacher's assessment of his/her capacity to achieve student engagement and learning, even among students from diverse backgrounds. Self-efficacy is likely to be operating when pre-service teachers make the decision to teach, describe effective teaching qualities to ascertain if they have skills suited to teaching, when they anticipate challenges or concerns in teaching and when evaluating their teaching.

Attraction and motive for teaching were considered similar concepts in the literature and were more often relevant to making the decision to teach. A recent report on staffing in Australian schools reported that 63 per cent of primary teachers and 45 per cent of secondary teachers made the decision to teach whilst still at school

(Commonwealth of Australia, 2014). Whilst the report does not elaborate or provide justifications for the response, it was a new question in the survey and as such hints at the influence of observations, experiences and prolonged exposure to teachers and teaching. Lortie (1975) refers to this as an apprenticeship. A number of studies have examined the reasons for wanting to study teaching, which over time have remained quite static (Alexander, 2008; Calderhead & Sharrock, 1997; Guarino et al., 2006; Lortie, 1975; McInnis et al., 2000; Rinke et al., 2014; Zammit et al., 2007). Common themes were altruism (to make a difference), enjoyment of working with children (interpersonal), aspiring to be like a significant teacher in their own life (continuation), material benefits and service themes (importance to society) and compatibility with parenting (time schedule).

Teacher self-efficacy is important because it contributes to teacher effectiveness and student achievement. Teachers with high self-efficacy tended to employ more productive pedagogies, are more enthusiastic, open to new ideas and willing to try complex strategies (Moulding et al., 2014). Additionally, high self-efficacy was found to protect against stress and burnout and assist in the achievement of goals or motivation (O'Neill & Stephenson, 2012).

Pendergast, Garvis, and Keogh (2011) conducted a study on the self-efficacy beliefs of postgraduate students at the commencement and conclusion of their course. The study used the Teacher Self Efficacy Scale[TSES] developed by Tschuannen-Moran and Woolfolk Hoy (2001), which targeted instructional strategies, student engagement and behaviour management. Their findings implied that at the beginning of their courses, both pre-service and postgraduate teachers' self-efficacy ratings were significantly higher than at the end. Pendergast et al. (2011) concluded that this was likely the result of their own apprenticeship of observation, being a parent, emotional memories of their own schooling, successful undergraduate study and a belief that they

could emulate their teachers. Conclusions about the decrease in self-efficacy at the end of coursework were attributed to contextual factors such as having a more explicit understanding about teaching and practicum influences (Pendergast et al., 2011). On a positive note, knowing that self-efficacy decreases after initial enrolment contends that pre-service teachers were open to a reconstruction of their ability to teach. Pendergast et al. also confirmed that early childhood postgraduate students had higher self-efficacy, likely the result of part-time employment in childcare centres, thus gaining mastery experiences that could result in over-confidence.

Similarly to self-efficacy, over the past 14 years a small number of studies have investigated the emergence of orientations or approaches to teaching aimed at understanding the diverse learning needs of pre-service teachers (Oosterheert, Vermunt & Denessen, 2002). Orientations relate to the way students experience and interpret new concepts within their learning environment and these are believed to be mostly affective because they influence learner's preference for particular learning and assessment activities (Oosterheert et al.).

Based on a previous interview study, Oosterheert et al., aimed to develop an instrument for assessing orientation to learning to teach on a larger scale. A questionnaire was developed to assess individual differences and cluster analysis was used to identify groups of students with similar orientations to learning to teach. Oosterheert et al. found five distinct orientations to learning to teach; two were referred to as reproduction orientated; two were meaning orientated; and one orientation was described as survival orientated. Within the reproduction and meaning orientations were open and closed orientations. Open reproduction, pre-service teachers relied on external regulation to improve performance whilst in closed reproduction pre-service teachers were self-regulative about their "ideal self as a teacher" and actual teaching (p. 44). Open meaning pre-service teachers were highly self-regulative about improving their

understanding of teaching effectiveness and evoked deep emotions (anxiety) as a stimulus for learning, whilst closed meaning pre-service teachers were reliant on external regulation to develop their frame of reference for teaching and evoked secondary emotions (frustration). Survival orientated pre-service teachers were neither concerned about improving their performance nor developing a frame of reference. The researchers were critical of this study for poor generalizability, hence a second quantitative study, involving parametric scalability analysis, was undertaken.

The second study found four of the five orientations from the previous study, with open reproduction being absent in the second study. Oosterheert et al. concluded that it was not so much what pre-service teachers believed but rather how they believed that was important and pre-service teachers needed support in developing orientations that grow knowledge in both the cognitive and affective domains.

Another study by Opfer, Peddar and Lavicza (2011), proposed a model to describe in-service teachers' orientations towards learning in professional development courses and its impact on teacher professional change. The orientations to learning in the study done by Opfer et al. were pre-determined to be internal, external, research and collaborative orientations and hence their research examined the impact of orientations on beliefs, practice and students. Internal orientation described learning by self-reflection, modifying and experimenting as an individual teacher and these were found to be the strongest impact on beliefs and practices. External orientation described learning from web sources, other school's best practice and line manager feedback and these sources had a moderate impact on beliefs and practices. Collaborative orientation was described as joint research/evaluations, reflective discussions and collaborative planning with colleagues and these had a lower impact on beliefs and even lower impacts on practice. The research orientation, related to the importance of research for

professional learning, were the lowest levels of beliefs and practices, implying “some scepticism about its relevance and usefulness for teaching practice (p. 449)”.

In my study it will be important to investigate pre-service teachers’ self-efficacy for teaching and their orientation towards learning to teach. Self-efficacy and orientations could be identified through comments about decisions to teach, descriptions of effective teachers, skills suited to teaching and perceived challenges to teaching. However, I also examine self-efficacy specific to teaching skills in the section on *what* has to be learnt about teaching. In my study, I sought to understand how confident pre-service teachers were at the end of their coursework about elements of teacher’s work.

2.1.4 Implications of the who question to my study.

This review has shown that pre-service teachers possess multiple personal, social and cultural identities that are likely to influence their experience of learning to teach (Rinke et al., 2014). The first implication from past research to my study indicates that pre-service teachers are competing with many cognitive, socio-emotional, personal and financial experiences (Baltes, 1987; Curuso, 2002; Erikson, 1968; Havighurst, 1972; Kohlberg, 1981; Maslow, 1954). While the range of life experiences is not necessarily controllable, the experiences are believed to influence motivation. Motivation will affect the decision to teach, study skills such as time, effort, persistence, endurance and resilience to learning tasks in class and assignments.

The second implication from past research is about pre-service teachers’ preconceived understandings about teaching and learners and hence they may harbour misconceptions of teaching, teachers, learning and learners. This perspective is the result of years of observation of teachers, and is believed to be strongly valued, potentially misleading and not helpful as a source from which to evaluate the less familiar and potentially ‘new’ concepts that teacher educators would prefer pre-service teachers to understand and embrace (Yadav, Herron, & Samarapungavan, 2011)

A third implication from past research on epistemological beliefs indicate that the way in which the pre-service teachers conceptualise what has to be learnt and how it will be learnt may also influence what they take from their coursework and practicum (Wideen et al., 1998). These beliefs are likely to influence their motivation and approaches to coursework and practicum and their willingness to embrace new ideas about teaching and learning (Belenky et al., 1986; Brouwer & Korthagen, 2005; Gilligan, 1982; Perry, 1968).

A final implication for my study is pre-service teachers' dispositions to teach. The dispositions were identified as the attraction to or appeal of teaching, and hence the decision to teach, descriptions of effective teachers, perceived skills suited to teaching, self-efficacy and anticipated challenges/concerns. The dispositions are related to preconceived ideas about coursework and orientations to learning. If pre-service teachers believed they knew how to teach and can already teach, they may expect the coursework to be simple, reinforcing a perception of an easy workload of little academic value or relevance to practical teaching. An expectation that they will not learn anything new from their coursework also signals the potential for fixed beliefs about teacher's core business.

The literature regarding who are the pre-service teachers helped me to construct the semi-structured interview questions for the first interview and the survey questions (see Appendix II).

2.2 The Where and When of Learning to Teach

In this section I examine research about where and when pre-service teachers learn to teach. While the contexts for learning to teach typically involve the milieus of university and the practicum in schools and classrooms, the research also acknowledged that learning to teach begins long before enrolment in the initial teacher preparation course, and continues long after graduation (Ingvarson et al., 2004). The effects of

family upbringing and prior schooling on learning to teach were identified above.

Suffice to say, these beliefs and models of teaching are often well-established, implicit and remain stable throughout teacher education (Moulding et al., 2014; Rinke et al., 2014; Weiner & Cohen, 2003).

I assume that regardless of where learning to teach occurs, each context will contain ideologies and philosophies about learning and learning to teach that influence the delivery of content, prevailing learning conditions and practices (Hofer, 2004). The prevailing learning conditions represent the nature of the academic tasks undertaken, assessment and evaluation, nature of interactions between the learners and knowers, classroom structure and organisation, reward systems and references or sources. Literature from seminal studies (Jackson, 1990; Knowles, 1980; Lortie, 1975; Perry, 1968) as well as more recent studies (Hammerness et al., 2012; Strauss, 2005; Tochtermann, 2001; Walker et al., 2011; Zeichner & Conklin, 2008) propose that learning to teach can be viewed along a continuum: from teaching as a natural cognitive ability that sets human beings apart from other species, thought to be intuitive and learnt without formal training (Strauss, 2005), to a more transmission and formal learning experience where experts disseminate knowledge to novices. Somewhere in between these two extremes are the assumptions that learning to teach is a socialisation and imitation experience (Walls, Nardi, von Minden, & Hoffman, 2002) and a developmental and constructivist experience (Bronkhorst et al., 2014).

Learning to teach in initial teacher education involves two main contexts: campus-based and school-based (practicum) experiences. However, more recently research studies have identified professional development schools and online learning as contexts for learning to teach. These contexts were not the focus for my research as they were not an option for the pre-service teachers and online courses were not in operation. The campus-based and school-based contexts will be described in terms of

their defining characteristics, purpose, frequency and duration, structure and organisation, and benefits and drawbacks.

2.2.1 Campus-based contexts.

The first context for learning to teach is the university or campus-based experience. Traditionally, teacher education has occurred in institutions including large, well-established metropolitan universities with schools of education, regional universities, regional campuses, teachers' colleges and more recently—in the UK and USA—by privately-owned, professional development providers (Graham, 2006). For the past four decades, learning to teach has involved undergraduate courses ranging from three to five years, and more recently postgraduate studies (referred to as baccalaureate in Europe and the USA) ranging from one to two years.

Since initial teacher training courses began in middle of the 20th century, they have been described as a transmission and positivist model (Allen, Ambrosetti, & Turner, 2013; Wideen et al., 1998). The implicit goal was for the university to provide the theory, skills and knowledge; and the school was to provide the context for applying, practicing and integrating these theories, skills and knowledge (Allen, 2009). Typically, programs presented knowledge through lectures and tutorials. Lecturers delivered important content *en masse* in lecture theatres. Tutorials allowed knowledge to be socially constructed, learning to be an active process of meaning making and the application of the content knowledge to problem solving or scenarios. Pre-service teachers' knowledge and understanding were usually assessed through assignments and examinations. Additionally, this approach to pre-service teacher education also involved practicum-based experiences that became progressively longer throughout the course. The practicum experiences were usually assessed by mentor teachers or principals, with the university supervisor playing a minor role, usually visiting pre-service teachers a few times.

This rather conventional model of teacher education has received persistent criticism, both internationally and nationally, for many years. In a climate of public accountability, publicised standards of student achievement (ACARA, 2013b), national accreditation of teacher education, teacher registration (Western Australian College of Teaching [WACOT], 2004–2012; Teacher Registration Board of Western Australia (TRBWA, 2012), national teaching standards (AITSL, 2011) and media and the public's simplistic perception of teaching, teachers and teacher education programs have and continue to be criticised. There exists a plethora of reports and research, national and international, outlining the consistent criticisms of teacher education.

These include:

- a lack of practical preparation for real teaching (Allen, 2009; MACQT, 1998; Ramsey, 2000; Wilson, Floden & Ferrini-Mundy, 2001);
- the separation of theory and practice (Ingvarson et al., 2004);
- the time lapse between the delivery of content knowledge/theory and exposure to practice, which makes it difficult for pre-service teachers to make connections;
- use of a transmission teaching model at university does not match good practice in teaching, nor does it emphasise deep understandings (Tardif, 2001);
- assessment methods at university emphasise content recall and regurgitation versus problem solving, collaboration, diversity, inclusivity and multiple opportunities to show what has been learnt. These methods are not widely used as informants to teacher educators (Jehng, Johnson, & Anderson, 1993; Ramsey, 2000);
- lack of accountability in terms of effective teaching that contributed to positive student outcomes and evidence-based outcomes (Hattie, 2012; Commonwealth of Australia, 2007);
- lack of integration, relationships and realistic contexts between units of study, resulting in fragmentation of coursework (Grossman et al., 2014; Commonwealth of Australia, 2007; Wilson, Floden & Ferrini-Mundy, 2001; Tardif, 2001);
- lack of collaboration and consultation between university, schools and in-service teachers (Commonwealth of Australia, 2007). Such collaborations would help bridge the theory and practice gap, and assist in the provision of research and evidence-based practices that would benefit all stakeholders;
- lack of recognition that learning to teach goes beyond initial teacher preparation, and is a career-long process (Adoniou, 2013; Commonwealth of Australia, 2007; Hammerness et al., 2012; Ingvarson et al., 2004).

Jehng et al. (1993) researched the epistemological beliefs of American students in undergraduate and postgraduate programs of various disciplines. They found that the curriculum of undergraduate programs tended to be more general than specific, more systematically organised and controlled by the university. As a result, undergraduate programs promoted a less sophisticated view that knowledge was certain, unchangeable, in a fixed sequence and delivered by experts. In contrast, they posited that curriculum in postgraduate programs was less structured and certain, open to criticism and required students to actively co-construct ideas and knowledge. The difference in instruction was summarised as assimilation and memorisation in undergraduate programs, and accommodation and integration in the postgraduate programs (Jehng et al., 1993). Their study also found that postgraduate students in the social sciences, arts and humanities tended to believe that knowledge was less certain, more reliant on their individual reasoning and the learning process was not orderly. This contrasted with students in engineering and business, where there were often prerequisite skills, orderly sequences and relatively certain knowledge disseminated by credible experts. Jehng et al. (1993) concluded that students' epistemological beliefs were 'socially shared intuitions about the nature of knowledge and the nature of learning' (p. 26). As such, the orderly process of learning described by Jehng et al. (1993) was influenced by the contextual ethos and direct instructional effects of prior schooling, individual educational levels and domains of study.

However, there is also evidence to argue that campus-based teacher education programs do impact positively on teacher preparation. In Australia, Ingvarson et al. (2004) surveyed early career teachers on how well they believed they had been prepared for teaching. Both undergraduate and postgraduate students were surveyed, with undergraduate students reporting more favourably on their course than postgraduate students. On a four-point scale, early career teachers believed that the core elements of

their courses had prepared them to a moderate effect (slightly below three). However, reporting to parents was deemed to be not adequate (slightly less than two). Early career teachers reported that the strengths of their teacher education programs were a strong focus on content knowledge, assessment, curriculum planning and timely and useful feedback. Hence, for the teachers in the study by Ingvarson et al. teacher education did matter and did prepare pre-service teachers for the demands of their first year of teaching. Further, they had completed courses that:

gave them deep knowledge of what they were expected to help students learn, and how students learned it, as well as skill in diagnosing students' existing levels of understanding of the content taught, planning activities that would promote further development and assessing the extent to which development had taken place' (Ingvarson et al., 2004, p. 89–90).

The study concluded that the professional capabilities developed during pre-service teacher education were necessary for commencing teaching. However, these capabilities would need to be further developed, confirmed in a number of other studies (Adoniou, 2013; Commonwealth of Australia, 2007; Hammerness et al., 2012; Ingvarson et al., 2004).

Similarly, in the USA, Beare et al. (2012) collected data from early career teachers about their perceptions of the effectiveness of their courses, following completion of a degree course in education. Beare et al.(2012) collected data over seven years, and they confirmed that graduate teachers at the end of their first year of teaching were satisfied with their preparation for teaching, in terms of their pedagogical coursework, practicum experiences and the quality of the programs to meet accreditation standards.

These criticisms and praise were based on both qualitative and quantitative research and reports, but they serve to highlight some of the potential context related themes that are likely to be found when pre-service teachers describe their learning to teach experiences. Hence, my study sought to ask pre-service teachers to describe

significant and insignificant experiences of learning to teach at both their campus and school based experiences.

While teacher education remains under scrutiny, the criticisms have highlighted areas in need of reform, to which universities have responded. Darling-Hammond (2006) reviewed seven exemplary teacher education programs in the USA. The programs covered all sectors: public/private, undergraduate/postgraduate, large and small. Further, the programs were credited with producing:

Graduate teachers who were able, from their first days in the classroom, to practice like many seasoned veterans, productively organising classrooms that teach challenging content to very diverse learners with levels of skill many teachers never attain (p. 306).

In her analysis of these effective programs, Darling-Hammond concluded that despite their differences and variety, the programs had some common features (pp. 305–306):

- a common, clear vision of good teaching that permeates the coursework and clinical practices, creating a coherent set of learning outcomes;
- well-defined standards of professional practice and performance used to guide and evaluate coursework and clinical practice;
- a strong core curriculum taught in the context of practice and grounded in knowledge of child and adolescent development and learning;
- an understanding of social and cultural contexts, curriculum, assessment and subject matter knowledge;
- extended clinical practice—at least 30 weeks of supervised practicum and student teaching opportunities in each programme—carefully chosen to support the ideas presented in simultaneous, closely-woven coursework;
- extensive use of case methods, teacher research, performance assessments and portfolio evaluation that apply learning to real problems of practice;
- explicit strategies to help students confront their deep-seated beliefs and assumptions about learning and students, and to learn about the experiences of those different to themselves;
- strong relationships, common knowledge and shared beliefs among school and university-based faculty jointly engaged in transforming teaching, schooling and teacher education.

Zeichner and Conklin (2008) reviewed six multi-site case studies in the USA to illuminate aspects of teacher education programs that appeared to be effective. The critical components of pre-service teacher education programs that Zeichner and

Conklin identified were: institutional contexts and the social and political attributes of teacher preparation programs; program level attributes to do with course organisation and goals; people level contexts (pre-service teachers, teacher educators, school staff) and the substance of programs (coursework, field work, teaching styles and assessment data). Their review established a comprehensive conceptual framework for thinking about teacher education programs. Zeichner and Conklin claimed the conceptual framework served to highlight both the substantive features of teacher education, but also offered a guide to reform, research, compare and contrast, and on its ability to describe attributes that made an impact.

Zeichner and Conklin cautioned that while this framework could be used to evaluate teacher education programs, it should not look simply at the absence or presence of these features, but rather their 'elaboration and enactment of [the] particular features' within and not independent of their contexts (p. 285). They concluded that 'the search for the universally best practice in teacher education for all types of candidates in all types of settings is likely to be a futile one' (p. 285).

Some characteristics and reform that look promising for learning to teach included the use of cohorts (Beare et al., 2012; Dinsmore & Wenger, 2006), and shared vision about teaching and learning between all stakeholders (Bransford, Derry, Berliner, Hammerness, & Becket, 2005; Grossman et al., 2014; Tardif, 2001; Wilson, Floden, & Ferrini-Mundy, 2001). The shared vision involved: shared content knowledge about assessment; curriculum planning; key subject area (Lacina & Collins Block, 2011); child development, diverse learners and schools (Allen, 2009; Grima-Farrell, Long, Bentley-Williams, & Laws, 2014); activation of pre-service teachers' beliefs and understanding (Hammerness et al., 2012; Rinke et al., 2014); use of professional standards (Bransford et al., 2005); strong relationships and communication; use of case studies and authentic examples (Fenwick & Cooper, 2013); and timely feedback.

There are two things to take from this review that are pertinent to my study.

First, it is evident that there are different ways of learning to teach and there are different contexts for learning to teach that may be more or less suitable for the different aspects of teaching that have to be learnt. For example, the practicum is where pre-service teachers have the opportunity to 'trial' their practical teaching methods and classroom management. Content knowledge for teaching might require autonomous research and inquiry approaches. Assessment of student's work might require an approach that uses moderation and collaboration with other teachers (or pre-service teachers). Thus, my study was interested in finding out what types of experiences do pre-service teachers report as useful and helpful for learning to teach and what types of experiences are not useful and may in fact be inhibiting the learning to teach experience. My study was also interested in establishing if pre-service teachers believe or describe any patterns or trends that indicate when certain types of activities are better or worst placed within the course.

Second, pre-service teachers, like kindergarten through year twelve (K-12) students, learn in different ways and at different rates. Accordingly, part of the problem is matching the learner to the learning at the right time. In this regard, many of the 'good teaching practices' used in K-12 classroom apply to the learning to teach campus-based classrooms. The purpose of my study and this review of contextual influences on learning to teach were to identify aspects of the campus-based experience that pre-service teachers believe enhance or inhibited learning to teach and more importantly reasons why these experiences were regarded in this way.

2.2.2 School-based experiences.

Traditionally, the practicum is described as the clinical, field or school-based experience. The time spent in schools is when pre-service teachers experience being a teacher first-hand. However, there are other teaching/learning experiences, such as

teaching roles in museums and discovery centres. Sometimes referred to as situated cognition or cognitive apprenticeship, the practicum is the more explicit model of classroom-based instruction (Feiman-Nemser & Remillard, 1994), involving field-based practitioners/co-operating/associate teachers or mentor teachers, and to varying degrees university/campus-based supervisors as the support or connection to university.

Practicum or field experiences vary enormously (Allen & Wright, 2014; Beck & Kosnik, 2002a; Graham, 2006). The degree of variance involves: the amount and type of practicum; the placement within the course; the degree to which the practicum is related or connected with the coursework (Darling-Hammond, 2006; Wilson, Floden, & Ferrini-Mundy, 2002); how practicum experiences build on prior practicums (Brouwer & Korthagen, 2005) and issues related to who supervises or takes responsibility for organising the practicum (Beck & Kosnik, 2002b).

With the exception of Queensland, most states in Australia do not have a consensus over how much practicum is appropriate. For most states and territories, practicum experiences range from 45 to 100 days (nine to 20 weeks) in undergraduate programs, and 20 to 45 days (four to nine weeks) in postgraduate programs (Commonwealth of Australia, 2007). However, AITSL (2011) stipulates that undergraduate programs should have a minimum of 80 days (16 weeks) and postgraduates programs should have 60 days (12 weeks). Darling-Hammond (2006) argued that practicum experiences should be a minimum of 150 days (30 weeks). My study is interested in the extent to which pre-service teachers describe the amount of practicum and how this may be similar or different.

Typically, the practicum may include micro-teaching, distributed practicum (one full day per week, of varying durations) and a block practicum (between two and 12 weeks). More recently, teacher education programs have adopted internship and residency models (full time in schools, for six months to a full academic year) (Grima-

Farrell et al., 2014), team teaching approaches (Baeten & Simons, 2014) and PDS and laboratory schools (Beare et al., 2012). They may also have a campus-based component facilitating integration of relevant coursework, such as action research/inquiry, and may involve community-based placements (Brayko, 2012). The implications for my study are the degree to which pre-service teachers report similar or different experiences to those described above.

There are also inconsistencies in terms of when practicums start, with some universities placing them in the first year of pre-service teacher education to help pre-service teachers decide if teaching is the right vocation for them, while others believed pre-service teachers needed some theoretical grounding for the practicum to be rewarding (Commonwealth of Australia, 2007). My study will investigate the provision of practicum experiences, their congruence or differences with the research and as described by the pre-service teachers in my study.

The practicum's purpose is to develop best educational practices that positively affect students. This means the practicum provides opportunities to integrate and apply pedagogical knowledge and theory to practice (Allen & Wright, 2014). The practicum should be developmentally sequenced and integrated with the university-based curriculum, while also remaining flexible to adapt to the pre-service teachers' needs and differences (Darling-Hammond, 2006; Wilson et al., 2002). It should provide diverse experiences with a variety of schools and students. Ideally, practicum experiences should be school and university partnerships, whereby the practicum's purpose is clearly and explicitly explained and mutually supported by schools and mentor teachers (Allen & Wright, 2014; Darling-Hammond & Bransford, 2005). Further, pre-service teachers advocate for embedded coursework assessment while on the practicum—such as an action research project—to bridge the theory and practice 'gap' (Allen et al., 2013; Allen & Wright, 2014). School contexts should be conducive to collegial relationships,

strong leadership, access to materials and resources, with opportunities to engage in professional and educational dialogue (Zeichner & Conklin, 2008). Additionally, mentor teachers should be exemplary role models who contribute professionally to the preparation of pre-service teachers, and also see the opportunity as professional development (Beck & Kosnik, 2002b). There should be regular self-reflection, evaluation and feedback, that not only ensures student outcomes are met but that pre-service teachers are developing appropriate analysis and evidence-based professional standards (Allen & Wright, 2014; Chung & van Es, 2014 ; Liakopoulou, 2012). The attributes of the practicum identified above provide some basis for analysis of the practicum experiences that the pre-service teachers in my study have experienced and can describe.

Many teachers and pre-service teachers believe the time on practicum and in schools and classrooms is where they learn the most about teaching; therefore, the practicum experiences are more highly valued (Allen, 2009; Grootenhoer, 2006; White, Bloomfield, & Le Cornu, 2012; Wilson et al., 2001). The authentic, realistic context for teaching and being a teacher is valued. Beck and Kosnik (2002a) conducted a study in which they asked pre-service teachers about ‘what constitutes a good practicum placement’ (p. 84). The results yielded seven themes including: emotional support from mentors, peer relationships with mentor, collaboration with mentor (planning and content), flexibility to experiment, feedback on performance in an appropriate manner, exemplary mentor teachers and a heavy, but not excessive, workload. Pre-service teachers in my study will also be asked about their practicum experiences in terms of what was significant or insignificant about the experience.

Darling-Hammond (2006) argued that pre-service teacher education programs with well-constructed, collaborative and effectively-coordinated field experiences made significant contributions to pre-service teachers’ essential knowledge and skills, to serve

diverse learners and to learn continuously from their practice. Similarly, Lacina and Collins Block's (2011) review of the most effective (literacy) teacher preparation programs found that the most successful had 'consistent, carefully selected and relevant field experiences' (pp. 334–335). That is, there was a shared 'vision' about what constitutes effective teaching.

In contrast to the perceived benefits of situated cognition in practicum experience are some consistent drawbacks. While universities produce practicum booklets explaining the purpose of the practicum, and occasionally hold meetings with principals and mentor teachers, the reality is that these rarely takes place, so mentor teachers' interpretations of the purpose of the practicum and their role with pre-service teachers vary. This variance can involve mentor teachers' foci on subject knowledge, classroom management, teaching strategies, varying degrees of advice and support, a view that the purpose of the practicum is to socialise pre-service teachers into the status quo of the school or the practices of the mentor teacher, or a way of testing innovative teaching ideas (Wilson et al., 2001).

While universities organise the practicum component, university supervision is often minimal, further reinforcing the university's disconnection with practice and leaving pre-service teachers in tenuous positions. Once the pre-service teacher is in a practicum school, the role and communication between the university and mentor teachers tends to become less clear, which can impede pre-service teachers' ability to make theory-to-practice links (Allen & Wright, 2014; Graham, 2006). The practicum can be perceived as the place in which the theory and practice gap connects (Allen, 2009), or it can emphasise the disparity between the university and the school's espoused theory and practice. The distinction is described as the traditional, transmission, bureaucratic teaching model in schools, in conflict with the more learner-centred, democratic model of university (Capraro, Capraro, & Helfedt, 2010). In the

absence of university supervisors, pre-service teachers often revere their mentor teachers' ways of teaching because they are classroom-based, tried and tested methods (Zeichner & Tabachnick, 1981). Pre-service teachers often follow their mentor teacher's lead, which tends to reinforce prior schooling experiences (Grootenhoer, 2006). Moreover, the mimicked behaviour is likely to be adopted without the critical reflection, analysis and dialogue that might otherwise occur in universities or in partnership schools (Hodson, Smith, & Brown, 2012).

Practicum placements are increasingly difficult to find due to an increasing number of pre-service teachers and little obligation on the part of schools to take on pre-service teachers. This compromises universities' choice and quality control over the schools/classes and teachers/supervisors that pre-service teachers experience (Adoniou, 2013; Commonwealth of Australia, 2007). A successful practicum is highly context dependent, with the quality of the placement, relationships between pre-service teachers, mentor teachers, schools and university, school and classroom dynamics and systemic policies and practices all playing a part (Adoniou, 2013; Allen, 2009; Capraro et al., 2010; Grootenhoer, 2006).

This review highlights many of the conditions enhancing or inhibiting the practicum experience for pre-service teachers. My study is interested in the school-based conditions that pre-service teachers identify as influencing learning to teach and reasons behind their perceived impact. The aspects identified involve: the amount and type of practicum experiences; roles and responsibilities of mentor teachers and pre-service teachers; visions about the purpose of practicum; degree to which pedagogy, content knowledge, classroom management were the focus; and university's role and responsibility.

2.2.3 Implications of contextual aspects to my study.

The review of the literature sought to identify contextual features believed to affect learning to teach. The contexts for learning to teach identified in my study were campus-based and school-based (practicum) experiences. The campus-based context received the most criticism and criticisms were related to: transmissive and positivist teaching styles and assessment procedures; lack of practicum; theory and practice gap and fragmented coursework; and a lack of collaboration and consultation between university and schools. However, there are some promising innovations that include: common and clear visions about what good teaching looks like; the grouping of pre-service teachers into cohorts; strong teacher and pre-service teacher relationships; curriculum innovations such as core subjects areas, case and research methods, portfolios and problem solving approaches to learning content; strategies to target deep-seated beliefs and conception of teaching and learning; and improved partnerships between schools and universities that are mutually beneficial for both contexts and the pre-service teachers.

The practicum experience is valued the most by pre-service teachers because it is authentic and real (Allen, 2009). The most successful practicum include; extensive practicum experience that are developmentally sequenced; where and when pre-service teachers and their mentor teachers' beliefs and values about teaching are congruent and shared; pre-service teachers have diverse experiences; self-reflection, feedback and analysis based on student outcomes and achievement; exemplary role models and where university and school partnerships to bridge theory and practice gap (embedded coursework). In contrast, practicum that were not so positive included: experiences where the practicum purpose and mentor teachers role are not clearly communicated or shared; variance in mentor teachers' focus; variance in feedback and advice from

mentor teachers; university supervisor's focus and disparity between school and university roles.

Hence, my study sought to examine the extent to which pre-service teachers identified the above mentioned contextual aspects as influencing learning to teach. In particular, it sought to identify the features of the both contexts that were significant or insignificant, and their effect on learning to teach, as reported by pre-service teachers.

2.3 The What and How of Learning to Teach

This section describes *what* has to be learnt about teaching. Identifying and describing the professional aspects of teaching is a highly complex and contentious activity (Darling-Hammond & Bransford, 2005). The literature regarding the professional knowledge and skills for teaching is extensive, and ranges in detail and structure (AITSL, 2011; Angus, Olney, & Ainley, 2007; DET, 2004; Loudén et al., 2005). The literature included research articles, commissioned reports, standards and competency statements, systemic promotional descriptors and criteria for teacher registration and course accreditation from US, European, UK and Australian contexts, predominantly.

The contentious question about what teachers should know and be able to do is ongoing, with the Commonwealth of Australia (2014) releasing another Teacher Education Ministerial Advisory Group Issues Paper which sets out to identify—from community and industry consultation—views about:

- what characteristics should be fostered and developed in graduate teachers through their pre-service teacher education;
- what teaching practices should be developed in graduate teachers through their pre-service teacher education;
- what levels of integration there should be between pre-service teacher education providers and schools;
- what balance is needed between understanding what is taught and how it is taught (p. 7).

While this might seem to indicate that the research to date has not provided answers, one must wonder if governments have a different agenda. However, there is international recognition and agreement that the quality of teaching is the single-most important influence on students' achievements (DeCourcy Hinds, 2002, Hattie, 2012).

Calderhead and Sharrock (1997) contend that teachers' work can be described from an audience performance perspective to a critical explanatory perspective. The audience/performance description of teaching is typically how the public—and indeed, many pre-service teachers on entry to teacher education—describe teachers' work (Sheridan, 2013; Wideen et al., 1998). Their descriptions are often based on observations and experiences with past teachers, so reflect a simplistic view of teaching. In Sheridan's (2013) study, pre-service teachers entered their courses believing effective teachers were those who were enthusiastic, energetic, enjoy students and make learning fun which also implies a naive view of teaching.

In contrast, the critical/explanatory descriptions attempt to explain the repertoire of teaching strategies, knowledge, skills and dispositions that qualify teachers as effective (Calderhead & Sharrock, 1997). Typically, these sources of the descriptions of teachers' work were reports from government departments, professional teacher registration boards and education systems. The descriptions assume that they have captured the essential aspects and complexity of teaching. The descriptions were generated for a number of purposes including: a common reference point for dialogue between professionals and the community; to make explicit the knowledge, skills and attributes of capable teachers, in order to strengthen the teaching profession; providing teachers with a tool for advancing professional skills and development; providing direction for tertiary institutions and professional development providers; and to raise the quality of education standards to ensure better outcomes for students (DET, 2004).

Shulman (1986b) conducted research into teacher education reform by a comparison of the teacher's examinations for 1875 and 1985, and noted the conspicuous absence of subject/content knowledge in the latter. This 'blind spot' in the research into teaching was the premise for developing one of the first lists of knowledge and skills to describe teacher's work. Although this description of teachers' work found seven themes, it was the final theme that received the greatest attention, and that earned Shulman the reputation for developing teachers' pedagogical content knowledge as a 'special amalgam of content and pedagogy which makes it unique to the province of teachers' (p. 8).

Pedagogical content knowledge comprises three distinct areas: subject matter knowledge, pedagogy and curricular knowledge. Shulman contends that to know one's subject matter, a teacher needs to understand the substantive structure of the subject, how the basic concepts and principles of the subject are organised, the syntactic structure of the subject and the ways in which truth and falsehood are described. Pedagogical content knowledge was described as knowledge about ways of teaching a subject so that it is comprehensible to others. Further, as there is no single way of representing information, teachers needed to have a repertoire of forms of representation that were both research and empirically-based. Curricular knowledge was referred to as alternative ways of dealing with curriculum that recognised lateral curriculum (other topics and subjects under study by students) and vertical curriculum (topics within subjects that have come before and after).

In building his conceptual framework of knowledge for teaching, Shulman proposes the sources of teachers' knowledge are propositional, case knowledge and strategic. Propositional knowledge is based on disciplined empirical or philosophical inquiries, practical experiences and moral or ethical reasoning. Case knowledge used classic situations faced by teachers to develop understandings. In case knowledge,

Shulman states that there are pro-types, precedencies and parables that help describe situations and make them memorable, in order to orchestrate different responses to teaching. Finally, strategic knowledge is the ‘wisdom of practice’; in other words, what has worked before.

The descriptions of teachers’ work supplied by educational systems and organisations, government, research and universities are clearly more dynamic and complex, and are more technical and systematic in their organisation and elaborations. DEWA (2001) had eight principles and three broad phases of teacher competency that are not related to experience. Teachers’ work is described as generic attributes, under the guise of professional attributes, knowledge and practice, followed by five dimensions (DET, 2004). The five dimensions are characterised by a competency descriptor, and are further elaborated as 18 critical elements, which also have 92 indicators of effective practice. Maloney and Barblett (2003) incorporated a section on teachers’ voices to provide case narrative evidence of the indicators. New Zealand’s Education Review Office (ERO, 2002) also provided mini case studies to illustrate their indicators.

The simplest descriptions of teachers’ work are found in: the National Competency Framework for Beginning Teachers (NPQTL, 1996); education systems descriptors from Catholic Education Office (CEO, 1995) and Association for Independent Schools of Western Australia (AISWA, 1995); and professional organisations such as; Standards for Teachers of English Language and Literacy Association (STELLA, 2002); Australian Science Teachers Association (ASTA) (2002); Australian Association of Mathematics Teachers (AAMT, 2002). For example, the NPQTL document is two pages long and describes five areas of competence, with a total of 32 indicators. The descriptions of senior teachers from other education systems were developed within a year of each other, and are closely aligned with the NPQTL

document. In its simplest format are statements about teacher's work in various discipline areas such as literacy, science and maths, and these were developed by the professional key learning area organisations (STELLA, 2002; ASTA, 2002; AAMTA, 2002). They classified teachers' work using three domains, with ten standards.

Hence, over the last decade, a plethora of reports describing teachers' work have been produced. The most recent teaching standards in Australia are the AITSL standards (2012), which were not used in my initial research period because they had not been formulated. However, and perhaps not surprisingly, they do match the dimensions I identified in my attempt to provide a common language. I synthesized the professional aspects of teaching, described in over 15 documents, to six dimensions: key learning area (KLA) content knowledge; pedagogical content knowledge; knowledge of learners; professional relationships; assessment and monitoring knowledge; and professional ethical practices. The dimensions represent a critical and explanatory description of teachers' work as they attempt to capture the social, political, professional, ethical and affective elements of teachers' work. However, these dimensions are arbitrary divisions as there is significant overlap between them. The significance of this synthesis of teachers' work to my study was to design a self-efficacy survey so that pre-service teachers could describe what they had or had not learnt about teaching during their initial teacher education experience and rate their confidence as they enter teaching. The dimensions now follow in the sequence described above.

2.3.1 KLA content knowledge.

The term KLA content knowledge crosses the boundaries of pedagogy and professional ethical practice, but most commonly it describes teachers' content/subject knowledge. In this dimension, pre-service teachers have to learn content in a number of KLAs or disciplines. They need to learn current theories about how best to teach each KLA (also described as pedagogy), understand the aims and purposes for teaching

KLAs, how to select and organise content in cohesive and developmentally appropriate sequences and how to make their expectations known to students. Pre-service teachers also need to learn how to assess and evaluate students using evidence-based tasks (AITSL, 2011; Commonwealth of Australia, 2007; DEWA, 2001; MCEETYA, 2003; Zammit et al., 2007).

The main concern expressed by research studies about pre-service teachers' knowledge of KLA content is that it is limited—more so in primary degree courses—and this has been an issue for a number of decades (Carter, 1990; Tambyah, 2008; Thornton, 2010; Wilson et al., 2001). Tambyah's (2008) study focussed on Australian pre-service teachers' knowledge base for Studies of Society and Environment (SOSE) in the primary curriculum. She used a case study approach to collect data from four tutors who taught SOSE to the cohort group. The data was based on the tutors' evaluation of their pre-service teachers' understanding about teaching SOSE after completing two assignments. Tutors were interviewed about the pre-service teacher's topic choice and source of content and teaching, to develop social science skills and use of inquiry learning. Findings imply that pre-service teachers' KLA content knowledge appeared to develop from secondary experiences (Ball & McDiarmid, 1990; Tambyah, 2008). Additionally, Tambyah found that pre-service teachers tended to rely on topics they knew, lacked deep conceptual understanding of the sciences but rather experiential conceptions of that knowledge and believed their general and personal understanding was sufficient to not require more in-depth research. Further, Tambyah expressed concern that the lack of expertise in SOSE may cause pre-service teachers to emphasise 'technical knowledge interest at the expense of a critical and emancipatory approach to social science' (p. 56). Despite the lack of expertise in subject knowledge, she found that pre-service teachers readily embraced constructivist, inquiry-based teaching approaches.

Martin (2005) expressed a similar concern over what primary pre-service teachers said they knew about geography as opposed to what they actually understood. Catling (2006) raised major concerns about the teaching time allocated to geography in pre-service teacher education programs in the UK, and pre-service teachers' lack of knowledge and understanding about how to teach it. Cutter-McKenzie and Smith (2003) go further, asserting that Australian primary pre-service teachers' environmental education were 'likely to be operating at a level of ecological illiteracy and nominal ecological literacy' (p. 497). Studies of the key learning content knowledge in science (Kind, 2014) and mathematics (Ball, Thomas, & Phelps, 2008; Hill & Ball, 2009) discovered similar results, in that novice teachers had misconceptions about the content, which would likely constrain the way they represented concepts to students. Kind's study showed that having an academic degree in science did not mean a graduate had the high quality content knowledge and appropriate language to be able to teach students effectively, and there was even less chance of content knowledge being taught effectively if graduates also had misconceptions about the subject (another finding in Kind's study). She also attributed the source of misconceptions 'to intuition, life-world, language and teaching' (p. 1337), and argued that the misconceptions may be attributed to the sorts of textbooks and testing that discouraged questioning and inquiry. Therefore, she believed that the teaching pre-service teachers received could have been from teachers who also held misconceptions.

Calderhead and Sharrock (1997) investigated teachers' practices, finding that where a teacher was less familiar or confident with KLA content, they tended to adhere to textbooks more rigidly, asked shallow or closed questions, were unable to extend students' answers and used overly prescriptive, routine-orientated methods of teaching. Carter (1990) similarly concluded that teachers' KLA content knowledge base, background experiences and orientations influenced how they organised instruction and

represented 'the substance of the curriculum' (p. 306). Shulman (1986a) contended that many pre-service teachers spent considerable time relearning KLA content early in their careers. A way of learning KLA content was through the experience of having to teach it. Teaching content involved students' questioning, debating and discussing conceptual knowledge that they may not have anticipated initially, but with experience and reflection could utilise to improve teaching (Aydeniz & Kiebulut, 2014).

Regarding preparation for teaching KLA content knowledge, Kildan et al., (2013) surveyed 58 newly appointed Turkish teachers about their preparation or readiness for teaching. In Turkey, the Ministry of Education Board (MEB, 2006) described teacher competencies according to six core performance indicators. Kildan et al. used the six performance indicators to design their survey, and asked the pre-service teachers to rank the core competencies from least (one) to most (five) adequately prepared. Although Turkish teacher education programs are quite different to the Australian context, this was the only study at the time of print, that was similar to my study in that it asked pre-service teachers to self-evaluate their readiness to teach using the six core competencies. In light of the potentially different cultural influences of the Turkish study, I have attempted to describe their understanding of their dimensions. Knowledge of curriculum and content in their study was considered similar to KLA competency in my study. The pre-service teachers in the study done by Kildan et al. rated knowledge of the curriculum as their least prepared competency. Although the study done by Kildan et al. was quantitative by nature it does allow me to compare my pre-service teachers with theirs and describe differences. My study also wanted to gauge pre-service teachers' levels of confidence in KLA content, hence, in my study pre-service teachers also rated KLA but they were also asked about their rating, source of KLA content and what contributed to this level of confidence.

Together with the research from the UK, USA and Australia, and the concerns expressed by newly appointed teachers, KLA knowledge appears to be an area that does not develop, or develops very little, during the pre-service teacher education period. The significance of KLA content to my study indicates that it is important to examine pre-service teachers' content knowledge in the form of sources of content and their perceived level of confidence about having sufficient KLA knowledge. It will also be useful to examine dispositions to teaching in the various KLAs. Finally, and perhaps more related to the next dimension, is the need to investigate pre-service teacher's understanding of how best to teach various KLAs, how subjects or topics are developed.

2.3.2 Pedagogical content knowledge (PCK).

The development of specific ways of teaching relates to pedagogy. Pedagogical content knowledge is 'the intersection of content and pedagogy, including knowing which aspects of the content students can learn at a particular developmental stage, how to present it to them, and how to lead them into different conceptual understandings' (Park & Chen, 2012, p. 924). The term pedagogical content knowledge was not commonly used in the earlier reports on what constitutes teacher's work, but phrases such as planning and managing teaching and learning, facilitating student learning, professional practice, planning expectations and knowledge allude to the term (AITSL, 2011; DEWA, 2001; INTASC, 1992; MACQT, 1998; MCEETYA, 2003; DET 2004; Zammitt et al., 2007). The development of pedagogical content knowledge has garnered increasing interest since the 1970s, representing a shift in thinking about what teachers do (behavioural observations or interactive responses) to what they know about the orchestration of classroom events, context, rationales and metacognitive understandings of their actions (Carter, 1990; Jackson, 1990; Park & Chen, 2012).

Shulman (1986a) conceptualised the term pedagogical content knowledge (PCK), defining it as the 'understanding of how particular topics, problems, or issues

are organised, represented and adapted to the diverse interests and abilities of learners and presented for instruction' (p. 8). PCK requires pre-service teachers to consider the content in relation to students, context, curriculum outcomes and themselves, in order to make the learning experience meaningful. Park and Chen (2012) confirm that the quality of PCK is dependent on the development of, and coherence between, the components (listed below), as well as their individual applications. Hence, PCK offers pre-service teachers a 'heuristic device...to gain insight into the complex nature of learning about teaching' (Loughran et al., 2008, p. 1303).

Since Shulman's conception of PCK in 1986, researchers have advanced the concept to include a pentagon model for describing PCK. Park and Chen (2012) described the components of pedagogical knowledge as having an orientation towards teaching a subject matter (OT), knowledge of students' understanding (KSU); knowledge of the curriculum (KC), knowledge of instructional strategies and representations (KISR) and knowledge of assessment of learning (KAs) (Park & Chen, 2012). Park and Chen's study was designed to show how the five components integrated in the teaching episodes of four teachers teaching the same subject and topic and using the same texts and materials. They found that integration of the components were idiosyncratic and topic specific; KSU and KISR were the strongest connections and KC and KA were the least connected components. However, KA was more often linked to KSU and KISR. Additionally, when a didactic approach was taken (OT), connections to the other components were inhibited. The study concluded that the quality of PCK depends on the coherence between components. The pentagon maps produced by this study have the potential to help pre-service teachers identify how they orchestrate teaching and learning in their students, and how this can be different based on their content knowledge and knowledge of students. The components could be used to map their lesson plans.

Aydeniz and Kiebulut (2014) designed a praxis tool for measuring pre-service teachers' PCK in science. American pre-service teachers were asked to respond to statements about curriculum, instruction and assessment, followed by a group discussion about their responses. While the completion of the PCK praxis revealed the pre-service teachers had an underdeveloped PCK for the topic under investigation, the group discussion was considered more valuable. Group discussion of responses helped pre-service teachers deconstruct their theoretical practice by promoting a shared language and a deeper awareness of the elements of reform in science teaching, which highlighted their limited understanding of reform practices. While the praxis heightened awareness of aspects and the nature of the content knowledge, instruction and assessment, it did not guarantee a change to practice. However, it does provide a framework for attending to essential elements of practice, and through the deconstruction of practice, pre-service teachers can come to know how the components are connected and what they might look like in practice.

He, Levin, and Li (2011) studied the pedagogical beliefs of 106 Chinese and American pre-service teachers, and found that pre-service teachers attributed their beliefs to their own school experiences. This finding was consistent with one of three pre-service teachers in a study conducted by Cheng et al. (2014). However, Cheng et al. also found that pre-service teachers could have strong pedagogical understandings during their pre-service teacher education experience. They attributed the difference between the two pre-service teachers to their abilities to enact their own convictions, and an active sense of agency.

In a study by Kildan et al. (2013) pre-service teachers ranked teaching and learning process as a three out of five, meaning they felt entirely sufficient in terms of their preparation for teaching. This is surprising, considering the complexity of the task.

However, this could be the effect of practicum experiences and influences from their own learning in the schools in which they were apprenticed.

PCK has implications for my study in the form of pre-service teachers' understanding of pedagogy and how these views might differ, depth of understanding and source of information, and strategies taken into consideration when planning for learning.

2.3.3 Knowledge of learners.

Knowledge of learners refers to pre-service teachers' abilities to comprehend the social/emotional, physical, creative, cognitive and language domains of learning. These domains are believed to be developmental and unique to specific ages or phases in child development (Piaget, 1963). There is debate over the degree to which maturation, learning, environment and culture influence development, but certainly, pre-service teachers need to take into account the prior knowledge, understanding and skills that students bring to the learning situation when planning for learning.

Several studies have indicated that pre-service teachers' development of teaching skills is related to concerns for and about their students (Fuller, 1969; Tochtermann, 2001). Fuller identified four stages of concern. The first phase—non-concern—was the time between first contact with students in classrooms and experience on the job. In this phase, pre-service teachers 'identify realistically with the pupils but only in fantasy with teachers' (Burden, 1990, p. 314). The pre-service teachers seemed oblivious to and disengaged from the specifics of teaching. Concerns offered were vague, and related to anticipation and apprehension. In the second phase—survival and discovery—pre-service teachers reported concerns about self-adequacy in controlling the class, subject matter knowledge and supervisor evaluation. The third phase—concerns—was when pre-service teachers were concerned about their teaching performance and the frustrations, limitations and demands of teaching. In the final

phase—mastery and stabilisation—in-service and experienced teachers' concerns related to the bigger picture of educational issues and the social and emotional effects on students.

Ward and McCotter (2004) claim that pre-service teachers move from teacher-centred (self) to student-centred, and then to holistic views of classrooms and the effects on student learning. Similarly, the study by Eilam and Poyas (2009) described student-teacher orientations that moved from non-cognitive—with a focus on students' behaviour—to cognitive—focussed on teaching activities with little concern for the effects on students' learning—to a final stage of cognitive behavioural orientation, integrating the teachers' awareness of and ability to discuss strategies and their effect on student learning.

In contrast, a study conducted by Burn, Hagger, Mutton, and Everton (2003) observed and interviewed 36 pre-service teachers in their first year of a secondary postgraduate teaching degree. They were asked to describe what happened in each phase of their lesson, and to evaluate each phase. The results revealed that pre-service teachers' justifications were predominantly related to the need for students to achieve outcomes and decisions about achieving outcomes. In terms of the need for students to achieve outcomes, pre-service teachers reported three types. The first related to students' progress. The second dealt with changing or maintaining the students' affective state—such as enthusiasm, interest or confidence—and the third was concerned with students' actions or behaviour, in particular paying attention. Decision making represented seven major areas. Student-related responses had the largest influence on pre-service teachers' decision making. This was followed by pre-service teachers making decisions about students' prior knowledge, existing and acquired knowledge, behaviour, affective state and abilities.

In light of these findings, Burn et al. (2003) challenged the stages theory of Fuller and Bown (1975) and Kagan (1992). They alleged that students' needs featured predominantly in pre-service teachers' thinking and planning in the earliest phase, and were very conscious of the complexity of teaching. Students' progress featured strongly in learning outcomes, and student factors were the most influential on pre-service teacher's decision making. In evaluating their lessons, pre-service teachers were focussed on students' experiences and achievements.

In their study, Kildan et al. (2013) found that pre-service teachers felt most adequate in recognising students. This is most likely attributed to prior experiences and enjoyment working with young people, as identified through personal aspects and successful practicum experiences in which relationships with students were established. Hence, the knowledge of learners is likely to change during the teacher education period.

Of particular interest to my study is the type of change that pre-service teachers report or describe, especially the trajectory from ego-centric to teacher-centric through to student-centric, and from pre-service teachers being somewhat oblivious to what is happening in the classroom, to preoccupation with class management through to managing learning. As indicated in the section of ethnicity (2.2.2) it is also necessary to understand pre-service teachers' beliefs about students from minority groups, and whether pre-service teachers' beliefs and confidence changed and what caused the they change.

2.3.4 Professional relationships.

The fourth dimension of teachers' work, professional relationships, related directly to the stakeholders to whom pre-service teachers were responsible. That is, their students, parents, colleagues, administration, the education system and professional learning communities. It recognised the need for teachers to build positive professional

relationships with their stakeholders. This involved effective communication skills such as verbal, non-verbal and written communication, fostering inquiry, collaborative decision making and supportive classroom interactions. It included developing a classroom climate that encouraged a sense of belonging for the students and encouragement to reach their potential (Maloney & Barblett, 2003). The previous section on knowledge of learners covered the pre-service teachers' relationships with students.

Pre-service teachers' views about parents were found to centre around the quality of relationships with parents, meeting students' basic needs and the role of parents in education (Baum & McMurray-Schwarz, 2004; Sumsion, 1999). Generally, pre-service teachers believed that the quality of the teacher/parent relationship would be challenging, and were anxious about conflict and criticism. Pre-service teachers were also worried about having to meet the basic needs of students in ways that respect parents' rights and confines. Pre-service teachers were also found to be quick to pass judgement on parents. Pre-service teachers' understanding of the role of parents in classrooms was generally to assist the teacher. Baum and McMurray claimed that this role, as a helper, needed to be extended to include benefits for their students and parents.

Pre-service teachers' views about their supervising (mentor) teachers identified supervising teachers as the major source of conflict, and that this conflict was more often about classroom management or a mismatch between the supervisor's leadership style and pre-service teacher's developmental level (Glickman & Bey, 1990). Glickman and Bey stated that pre-service teachers' key issue with supervising teachers was classroom management, whereas problems with university supervisors generally related to teaching skills. A number of studies reported that pre-service teachers were helped and learnt more from supervising teachers than university supervisors (Allen, 2009;

Grootenhoer, 2006). Guyton and McIntyre (1990) proposed that pre-service teachers valued being given opportunities to develop self-concepts and experiment during their practical experiences.

The Dutch study by Tigchelaar, Vermunt and Brouwer (2014) on career switchers' experiences of learning to teach found that pre-service teachers held different roles from their mentors. Pre-service teachers saw their mentors as having a direct teaching role—that is, giving pre-service teachers hints and advice when they saw 'gaps' in their knowledge about teaching. Some pre-service teachers saw the mentor's role as guiding teaching, in which mentors built on the prior experiences of the pre-service teacher's lesson by observation and reflection afterwards. A third role of mentors was to counsel learning by supporting the pre-service teacher as they reflected on their lessons, and grow from the experience of reflection. A final role of the mentor was to facilitate learning by being on equal terms with the pre-service teacher, creating a mutual reciprocal relationship between the mentor and pre-service teacher.

The research on relationships in professional learning communities such as universities implied relationships between pre-service teachers and teacher educators, and between fellow pre-service teachers could enhance or inhibit learning (Capraro et al., 2010). Faculty and schools acted as cultural groups, where members learnt to act and talk together in socially acceptable ways. Dinsmore and Wenger (2006) referred to this as cohorts of culture. In pre-service teacher education programs, participants had a variety of prior knowledge, peer interaction and faculty support, which worked for or against the development of a community-minded culture. Successful programs were characterised by social and academic integration through communities of learners (Tinto, 1993). There was a basic need to achieve, belong and feel significant. Positive relationships meant pre-service teachers spent more time studying together and learning from each other. Further benefits of positive relationships included the formation of

supportive peer groups and pre-service teachers became more actively involved in cooperative learning, and as a consequence of the increased time spent learning they learnt more (Koeppen, Huey, & Connor, 2000; Tinto, 1998). In essence, the teacher educators were largely responsible for the development of such learning communities by using responsive teaching techniques that focussed on negotiation and collaboration.

Dinsmore and Wenger (2006) investigated pre-service teachers' perceptions of the important factors that contributed to their learning. Data analysis revealed clear positive and negative relationships between peers within the cohort group. The positive relationships were thought to develop because pre-service teachers were together in a minimum of four classes per semester, known as cohorts. Pre-service teachers reported getting to know each other very well, both socially and academically. Other areas significant to learning were a sense of belonging, positive consequences of working cooperatively, getting to know each other's strengths, learning with and from one another towards a common goal; and a sense of trust and reliance on others for feedback. Peer relationships that inhibited learning were cited as peer isolation of members (i.e. cliques) and frustration when members did not 'pull their weight', meet scheduled demands or contribute to the group. Dinsmore and Wenger concluded that learning was enhanced by working together in an inclusive classroom situation.

In the study by Kildan et al. (2013) professional relationships were related to parent-teacher and social relations. In terms of preparation for teaching, pre-service teachers in their study felt most confident about their ability to sustain positive relationships with parents, family and school. Hence, professional relationships between pre-service teachers, fellow classmates and teacher educators are likely to change over the course of the four years as a consequence of becoming more familiar with one another and being part of a cohort group. The nature of relationships at university, their effect and how they change will be important to my study. While practicum experiences

are more varied, the role of the mentor teacher is likely to be regarded as very important to the pre-service teachers, either having teaching and learning beliefs that align or being given some freedom to trial teaching practices and develop a teaching identity.

Thus, my study was interested in how pre-service teachers' relationships with all stakeholders were developed, and what factors enhanced or inhibited the relationships. Pre-service teachers will also be asked about their level of confidence in professional relations and causes of concerns.

2.3.5 Assessment and monitoring.

The fifth dimension of teachers' work involves assessment and monitoring. Assessments are used to inform teaching so that students achieve meaningful and relevant outcomes (DET, 2004; NPQTL, 1996). Assessment and monitoring indicators included teachers' knowledge of a variety of assessment tools and tasks, being able to critically and constructively evaluate tests and tasks for appropriateness to students and contexts, engagement in continuous assessment, monitoring by maintaining records, making consistent and comparable judgements and interpretations and the provision of appropriate but varied feedback to students, parents, schools and systems (NPQTL, 1996; AITSL, 2011). Assessment and monitoring also involved planning and implementing intervention programs that endeavoured to meet the varying intellectual, social and physical needs of students.

While this review identified the need for pre-service teachers to understand assessment tasks, monitoring and record keeping, feedback and development of intervention programs, there was scant empirical research on how these skills developed (Grainger & Adie, 2014). The cited studies presented information on pre-service teachers' understanding about types of assessment; links between assessment, teaching and desired outcomes; reliability and validity; and accountability for success or failure (Alonzo & Whittaker, 2007; Campbell & Evans, 2000; Graham, 2005; Wallace, 1996).

With assessment and monitoring receiving greater political and public attention, teachers are increasingly required to show accountability for student learning, in the form of national testing and advertised school results. Graham (2005) affirms that teachers need to be able to ‘speak with authority and knowledge about what such tests cannot assess’ (p. 619), hence teachers need to know and understand achievement data and how to ‘make that evidence visible to students, parents and administrators’ (p. 619).

Grainger and Adie (2014) conducted a pilot study to investigate Australian pre-service teachers’ ongoing peer assessment and social moderation process, in a dedicated course on assessment. Ninety-six pre-service teachers took part in lectures as they learnt about moderation in the first four weeks (described as extensive preparation about types of moderation), viewed video footage of real teaching in the various types of moderation and participated in extensive discussion about what was effective or not. This highlighted the key characteristics of moderation as reaching a consensus, rich professional dialogue, consistent judgements, common ways of interpreting and on-balance judgement using criteria. This was followed by moderation sessions for four weeks, in which pre-service teachers took active roles in assessing each group’s presentations. Groups presented their topic on assessment then left the room while the remaining pre-service teachers took part in a moderation session. Pre-service teachers used a criteria sheet to award marks, and also had to provide justification to the tutor. A survey was administered at the end of their course to ascertain the success of the programme. Grainger and Adie concluded that while the pre-service teachers perceived the process to be valuable and their knowledge about assessment and moderation had improved, they were seldom able to come to a consensus, and some pre-service teachers remained confused about the principles behind standards-referenced assessment. Hence, immersion in a single unit on assessment was not sufficient for pre-service teachers to feel confident.

Graham's (2005) study involved 38 teacher candidates (internship) who were interviewed about their initial understandings of assessment. She found that pre-service teachers' initial understandings were inadequate. Their concept of assessment was limited to tests (multiple choice and short answer) and marks or grades that effectively ranked students. These practices were based on their experiences as a student, and despite these practices (recall and memorisation) being deemed unhelpful, they did not question their application. She also found that pre-service teachers failed to write meaningful goals, and were generally unable to explicitly link curriculum goals, instruction and student achievement (Graham, 2005). However, Graham was able to facilitate changes to pre-service teachers' understanding about assessment by explicit teaching at the campus level, and enactment of those theories and practices in a mentored teaching practice. The explicit teaching came in the form of identifying initial beliefs, interrogation of them, followed by experiencing new types of assessment from the perspective of a student. Pre-service teachers engaged in professional dialogue and debate about the new assessments and the need to provide evidence of student learning. The theoretical grounding meant that the pre-service teachers had to have conversations with their mentor teacher about enacting theory into practice, a powerful influence. Additionally, pre-service teachers had to produce reflective portfolios as evidence of their understanding of assessment that met the National Board for Professional Teaching Standards (NBPTS, 1996). While there were some unresolved and ongoing issues relating to assessment (goals, rubrics, fairness, grading, validity and time), Graham reported that unless this type of joint instruction occurs, pre-service teachers are more likely to resort to traditional, unexamined assessment practices, similar to those they experienced as students.

Campbell and Evans' (2000) study involved 306 lesson plans from 65 pre-service teachers who had completed their practicum programme and a mandatory

educational measurement unit. They used a rubric or checklist to ensure that the researchers' analyses of the lesson plans were uniform. The criteria included a plan for assessment, the method of assessment, learning goals, the degree of match between goals and type of assessment chosen and the inclusion of a rubric. Their study found that none of the lesson plans met all the rubric criteria. The pre-service teachers tended to use a combination of paper and pencil and observation, observation only and performance (observable completion of task). Most noticeably, there was no direct link between goals and assessment type. The pre-service teachers failed to write observable instructional goals or to establish scoring methods. Their understanding of reliability and validity was found to be absent and somewhat disposable, considering they had recently completed training and practice on the reliability and validity of assessment tasks. Campbell and Evans concluded that factors influencing pre-service teachers' assessment choices are difficult to identify, and likely caused by the complex environment of practicum and apparent limited transfer of theory to practice from the educational measurement unit.

Remesal (2011) studied 50 primary and secondary teachers' conceptions of assessment, and found that assessment beliefs comprised four dimensions: effects of assessment on teaching, effects of assessment on learning, accountability of teachers/schools to different audiences and certification of achievement. These conceptions of assessment were found to range along a continuum from a pedagogical regulation pole (focus on monitoring of teaching and learning) to a societal-accreditation pole (focus on teachers' accountability and certification of achievement). In between these poles were mixed pedagogical and societal functions, and more of the teachers in their study presented as mixed, with 44 per cent of teachers conceiving of assessment as mixed societal. This confers that there were stronger beliefs for assessment *of* learning than assessment *for* learning. Additionally, the primary school

teachers showed a tendency towards pedagogical regulation, while secondary teachers leant towards to the societal-accreditation pole. Remesal concluded that teachers' conceptions of assessment functions are related to education systems, and are often different—and sometimes opposing—beliefs about the role of assessment in teaching and in learning.

In the study by Kildan et al. (2013) assessment and evaluation were described as monitoring and evaluation. Pre-service teachers in this study ranked their preparation to monitoring and evaluation as their least competent dimension. The implications for this study are to ascertain what pre-service teachers understand about the functions of assessment and evaluation, and when, where and what they learnt about planning, administration and analysis of assessment and monitoring and their perceived level of confidence in assessing. The innovations and conditions described above provide insights into the both the negative and positive contextual attributes of the campus-based programs. My study is interested in the extent to which the pre-service teachers identify these on-campus contextual attributes as influences on their experiences on campus. I am also open to what other on-campus influences pre-service teachers describe as having an influence on learning to teach and the degree to which these are shared or common amongst the pre-service teachers.

2.3.6 Professional ethics.

Professional ethical practice was likened to a code of practice (MCEETYA, 2003) and code of conduct or ethics (Forster, 2012). E. Campbell (1997) alleged that declining moral standards in society had found their way into schools, which had become 'values-neutral' (p. 255), in turn filtering down to teacher education courses. She described professional ethics as the moral and ethical complexities of the teacher's role, and the ethical decisions and actions they must make as they go about their work. These actions, unintentional or deliberate, can indirectly or directly influence their

students, and as such, Campbell argues that they must be retained and elevated in teacher education and practice. Boon (2011) further endorsed this view, contending that because ‘education aims to change people in particular ways and uses methods which involve close, personal, hierarchical relationships, teaching is an occupation where ethical issues are central’ (p 79). Further support for the teaching of ethics in pre-service teacher education has recently been included in the National Framework for Values Education in Australian Schools, and pre-service teachers are required to teach values and morals (ACARA, 2013; Australia, 2005). Additionally, an ethics curriculum will also assist pre-service teachers in reflecting on their own beliefs and practices as they come to terms with the increasingly diverse student population.

Joseph (2010) conceptualised the moral nature of teaching when she taught a teacher education unit entitled ‘The Moral Classroom’. She sought to develop pre-service and in-service teachers’ understanding and preparedness to deal with the ethical dimensions of their work. This involved moral imagination, which effectively allowed people to think creatively and evaluate realistic teaching scenarios. Thus, Joseph described five elements of moral imagination that she believed highlight the nature of teachers’ work and their practice. The five elements were described as perception, rationality, reflection, emotion and caring for self. Perception was described as ‘the ability to be sensitive to others’ (p. 17) and being able to see a student as an individual. Rationality was how we ‘critically, creatively and sensitively...understand the issues and problems at stake’ (p. 17). Reflection was the critical appraisal of our own worldviews, and how these might be similar or different to others’. Emotion was the fourth element, relating to how we connect with others and want to nurture or advocate for them. Finally, care for self describes self-fulfilment, satisfaction with the state of play and hope. Joseph concluded that moral imagination ‘encourage[s] teachers to articulate issues stemming from their own concerns as practitioners and as individuals

to perceive the moral possibilities of their work, the ambiguities in their interactions with children and adolescents and their own uncertainties as human beings' (p. 18).

Boon (2011) studied the ethical understandings of pre-service and in-service teachers by documenting ethical dilemmas faced by the teachers in the workplace, examining ethical modules in units of a Bachelor of Education programme and conducting a survey to discover pre-service teachers' perceptions of training in ethics. A major finding of Boon's study was the lack of overt ethics intervention in the education course, which meant that pre-service teachers were less prepared to teach ethics and behave appropriately, but also less confident in challenging unethical or unprofessional behaviour. Hence, pre-service teachers who were not taught ethical understandings and had not critically challenged their own understandings, bias or discrimination were more likely to conform with practices espoused by others rather than challenge. In terms of pre-service teachers' understanding of ethics, Boon found they had simple and practical views that ethics were an ethos, to do with professional standards and based on religious values. Boon concluded that ethics needed to be taught more overtly, integrated into professional standards, included in reflective practices and be a stand-alone subject (Boon, 2011; Forster, 2012).

Another study involved 136 pre-service teachers in their final year at a regional university (Chapman, Forster, & Buchanan, 2013). The pre-service teachers had completed their final professional practice and an ethics course. The data was collected from peer facilitated group discussion, using a 'community of inquiry' methodology. The discussions consisted of an 'inner' and 'outer' circle. The inner circle discussed a hypothetical school dilemma, while the outer circle observed, asked questions and commented on the discussion points. Data analysis of the transcribed discussions took place using the same five categories from the study by Joseph (2010). Chapman et al. found that perceptions were used most frequently, followed by rationality and

reflection, with caring for self and emotion used least. However, the most interesting aspect of their study was the tendency of pre-service teachers to try to solve the hypothetical dilemma before they considered any ethical considerations. Two other interesting patterns emerged that did not fit Joseph's five categories. One involved the power dynamics between mentor teachers and pre-service teachers, whereby the pre-service teacher was not able to address an issue they found uncomfortable because of a perceived effect on their marks. A second pattern was the group process, where pre-service teachers noted points made by others in critical and reflective ways. Chapman et al. concluded that moral imagination was a useful framework for examining ethical tensions resulting from pre-service teachers' internships, and a valid way of introducing ethical dilemmas that are realistic and needs based.

In the study by Kildan et al. (2013) professional ethics were described as personal and professional values and professional development. In their study, pre-service teachers felt most competent about this dimension. Hence, the significance of ethics to my study is the need to identify what pre-service teachers understand about their ethical perceptions of others, the degree to which they can rationalise problems, reflect, and advocate for themselves, their students and others. Additionally, pre-service teachers will be asked to rank their confidence in ethics.

2.3.7 Implications of professional aspects to my study.

This review identified the professional aspects associated with teaching, and the knowledge, skills and beliefs that constitute the dimensions of teaching. Six dimensions of teaching were identified: KLA content knowledge, pedagogical content knowledge, knowledge of learners (PCK), professional relationships, knowledge about assessment and monitoring and professional ethical understandings. These sought to provide a common and manageable language for talking about what was learnt, and how these

dimensions had or had not been developed during the pre-service teacher education period.

The common description of teachers' work discussed above will help pre-service teachers identify and describe what and how they developed their teaching skills and knowledge. The descriptions of the dimensions were also used to design the self-efficacy survey and semi-structured interview questions in interview one.

2.4 Theoretical Perspective of My Study

Van Huizen, van Oers & Wubbels (2006) described the recent reforms to teacher education as having three explicit theoretical paradigms. They claimed that the reforms involved competency-based teacher education (teachers' functions and tasks), personal orientation to teaching (the personal side of teaching) and reflection and inquiry-based paradigms (teacher researcher and reflective practitioner). However, these have had a limited effect, and represent quite different and even conflicting paradigms. Van Huizen et al. argued that Vygotsky's socio-cultural theory offers a more comprehensive model that integrates the valuable elements of the three paradigms. In this section I will explain why and how the socio-cultural theory underpins my investigation into pre-service teachers' perceptions of the learning to teach experience.

Socio-cultural or cultural-historic theoretical perspectives emphasise the interdependence of the social and individual process in the co-construction of knowledge (Eun, 2010; John-Steiner & Mahn, 1996; van Huizen, van Oers, & Wubbels, 2006). Originally developed by Vygotsky, socio-cultural theory has three main principles: social sources of individual development, semiotic mediation in human development and genetic analysis (John-Steiner & Mahn, 1996; Vygotsky, 1978).

First, social sources of human development describe the interactions between the expert and the novice that guide and scaffold the learning experience. Vygotsky's well-known 'genetic law of development' implied that pre-service teachers come to the

learning to teach context with personal, cultural and cognitive histories that will influence their approach to learning to teach and what they take from their experiences. These background experiences will contribute to social interactions about the theories and topics of teaching with their lecturers and other pre-service teachers. Thus, a social level of learning appears first, whereby the learner (pre-service teacher) is more dependent on others with more experience (lecturers and textbooks) at the commencement of their learning to teach experience. This is followed by an individual level of interpretation, in which the pre-service teacher calls on their own background knowledge and experiences, vicarious information such as literature, film or observations and other sources of information to make sense of the learning experience and internalised it to form their understanding. Vygotsky (1978) claimed that the learner visits a social (intermental) plane of functioning, which gives way to the individual (intramental) plane of functioning.

Semiotic mediation is the second principle of learning advocated by Vygotsky, in which the learner uses psychological tools to assist in making connections or mediating between the external and internal, the social and the individual. The tools can be language (lectures, tutorials, conversations, presentations), reading, writing, drawing, mind mapping, problem solving, symbolising, classifying and categorising. These tools may be socially situated and are very important in making the transformation towards independent thinking, applying or generalising.

Other themes relevant to the social source and semiotic mediation principles in Vygotsky's work included scientific and everyday concepts. Vygotsky distinguished between spontaneous, everyday concepts and non-spontaneous, scientific concepts. Spontaneous, everyday concepts and language represent the learner's prior knowledge and often concrete experiences with concepts and the natural language they might use to describe their understanding of a concept. Scientific conceptual knowledge and

language is introduced by the primary knower, and involves questioning that leads the learner to make the conclusion. Davydov (1972, cited in Renshaw (1992) provides an example of how a child may understand that one object is heavier than another, but what does heavy mean? The primary knower needs to develop the concept further, by asking the learner what heavy means, leading to an understanding of more or less weight, which may be further conceptualised by symbols such as '<' and '>'. Vygotsky's theory relies heavily on dialogic (language) interactions between the learner and primary knower, but ultimately it must be internalised and individually constructed in the learners' head.

The third and final principle behind socio-cultural theory, according to Vygotsky, involves genetic analysis. Genetic analysis describes the process of change and the transformation process of combining seemingly separate constructs (ideas) into new combinations. John-Steiner and Mahn (1996) describe genetic analysis as using 'functional systems [to] provide a framework for representing the complex interrelationships between external devices, psychological tools, the individual and the social world' (p. 8).

Socio-cultural theory attempts to unify rather than separate the individual and social through dialectal relationships. Further, the socio-cultural approach asserts that participants are 'both shaped by and shaping their living conditions' (p. 271). Hence, van Huizen et al. argued that activity is a fundamental concept that functions as both a whole system and at an individual participation level, as they become involved in a process of development. The activity as a system involves articulation of the standard of performance of the action (teaching), modelling of the standard and supporting conditions for successful approximation. Learning to be a participant in an activity system involves knowledge of the professional functions and tasks, but also having a personal sense of why that extends into a personality enabling them to make deliberate

decisions about their course of action. Finally, participation involves emotion which, Vygotsky argues, discerns the quality of a person's participation in activity and it is related to their needs and motives.

Socio-cultural theory posits that knowledge is constructed by the learner and is influenced by both the historical and cultural background of the learner and their social, emotional and cognitive interaction with the environment in which they learn (van Huizen et al., 2006; Vogel, Davidson, Shroff, & Qureshi, 2001). Hence, the socio-cultural theory offers a relevant and useful lens through which to examine learning to teach in the current study, because it sought to understand the players (pre-service teachers, and the lecturers and mentor teachers, indirectly), the landscapes (schools and university contexts) and the tools for learning (teaching knowledge and skills). These were not considered separate but rather interacting, integrated and influencing each other.

2.5 Conceptual Framework of My Study

The conceptual framework is based on the review of the literature and the socio-cultural perspectives which identify universal questions concerned with the personal learner (who), the context (where and when) and the nature of learning the professional tasks of teaching (what and how). The extent to which these aspects appear and interact for the seven pre-service teachers is the essence of my study. The research on personal aspects identified pre-service teachers' demographics, epistemological beliefs, dispositions and self-efficacy (also involved in the professional aspects) (Drudy, 2013; Ingvarson et al., 2004; Sheridan, 2013; Tigchelaar et al., 2014; Walker et al., 2011; Zammit et al., 2007). The research on contextual aspects identified where and when pre-service teachers learn to teach, and how the conditions present effected learning to teach (Darling-Hammond, 2006; Zeichner & Conklin, 2008). The research on professional aspects identified six dimensions of teachers' work as KLA knowledge, pedagogical

content knowledge, knowledge of learners, professional relationships, assessment and evaluation and professional ethical practices (AITSL, 2011; Maloney & Barblett, 2003) and how these were thought to develop.

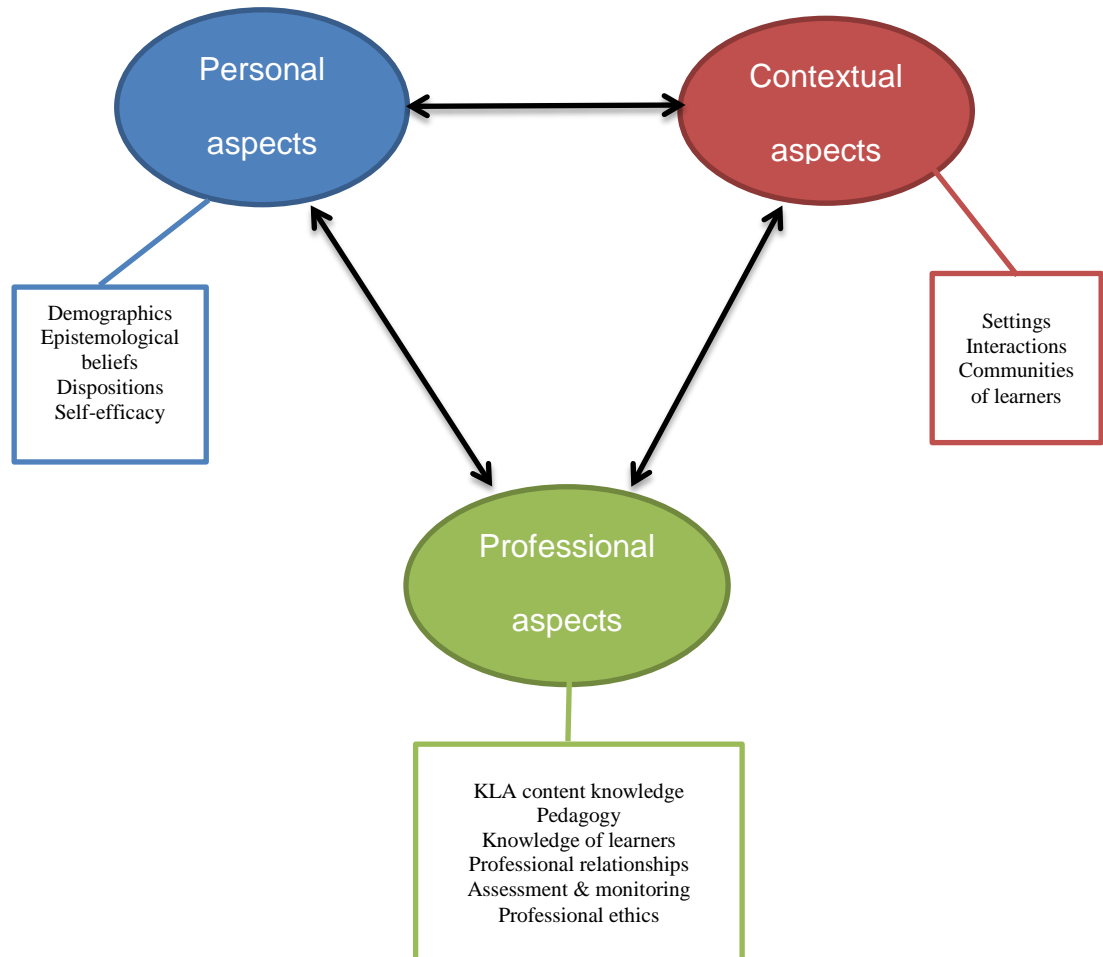


Figure 1. A model representing the socio-cultural relationships between the personal, contextual and professional aspects of learning to teach.

However, in a review of the research on learning to teach, Wideen et al. (1998) identified many aspects of learning to teach that remained unclear, and the results were often contradictory. Wideen et al., concluded that learning to teach was complex and ‘only when all players and landscapes that comprise the learning to teach environment are considered in concert will we gain a full appreciation of the inseparable web of relationships that constitutes the learning to teach ecosystem’ (p. 170).

Thus, my study attempts to understand the phenomenon of learning to teach for the seven pre-service teachers by looking at who was learning, and when, where, how and what they were learning. I conceptualised these as the personal, contextual and professional aspects of learning to teach. My study sought to investigate learning to teach from a socio-cultural perspective, including both the ‘players and landscapes’. Figure 1 above reflects the aspects at play as pre-service teachers learn to teach. My study aimed to investigate the extent to which the initial learning to teach experience was affected by personal, contextual and professional aspects.

Chapter 3: Methodology

As indicated in the earlier chapter, the original impetus for my study came from rather negative responses from my graduands at their graduation ceremony, on the impact of their initial university preparation course for teaching. From these negative responses and my own response upon graduation some 25 years earlier, I felt somewhat curious about what happened during those initial learning to teach experiences and what skills and knowledge remained the same or changed and why? As a lecturer in teacher education, I knew what skills, knowledge and outcomes I wanted my pre-service teachers to experience and develop and that these outcomes were based on rigorous research and evidence-based practice, but what did the pre-service teachers actually learn during this time. Hence, I sought to investigate learning to teach by asking pre-service teachers, who were attending an Australian regional campus and were nearing course completion in 2009, about their experiences in learning to teach.

3.1 Design

According to Punch (2009), research design is the overall plan for the research and it is influenced by what you are trying to find out or the research question(s). My research questions explored the universal questions about: who was learning; what were they learning; when, where and how were they learning. Hence, in my study the who question involved the personal aspects of the pre-service teachers as learners. The what question involved the professional knowledge and skills that they were learning and the where, when and how question involved the contexts for learning. The overall research plan was to interview pre-service teachers about their learning to teach experiences and as such, I was situating myself in the empirical world of qualitative data collection. My research questions were;

1. How do pre-service teachers describe how they had learnt to teach?

2. To what extent and in what ways did the pre-service teachers attribute personal, contextual and professional aspects as contributing to and influencing learning to teach?

Punch (2009) recommends researchers pay attention to four ideas when describing their overall plan or design. Researchers need to consider: the strategy (method or approach); the conceptual framework; from whom the data will be collected (sample); and finally, how will the data be collected. Punch claims the four ideas serve 'to situate the researcher in the empirical world and connects the research question to the data' (p.112).

In terms of strategy, my study sought to understand the social phenomenon of learning to teach in natural settings by asking those participating in the experience, the pre-service teachers. Kervin, Vialle, Herrington, and Okley (2006) claimed that qualitative research's purpose is to understand social phenomena with humans as the primary data gathering instrument. The conceptual framework that evolved from the literature review asked universal questions about who was learning to teach, where, when, how and what was learnt. These universal questions also identified the structure for interviewing the participants in order to develop multiple cases studies analysis.

Bogdan and Bilkan (2007) analogise the qualitative researcher as 'the loosely scheduled traveller' (p.54) who has a general plan about how they will proceed, but the plan evolves as they learn about the participants, their settings and other sources of data through direct examination. They advocate for a retrospective account of the plan or design in order that the researcher remain open to new ideas and concepts. Kervin et al. (2006) also claimed the design in qualitative research evolves during the study and it is inductive analysis rather than deductive. Qualitative research is inductive because it aims to generate rather than test theory. Learning to teach is thought to be complex, dynamic and idiosyncratic, and as such, there are multiple viewpoints to be considered

(Darling-Hammond, 2006; Grossman, Hammerness & McDonald, 2014; Morrison, 2013; Zammit et al., 2007). Thus, my study sought to understand learning to teach by focussing on the meanings that the experience had for seven pre-service teachers who were the participants in my study.

Silverman (2006) proposed four types of qualitative data collection methodologies that include: ethnography and participant observations; document analysis; interviews and focus groups; and recording and transcribing natural interactions. Ethnography and participant observations involve the researcher conducting observations in the natural classroom setting or field and also as a participant in the experience. Ethnography and observation methods include interviews, checklists, anecdotal notes and/or audio-visual recording. Observations allow the researcher to observe roles, responses, interactions and influences from all participants including themselves. One disadvantage of observation is the impact of the researcher's presence on the participants and this is more obtrusive if ethnography or participants observations are audio visually recorded. A second disadvantage is the time factor. Observing participants requires the researcher to be present for significant periods of time which would limit the number of participants or sources of data within the study timeframe. Alternatively, increasing the number of participants would mean less time with each participants which may have resulted in 'thinner' data. For these reasons observations were not considered the best option for my study.

Document analysis involves the use of 'texts' that have been recorded or produced without intervention from the researcher. Punch (2009) described a number of ways of classifying texts which range from: source (public, media, private and artistic); authorship (personal, official-private and official-state) and access (closed, restricted, open-archival and open published). Silverman (2006) believed qualitative researchers undervalue documentary evidence and he suggested documents provide 'rich, naturally

occurring, accessible data which have real effects in the world' (p.195). He suggested researchers should treat documents, not as critical analysis, but rather representations of knowledge and skills that show the effect of an experience and how the texts represent reality. According to Silverman, texts can be analyzed for content, narrative structure, ethnography and membership categorization devices (collections based on rules). Another important use of documents or texts is their ability to triangulate with other data collections methods. However, Punch (2009) cautioned that texts need to be scrutinized from more than several angles related to how the documents came into existence in the first place. Hence, my study considered the use of documents, such as lesson plans, assignments, philosophy statements and academic transcripts, as further evidence and support for describing the pre-service teachers' learning to teach experiences.

Interviews are another form of qualitative data collection that can offer a rich source of data about how people interpret their experiences. Silverman (2006) proposed four types of interviews: the structured interview; semi-structured interview; open-ended interview; and the focus group interview. Most common to qualitative research is the semi-structured, open-ended interviews which are usually conducted on a one-to one basis or in focus group interviews. All four types of interviews are active and collaboratively constructed between the interviewer and the interviewee(s). One advantage of interviews is their ability, if well-constructed, to access individual or group's attitudes and values, which are not obvious in observations or structured questionnaires/interviews. They also allow the interviewer to: clarify; make genuine and authentic questions based on the interaction; take opportunities to delve much deeper into the interviewee's perspective; and how they came to hold those views. Another advantage is that the interviewee has the opportunity to shape the content of the interview (Bogdan & Biklen, 2007). More specific to my study was the heuristic motive

to explore and hear the voices of pre-service teachers, who Allen and Wright (2014) found had been overlooked in past research. Hence, the qualitative data collection method of interviewing appears to be the methodology best suited the research purpose. One disadvantage of interviews is the formality and unnatural nature of the dialogue, which can sometimes be intimidating or influence interviewee responses, however, in my case I knew the participants quite well and the interviews were more like a debriefing and natural conversation about their experience of learning to teach.

Based on the advantages and disadvantages described by Silverman (2006) the qualitative data collection methods of document analysis; interviews; and recording and transcribing of natural interactions pointed to the potential for multiple case studies. Yin (2003) recommends case studies as the preferred research approach when posing who, what, where, how or why questions; when the phenomenon involves 'real' life contemporary contexts; and when the events or behaviours are not being manipulated. These conditions matched the aim of my study. Neuman (2011) described case study research as having 'a detailed focus but tells a larger story' (p. 42). The multiple case study methodology was chosen because it offers 'rich' data and has several advantages in telling the story of the individual participants (micro-level) and its relationship to the larger process of learning to teach (macro-level) (Neuman, 2011). Additionally, given the literature review found learning to teach to be quite complex, dynamic and idiosyncratic it makes sense to have more than one case study because a single case study would be too narrow a view and I was not aiming to critically test an existing theory, a rare case or phenomena that had been inaccessible to scientific investigation (Yin, 1994). My aim was to investigate the similarities and differences between the multiple case studies.

Neuman (2011) contended that case studies have a number of advantages. First, they attempt to understand the perspectives of the actual participants and their personal

and unique story about the experience under investigation. My study, through the literature review, recognised that the experience of learning to teach was considered idiosyncratic, and therefore a study of multiple participants will involve multiple perspectives from which participants tell their unique, individual stories. Thus, seven pre-service teachers' experiences of learning to teach are at the centre of this inquiry.

A second advantage of case studies is their ability to 'capture complexity and trace processes' (Neuman, 2011, p. 42). In case study methodology, the researcher is constantly revisiting and reorganising the data in order to capture the unique and common experiences. In this regard, my data analysis was not forced into a pre-determined framework but rather a framework emerged as a chronological narrative of each pre-service teacher's journey from pre-university to near completion of their initial learning to teach experience. A third advantage of case study methodology is the heuristic appeal (Neuman, 2011). In my study I wanted pre-service teachers to tell me how they have learnt to teach. My aim was to discover more about the learning to teach process from the people who have just experienced the process.

Case study approaches are often criticised for potential bias on behalf of the researcher's opinions and prejudices, lack of generalizability, and for being time consuming and lengthy (Yin, 2003). In my study, researcher's bias was controlled in several ways. First, the interview method allowed questions to be repeated, answers to be clarified, repeated/rephrased, and the ability for the interviewer to press for further information. Second, being aware of my own bias in terms of the impact of the university experience allowed me to monitor my interpretation by specifically auditing or memo writing how quotations were coded. This monitoring was done in the cross-case analysis using a matrix. I also controlled bias by actively seeking evidence that was contrary to my expectations and I attempted to be open-minded in my analysis. Finally, participants were able to read my construction of their original detailed case study,

containing most of their quotations, and participants were encouraged to edit and delete information that did not represent their view. I was not looking for generalizability, but rather similarity and variations between participants in the cross-case analysis.

Transcribing and the completion of the first full case studies were time consuming and lengthy, but the data were rich and individual's views were repeatedly affirmed throughout the three interviews and in their self-chosen artefacts, further confirming and strengthening the credibility of the data for each case.

Yin (2003) described exemplary case studies as having the following characteristics: the case must be significant, complete, provide alternative perspectives, be evidenced-based and composed in an engaging manner. The cases in this study were significant in their uniqueness for describing the learning to teach experience from the perspective of the pre-service teacher and with the current attention from media and local Australian government about teacher education. The three interviews allowed for data from the first two interviews to be clarified, revisited and revised if participants 'felt different' about the question or topic. Additionally, the participants were presented with 'their story' to confirm and edit at the conclusion of the interviews. All case studies were included because they all tell a slightly different story with different emphases at various stages of the participant's journey. The cases are significant because they contribute a different narrative and reflection on learning to teach from the perspective of the pre-service teacher, which Allen and Wright (2014) argue have been overlooked in the past.

The cases in this study were complete in their ability to tell the chronology from pre-university to the final year of their initial teacher education. This completeness acknowledged the influences of personal experiences, prior beliefs about learning and teaching and current influences from university and school contexts, and acknowledging professional learning and skills that remained static or changed. The extent of

duplication of information in the original transcripts was the result of both my clarification of understandings but also consistencies in participants' thinking about teaching.

There was notable variation in the descriptions of participants' experiences and they also completed a self-efficacy rating of their professional strengths and needs including readiness to teach which were notably idiosyncratic. The cases were evidence-based as they used verbal, written transcripts and the pre-service teachers had the opportunity to edit their full case study. The transcribed quotations in the case studies also provide evidence to support my interpretations. The case studies also included reference to artefacts such as teaching philosophy statements, academic transcripts, lesson plans and learning tools such as matrixes. These artefacts were not created as a result of the case study rather they were self-selected by the participants to share as evidence of their understanding about teaching and supported their dialogic statements. The case studies were composed in an engaging manner by many edits and reworking in order to utilize the rich data base whilst maintaining the integrity of the individual pre-service teachers' own stories of becoming a teacher reflecting the highs and lows.

3.2 Sample

The overriding purpose of my study is to investigate what pre-service teachers report about learning to teach in their final year of the Bachelor of Education degree. My study sought to investigate learning to teach by asking universal questions about who was learning to teach, what, where, when and how did they learn to teach. I sought this information directly from those who have recently experienced the phenomena. My study used theoretical or purposive sampling, as it sought only fourth (final) year undergraduate Bachelor of Education pre-service teachers in an Australian regional campus. Punch (2009) defines purposive sampling as a common practice in qualitative

research because sampling occurs as a deliberate way with the focus of the study in mind. It relates directly to the purpose and research question guiding the inquiry.

However, Silverman (2006) advocates for thinking critically about the parameters of the population under investigation and he advises using a typology that considers the likely options that fit the question. Thus, the typology of the pre-service teachers involves difference in demographics, place and year of study.

Fourth year pre-service teachers were chosen because they were close to completing their four year Bachelor of Education degree and as such they had the most recent and total experience of, and exposure to, both the coursework and practicum experiences from the initial learning to teach experience. Hence, these pre-service teachers were most likely to be able to report on their formal experience of learning to teach. My study was not seeking replication or 'typicality' but rather open to finding differences and similarities, in terms of the influences on learning to teach.

The sample was also self-selected because I called for volunteers from a cohort of fourth year pre-service teachers. Ideally, the sample should reflect a range of demographics in terms of age, gender, ethnicity, marital status, educational and socioeconomic backgrounds, however the literature reports that typically and currently pre-service teachers are aged between 19 and 30, female, white Anglo-Celtic and lower-middle class (Commonwealth of Australia 2007; DET, 2004; Ingvarson et al., 2004). In my sample, three pre-service teachers were single and under 25 years of age. The remaining pre-service teachers were married with children and two of these pre-service teachers were in the 31-35 years of age, and two were in the 36-40 age group. There was a noticeable absence of male pre-service teachers, although several were approached, none were forthcoming. The male representation in the cohort year was less than 20 per cent. All pre-service teachers were of Australian/New Zealand decent. Six of the seven pre-service teachers had completed 12 years of schooling and the seventh

pre-service teacher had completed 10 years of schooling and entered university via the University Preparation Course (UPC). Three pre-service teachers were from lower middle class families (parents in trades and retail/domestic work) and four were from middle class families (parents in professions or business).

Two groups of the cohort of pre-service teachers were approached: one in a summer school unit and one in a semester one unit. The sample comprised of nine pre-service teachers: however, only seven completed all three interviews. Thus, only data from the seven cases were used. Ary, Jacobs, Razavieh and Sorenson (2006) claimed there is no general rule for sample size in qualitative research, however they caution researchers about data saturation and repetition which would indicate the need for more or less participants.

3.3 Data Sources

With the intention of gathering rich and elaborate data, my study used surveys, interviews, academic transcripts and artefacts provided by the pre-service teachers. The survey was self-administered and returned to me prior to the interviews. The survey questions were not analysed statistically, but rather were used as a guide for the semi-structured questions during the interviews. Additionally, the sample size was not large enough nor intended to warrant statistical analysis or levels of significance. The interviews were digitally recorded, then transcribed verbatim. Elaborations were identified according to interview number (T1=interview one) and time within interview (02.30=two minutes and 30 seconds). Hence, [T1:02.30] identifies the full quotation within the verbatim transcripts, and where the comment is located in the digital audio recording. This allowed for frequent checking, revision and cross referencing.

3.3.1 Background knowledge and survey.

The decision to conduct a survey prior to interviews was strategic. First, the survey was based on the 'implications for research' sections of the literature review.

Second, giving the participants the survey to self-administer in their own time was a form of rehearsal, in that they had more time to think about their responses, prior to elaborating. Third, the survey allowed for a large amount of information to be captured that did not need elaboration; for example, data on demographics and dispositions. I could, therefore, use the interview time to probe the less finite data. Fourth, the survey acted as a checklist, ensuring detail and depth. Finally, the survey acted as an additional data source to build credibility.

Part one of the survey targeted demographic details identified in the literature review. Most questions about demographics had finite and predictive responses and as such were multiple choice questions. Questions about ethnicity, parents' occupations, types of recreation, employment, highest education awarded and academic strengths and challenges were less finite, and thus a short answer space or 'other' response was made available.

Part two of the survey elicited participants' epistemological beliefs about the nature of knowledge and ways of knowing. This section of the survey was based on questionnaires developed by Schommer (1990) and Jacobson, Jehng and Maouri (1996). However, their surveys were too extensive—with 50 statements to be rated—so I reduced the number of survey items by random selection of five of the ten items per construct (structure, stability/certainty, source, ability, speed of learning). The purpose of the five items was to register topics (constructs) for discussion in the interviews. (Appendix I, Part 2a lists the statements used for each construct and their reference).

Ary et al. (2006) asserted that survey/questionnaire statements should be listed randomly in both negative and positive views, to enable respondents to read for content and not favour a particular side or position. Hence, the statements were not organised under their constructs but rather randomly listed (Appendix I, Part 2b). Pre-service teachers were required to rate their responses according to a seven point Likert scale

(Ary, et al. 2006). To indicate an overall level of epistemological beliefs, I scored the pre-service teachers' responses from one to seven. Similarly to Schommer (1990) and Jacobson, Jehng and Maouri (1996), the one to seven rating scale was arranged along a continuum from a naïve and transmission approach to learning to a sophisticated and relative constructivist approach to learning. The terminology of naïve to sophisticated were terms used in the literature. Thus a score of one was interpreted as having a naïve and transmission approach to learning and a score of seven was consider a more sophisticated and constructivist approach to learning (Perry, 1968; Schommer, 1990). Where items were written in the negative, these items were reverse scored. Pre-service teachers' responses were totalled. Table 3.1 presents the potential numerical range of scores for epistemological beliefs and their degree of sophistication as reported in the literature.

Table 3.1

Overall rating of epistemological beliefs

Transmission Cautious	Marginally sophisticated	Usually sophisticated	Constructivist Highly sophisticated
13–18	19–24	25–30	31–36

Part three of the survey dealt with dispositions. It had short answer questions related to the participants' attraction to teaching. Again, the items were based on previous research findings and recommendations for further studies.

Finally, pre-service teachers completed a self-perception rating of six teaching dimensions (Part 4). The six dimensions emerged from a comparison of teacher competency statements from international and national university and educational system guidelines, and professional organisations' descriptions of effective science, maths and English teachers from 2008. The professional aspects of teaching included key learning area content knowledge, pedagogical content knowledge, knowledge of

learners, professional relationships, assessment and monitoring and professional ethics (AITSL, 2011; Commonwealth of Australia, 2007; DEWA, 2001; MCEETYA, 2003; Zammit et al., 2007). These dimensions were used to indicate self-efficacy for teaching. Pre-service teachers rated themselves according to a seven point scale, from one (not at all confident) to seven (highly confident).

3.3.2 Interviews.

I conducted interviews because they are an effective way of gathering rich and detailed data, and to engage participants in telling their stories (Ary, Jacobs, Razavieh, & Sorenson, 2006; Denzin & Lincoln, 2001). However, Ary et al., (2006) warned that interviews were dependent on the participants' ability to articulate and reflect on their experiences. Some participants are more perceptive or reflective than others, however the survey and semi structured interviews assisted in seeking elaborations about participants' experiences.

The participants took part in three semi-structured interviews in an office at the regional campus. The duration of the interviews ranged from 30 to 60 minutes, with a gap of approximately two weeks between each set of interviews. The survey data were used as a guide for areas that needed elaboration and clarification. In particular, further clarification and elaboration were sought from statements that the pre-service teacher held strong views, or where they were undecided. Essentially, the first interview discussed the participants' pre-university experiences, approaches to learning and learning to teach, self-efficacy for teaching and dispositions.

In between interviews, the digital recordings were transcribed and I noted any areas requiring further explanation or clarity. Essentially, the clarification section became the 15 minute introduction to the second and third interviews, and was also an opportunity to further confirm my interpretation of the previous interview. In the second and third interviews, pre-service teachers were asked about the professional and

contextual aspects that influenced their learning to teach. The semi-structured interview questions were given to participants prior to interviews two and three (Appendix II).

The second interview involved discussion of the first two years of university, and the third interview involved the last two years of study. Pre-service teachers were encouraged to elaborate on their coursework experience in terms of any memorable elements, both positive and negative. If the pre-service teacher could not remember a particular unit, I moved on to the next unit in their academic transcript. Additionally, pre-service teachers were asked about their practicum experiences.

3.3.3 Artefacts

Artefacts were a further source of data. Pre-service teachers were encouraged to bring any supporting documentation, and six participants shared their recently completed teaching philosophy statements. Artefacts were voluntary, thus some participants chose not to bring any. Others brought lesson plans, study notes or assignments. Pre-service teachers were asked for their rationales for sharing their artefacts and photo-copies were obtained for further analysis. Analysis of artefacts took the form of comparison with and to their interview transcripts.

3.4 Data Analysis

The analysis of qualitative data is often complex because there are many nonstandard ways of analysing data and it is often less clear and more abstract than quantitative research. For this reason, my study selected steps from the research conducted by Tigchelaar et al. (2014), Chi (2009) and Strauss' (1987, cited in Neuman (2011) to arrive at a four step approach to condensing data. Figure 2 represents the stages of data analysis used in this study.

Whilst, this diagram resembles that of grounded theory, I was not using this methodological approach, but I found the process useful in describing how I reduced the data. The first step was to read through transcript quotations and package redundant or

repetitive quotations together. This was where participants repeated a phrase or a sentence, or where they said something in a slightly different way. The most dominant and clear phrase was chosen to represent the similar ideas and these were physically stapled together. For example, at the beginning of the second and third interviews there was a period of clarification and revision between myself and the pre-service teacher about what had been said in interview one and two. This information was more often confirmatory comments that repeated or closely resembled comments made in the earlier interview.

This was followed by open coding, which involved the second pass through the data and further combining of ideas into similar classification. Neuman (2011) indicated that themes can come from the conceptual framework, research questions, concepts in the literature, terminology used by members in the social setting or new thoughts expressed by the data. In this stage of the data analysis, the conceptual framework categories of personal, contextual and professional aspects were used to organize the data. This provided the initial framework for writing up the case studies for presentation to the participants for validation (Appendix IV).

In order to do a systematic cross case analysis data from the case studies, data were reorganized into a matrix. The horizontal axis represented each participant's responses, while the vertical axis represented the elements of the conceptual framework (personal, conceptual and professional aspects). Miles and Huberman (1994) favour the matrix as a task to 'further understand the substance and meaning of your database' (p. 240). They also propose that the matrix can offer a systematic visual method of partitioning data.

Whilst constructing the matrix, I began to notice categories of data that appeared to cluster together in commonality and ranges of difference. This clustering of ideas was likened to Neuman's (2011) axial coding in which raw data were arranged around a

central axial code described by the researcher. However, sometimes the data could be arranged in a more linear continuum format such as a structured overview. In order to ensure data were not ‘lost’ during this process of combining, dividing and reorganizing, data were transferred to sticky note paper which permitted cross checking in a number of ways. Firstly, it helped determine which data were important and relevant to the research questions and which data were irrelevant or in an unique classification. Secondly, it highlighted the range of differences.

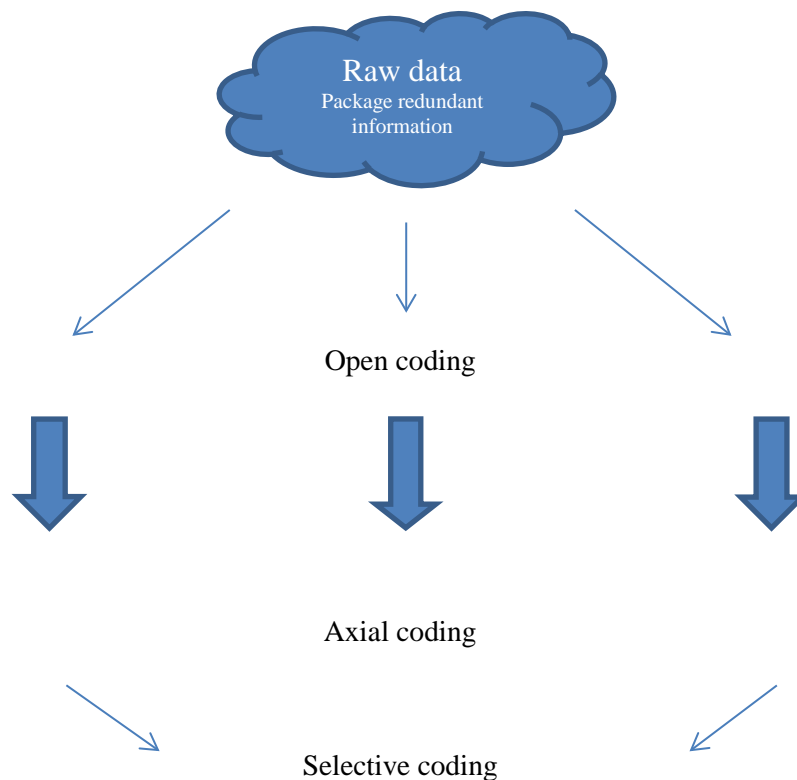


Figure 2. How data were analysed (adapted from Neuman, 2011).

Neuman (2011) proposed a five step method to avoid having a purely mechanical approach to coding; staying too descriptive rather than analytical; and keeping codes fixed and inflexible. The first step is to label the code with a one to three word description. This is followed by a definition of the main characteristic of the code. Step three is to devise a ‘flag’ for recognizing the code in the data. The next step is to describe any qualifications or exclusions. The final step is to give examples from the

data. Applying the five steps to my categories stabilized the data and resulted in authentic sub-categories of influences on learning to teach.

The last stage of data reduction was to colour code the sub-categories and return to the original transcripts in order to check that the sub-categories were represented in the pre-service teachers' experience of learning to teach and that important information had not been inadvertently left out or missed. This data analysis methodology was similar to Neuman's selective coding whereby the researcher does a final pass through the original data (interview transcripts) looking selectively for data that fits or not. Following this cross check, the categories were renamed as themes and the sub-categories were renamed as elements.

3.5 Credibility, Dependability, Ethical and Generalizability

Considerations

Credibility relates to the truthfulness of the data and its analysis. Bogdan and Biklen (2007) proposed that some qualitative researchers are more interested in 'deriving universal statements of social processes than statements of commonality' (p. 36). Thus, the aim of my study was to describe what pre-service teachers report about learning to teach with the intention of describing the phenomena for others to see if their settings or subjects are similar. In this study, pre-service teachers volunteered for three interviews, so it was recognised that the volunteers may have had a greater desire than the non-volunteers to share their thoughts, or stronger opinions about learning to teach, than those who did not volunteer. Even if the participants were the stronger and more opinionated pre-service teachers, my study sought to report on what pre-service teachers said about learning to teach, which included their reflections, perceptions and opinions. The interviews were based on the pre-service teachers' recent learning experiences, so it reflected their personal, contextual and professional aspects at the formative stage. To ensure the data were credible, I used multiple data collection methods including

surveys, interviews, artefacts, and transcripts. Data analysis involved four stages of data reduction involving a matrix, categorization, sub-categories and selective coding by revisiting the original transcripts.

According to Yin (2003), data reliability in qualitative studies such as case study research is often equated with the notion of dependability. Dependability is the degree to which the behaviours reported in a study would be replicated in another study. However, in qualitative research the concern lies with the accuracy and comprehensiveness of the data to report on what actually happens in the real world (Bogdan & Biklen, 2007). The main purpose of this investigation was to describe the phenomena of learning to teach through the eyes of the pre-service teachers which may or may not have applications to other teacher education or adult learning contexts.

Qualitative research inevitably carries ethical considerations because it involves collecting data from people, and about people. Researchers have ethical responsibilities to their participants. Silverman (2006) advocated for ethical safeguards to ensure people participating in the research did so on a voluntary basis; were not harmed by participating; information and comments were kept confidential; and the research was conducted in mutual trust. Ethical guidelines therefore include informed consent and ethically responsible research practices. In my study, informed consent included pre-service teachers being well informed about the nature of the study, its purpose and possible dissemination of the research. The nature of what was involved for the participants was explained and they could ask questions about the study. Participants were also given a hard copy letter explaining the study (Appendix III). Participation was voluntary and participants could withdraw at any point. Two pre-service teachers did exercise the right to withdraw: one because of a change in marital status, and the other for workload reasons and their incomplete interviews were not used as the participants did not have a case study to give consent to. Participants were assured that their data

would be protected by anonymity and confidentiality with pseudonyms and removal of any context or family names to protect their identities. Participants signed a form for consent to be digitally recorded and for their transcripts to be used (Appendix III). Participants could request not to be digitally recorded. The research presented in this study was undertaken in accordance with the requirements of the university's Human Research Ethics' Committee (HREC) and the study was deemed to be of low risk for participants (Project code: 2691).

Ethically responsible research practices refers to the three stages of research namely; framing the research question; analysing the data; and data storage (Silverman, 2006). The question of what to research and how was based on a personal need to understand what pre-service teachers learnt about teaching in their formal learning to teach experience in order to shed some light on how the experience could be enhanced or impeded. The decision to provide questions before the interview was deliberate because I wanted the pre-service teachers to have prior knowledge of the questions and some personal thinking time without my presence. I was well known to the participants due to being in a regional campus and the relatively small cohort compared to the metropolitan campus. Whilst this familiarity may have meant the participants were more vulnerable to disclose more personal information than if they had not known me, most of the participants commented on the interview experience as a 'debriefing' and a rather pleasant experience that made them realise how much they had learnt and covered over the four years.

Data analysis revealed a range of experiences and all participants' case studies were used because of their slightly different experiences. All participants read and checked their personal case study narrative with very few additions and deletions requested. Participants were also given an electronic copy of their case study to keep and I offered to summarise their case study into a reference format if the participants so

wished. None of the participants took up this offer, but there were several comments made about how well I had captured their experiences. At all times, I was respectful of their recalling of their experience, being careful not to judge whilst at the same time recognising critical events. The participants engaged in honest and constructive dialogue with me.

During data analysis, I kept an audit trail to trace the research process. In addition, there were many regular opportunities to discuss my decisions with both of my supervisors. Silverman (2006) advocate for research studies to ‘deal even-handedly with people whose lives and experiences you describe’ (p. 327). This was more often achieved by data being placed on sticky note paper during cross case analysis, thus rendering it more factual than personally identified.

Data were stored electronically and in a hard copy. The hard copies were in separate files for each case (numerically identified) and stored in a locked filing cabinet in a secured office on the university campus. Electronic copies of interviews were stored on CDs. Data from the CD was transcribed and the transcribed information was stored on a computer with password security. After confirmation of the study, hard copies of the data will be shredded and electronic CD will be destroyed in accordance with the HREC requirements.

Generalizability in qualitative studies, such as case study research, is not usually an objective of the research. However, it is the researcher’s responsibility to provide sufficiently rich data so that readers can make comparisons and judgements about the degree to which the researcher’s findings are credible and plausible. I endeavoured to make the forthcoming case studies rich descriptions from seven individual’s perspectives. Following the descriptions, I make a cross-case analyses and comparisons with the literature. The cross-case analysis is used to draw my conclusions about the research questions.

3.6 Limitations of the Methodology

In carrying out this research, a number of limitations were evident and therefore the following recommendations are proposed for further research in this area. First, my study was limited by its participant sample. In particular, the number of pre-service teachers in the study was small. The regional nature of the study may have limitations in the form of similar geographical and socioeconomic participants. Given that my study found that learning to teach was idiosyncratic and its purpose was to identify what pre-service teachers reported they had learnt about teaching, where, when and how, the sample represents seven pre-service teachers' voices. There was also a lack of gender and ethnic diversity within the sample because all participants were female, white, monolingual and Anglo-Celtic. There are gender and ethnicity issues associated with teaching that were recognised in the literature (Baxter Magolda, 1992; Drudy et al., 2005; Wylie, 2000; Kumar & Hamer, 2012; Decastro-Ambrossetti & Cho, 2011) and these are important 'voices' to be heard. Future research should look to increase the sample to include pre-service teachers from a range of gender and ethnic backgrounds.

Second, pre-service teachers' participation was voluntary and as such the participants self-selected, which may mean they had more to say about learning to teach or they felt strongly about their 'voice' being heard. Either way, my study aimed to specifically hear pre-service teachers' voices in whatever frame or perspective they represented. Future research might consider the extent to which the perspectives found in my study were similar or different. The main point here is the significance of any pre-service teacher's voice contributing to knowledge about who, what, where, when and how of this learning to teach experience.

Third, being in the final years of coursework and nearing completion of their initial formal learning to teach experience, the pre-service teachers may have been influenced by feelings of relief and also feeling thankful for their experience. It might

be more pertinent for future research to consider more longitudinal studies from the first year experience with an annual interview about what they learnt or have taken from their university experience.

Fourth, the pre-service teachers in my study talked about their initial learning to teach experience and their teaching and learning styles. It would also be beneficial to observe them in a teaching role, although this would also be influenced by the class, school and mentor. Enacted teaching would allow researchers to seek rationales for lesson sequence and decision making as well as spontaneous responses to events within the lesson.

Finally, 'feeling' ready to teach and 'being' ready to teach are quite different. 'Feeling' ready implies graduates are at 'saturation' point in terms of learning about teaching and the fourth year was seen as the right time to 'spread their wings'. However, 'being' ready indicates being open-minded about the idealistic and realistic world of teaching. It may be unrealistic to believe you can be totally prepared for schools and classrooms because they are by nature ill-defined, dynamic and idiosyncratic places. For this reason, it would be highly beneficial to follow pre-service teachers through into the first few years of teaching. Thus, reporting the influence of the school context on learning to teach and the sustainability of the constructivist and inclusivity approach to teaching evident in this study.

Chapter 4: Case Studies

To make sense of the rich data, the case studies were organised according to a biographical narrative, commencing with an account of the pre-service' lives before university, and the personal aspects they brought to teaching. This was followed by details of their experiences during their studies, and what they remembered as significant or insignificant, and why. Finally, the pre-service teachers depicted themselves as teachers, according to what knowledge and skills they believed they had learnt about teaching and their readiness for teaching. Hence, the framework for this biographical narrative describes the personal, contextual and professional aspects for each case followed by a summary that concludes with the extent to which the aspects influence learning to teach.

4.1 Case Study One: Annie

Annie was a female pre-service teacher in her final year of study in a Bachelor of Education (primary to middle years) course at a regional campus. She was 40 years old, married with one child and of Australian descent. Her parents were both professionally qualified, with degrees.

4.1.1 Personal aspects.

Annie went to primary school in the early 1970s in rural Western Australia. She recalled having 'really good' primary school teachers, most of whom inspired her to learn. She remembered one male upper primary teacher in particular. In his class, Annie recalled participating in group work, being able to be creative in her presentation of news and inventing 'tall' stories. This teacher also had high expectations of his students, and as a result he motivated and inspired Annie.

For her secondary education, Annie boarded at a metropolitan, high-fee paying girls' school. She enjoyed years 8 to 10, and was successful both academically and

socially. However, when Annie began studies towards her Tertiary Admissions Exam (TAE) she was not as successful. She attributed the diminished success in the TAE to a transmission model of teaching and a lack of support, inspiration and clear goals. She felt she was not academically focussed or inspired. However, socially, she was very involved in school, being a Rotary exchange student, sports captain, school and boarders' prefect and she managed to gain entrance to tertiary studies.

After secondary school, Annie commenced but did not complete an accounting degree. She returned to her rural home and worked locally in a variety of positions then moved into the mining industry but after several years became bored and disillusioned with the work and enrolled in a Bachelor of Business. This study continued for two years until she married and discontinued her studies in order to manage a franchise and then a farm. She currently resides on a 40 hectare mixed sheep and cattle farm. In the first six months of her move to the farm, Annie decided to enter teacher education.

Annie chose teaching because she wanted a career that would be stimulating to her personally as she loved learning and considered learning a necessary life skill. She also wanted a career that would fit in with child rearing and family:

So I wanted something to stimulate me because my brain was feeling as though it was dying and I also wanted a job that fitted in with family and then also the belief that could I actually be a good teacher? Of course now I've gone through the process of four years of study and I actually realised from a different angle how to be a good teacher. I still think I can be a good teacher but I have a different thought about why and how I can be a good teacher. [T2:6.10]

Additionally, Annie cited a growing passion for making a difference for students, given her own education experience. Annie wanted to create positive learning experiences for her students. She found her most recent university experience to be engaging, and she attributed this to a constructivist teaching style. She believed this style of teaching would empower students, particularly those at risk:

I was a good student and I lost my way because I wasn't inspired and it wasn't that I wasn't intelligent, it was the fact that I wasn't inspired, and I believe there

are a lot of kids out there that lost their way for whatever reason, and I believe I can make a difference to those students because I lost my way and it took too long to get back on the road. [T1:50.00]

Finally, Annie was drawn to teaching because of the satisfaction of helping students understand something they were struggling with:

When kids go 'ohhhh'...That moment when a kid says, 'Oh now I understand'. They understand what you've been trying to say. To me that is so joyful because what you were trying to achieve they have actually grasped and that's your job as a teacher. You're trying to get them to understand something. [T1:49.49]

Annie described herself as a 'distinction student' in her current university course, and this was confirmed by her academic transcript. She attributed her results to working hard, having high personal goals and being highly motivated. She described her personal strengths as being a goal setter, organised, hardworking, diligent and having a nurturing and easy-going personality. She acknowledged that her personal standards and work ethic sometimes caused her frustration when these were not shared by others. She also described herself as perceptive, reflective and an advocate for children. Her academic strengths included logical mathematical thinking and scientific knowledge and interest.

Annie believed effective teachers were effective people, having qualities and skills such as being a good listener, perceptive, dedicated, risk taking, organised and flexible. She was unsure whether her skills were suited to teaching, and she felt she did not know everything and that it was important for students to understand that. She indicated her biggest challenges in teaching would be dealing with parents and meeting students' needs. This perspective emerged from her experiences as a parent rather than from practical experiences at university and schools:

Parents would be a big challenge because they are so opinionated about their child but they don't see how their child behaves in a different set of four walls. They get quite defensive because of their own inadequacies and they tend to take it out on the teacher. It is always the teacher's fault but it's not because we are

there to teach the kids, we are not there to raise them and that's the big difference and parents forget that. [T1:54.14]

Annie's epistemological beliefs were usually sophisticated and relative constructivist nature. She believed that knowledge was jointly constructed from the facts being presented and the learner's beliefs, values and experiences:

Studying is a process of the mind and you do look at some facts, but studying is drawing conclusions, it's making value judgements. It's using your prior knowledge to make assumptions about what it is saying. Someone might present a fact but that's not telling you have to believe that fact. You actually might disagree with it for whatever reason or find conflicting evidence. [T2:6.26]

Annie also approached learning from an experiential perspective, arguing that learning was an active process involving engagement, interaction and negotiation. Experiential factors involved sensory experiences, interactions with others, and active engagement with materials or resources:

It is a developmental process. It comes from your interaction from other people, books, what you hear, what's audible, what you taste, so it can be from all your senses I think, and all your experiences, and also the application to wanting to learn something because you can't gain knowledge if you don't want to learn something. [T1:30.31]

I believe you learn through experiences and involvement in something. I believe knowledge is gained but you have to do something. So I learnt through experience and involvement and gaining my own knowledge. So it was trial and error. Also, I asked other people and I was making connections with other things that I had learnt from other areas and hooking them in to that, and so I think it was a combination of experience and involvement. [T1:24.08]

Annie believed knowledge came from both external and internal sources. She believed the external source was often the teacher who could have a significant effect on what was learnt. Annie was steadfast that it was the teacher's responsibility to challenge and inspire students to reach their potential. She described internal factors as being related to motivation, independence, practice and application. She felt learners could have a positive effect on their ability by being motivated and putting in the effort. Annie

attributed her high work ethic to her belief that effort and persistence contributed to successful outcomes:

Learning has huge amounts to do with motivation. Some people are born with tremendous ability but unless they want to learn something they won't. They can because they are smart and they can pick things up quickly, but a deep understanding comes from the motivation to learn...and it's our responsibility as teachers to motivate them in such a way that they will be inspired to continue on. [T1: 31.44]

Annie believed knowledge was tentative and changing. She commented on the changing nature of scientific theory, personal experiences and practices as examples of how knowledge was evolving and growing. However, she did claim that some knowledge was fixed, such as scientific procedures. Annie also held the view that learning took time and was developmental. Her elaborations indicated that learners have to connect new information with their own views and experiences in analytical and critical ways:

It's definitely not quick because what happens when I'm learning, I regurgitate, I mull over, I reinvestigate and reconnect all my wires in my head, thinking about what I have learnt and how that connects with something else and it's really an ongoing process. [T1: 29.50]

4.1.2 Contextual aspects.

Annie was completing a degree course that allowed her to teach in years 1 to 10. She was required to select two major study areas, choosing mathematics and science because of her personal interest and strengths in the areas. Annie also chose to take an extra unit in English because this became an interest area for her, and she choose two units specifically targeting 'middle years' philosophy, because she was particularly interested in the adolescent phase of development.

Annie began her coursework with no particular expectations about how she was going to learn to teach, and did not think the university had a particular role to play. However, she saw her student role as similar to being employed, and as such, she would

do what she was told to do to the best of her ability. She was surprised by an expectation of collaboration and engagement with content, problems and resources.

At this final stage of her degree, reflecting on her university experience, Annie described it as following a constructivist model of teaching, repeated in a number of units. She saw the lecturer's role as observing pre-service teachers as they participated in learning activities, and then to scaffold learning to match the individual and collective needs through inquiry approaches. Annie felt that her learning depended on the interaction with others, both in and out of class time. The constructivist and collaborative learning style suited Annie, and by her final year she had made links between her learning and teaching style, based on what she had experienced. She continually reflected on her current university experience as positive and challenging:

So how did I learn to teach? I've been inspired to teach by a couple of my lecturers, and I think they have taught me to connect with the learning much better by the way they teach, and I've then compared that to how I've learnt at school and why I dropped out. At university I am receiving a contrasting teaching style, which was a constructivist way, and I actually connected really well with that and I actually learnt and I thought, hey, I am enjoying this learning experience. So I learnt to teach in a particular way from what I experienced at uni. I learnt to teach by going on pracs and trying out things and seeing if they did or didn't work and how can I tweak it so that it works.
[T1:33.48]

In the three interviews, Annie consistently made comparisons between her previous university experiences and the less favoured units in her current degree. Her criticism centred on the transmission and behaviourist style of teaching, which reinforced a teaching style that Annie regarded as ineffective, that she would not want to emulate. She explained that this type of learning was characterised by the lecturer controlling the dissemination of information allowing little to no interaction from the pre-service teacher:

It was pages of PowerPoints. It was talk and chalk type style teaching. It was an interesting subject, but if you are not interested in the subject the learning was just boring. It was just learning and then forget it after the exam. Something like that really highlights that that is not the way I want to teach and yet it is

probably the way we revert back to from time to time because that is the way we were taught at school. I have got to keep that in check, that I don't do that.[T3:34.14]

In the didactic style classes, Annie found concentration difficult to sustain, and she was uninspired, influencing her motivation. There was often an exam requiring recall and regurgitation of facts, which she felt was a narrow perspective on the topic. Annie was critical of exams in general, believing they were not indicative of what a person had learnt and knew, so she felt exams did not encourage deep learning.

Annie also cited the first year of her Bachelor of Education experience as significant because of the small size of her university classes. She was with the same group of people for most of her first year units. She cited the small cohort as being particularly important to her return to university, and being able to get to know 20 people intimately, which would not have been the case in a larger cohort.

In that first year I loved being aligned to a small group at the start. We tended to be in our own unit for the first year and then we integrated into second year and I loved warming to people within that group. I liked that. In reflection, it probably would have been hard for me if that hadn't happened. We worked together in the classes and we tended to be in the same classes as we went around, and I actually like that because you got to know 20 people reasonably well, rather than knowing 60 people partially well, and that intimacy was better as 'going back to uni' and being a mature-aged learner. [T2:16.25]

Another significant feature of her university course involved the use of games and practical tasks to promote a social and creative learning climate. Annie quickly realised how important these activities were to students' concentration, and how they could recharge motivation when content was heavy. She felt that the games provided realistic opportunities for students to work cooperatively and solve problems and dilemmas while learning about persistence, challenges and overcoming difficulties. Finally, these activities affirmed her need for students to know the purpose and realistic

context for learning, plus they offered a degree of flexibility and negotiation, which Annie felt recognised prior knowledge and different learning styles.

Being somewhat analytical and scientific by nature, Annie particularly related to content represented in diagrammatic frameworks. Annie liked mind maps, tables, matrices and charts. She used these frameworks to assess students, plan learning activities, reflect, analyse, classify and solve problems. Annie felt frameworks and diagrammatic representations of content helped her organise thinking into simple, memorable steps that could be generalised and applied to a variety of contexts and subjects. She felt these frameworks would also help her students see connections between concepts and ideas.

Annie described assignments as empowering experiences that helped her learn to teach. Assignments usually meant autonomous experiences of research and inquiry. However, Annie was less concerned about her marks, focussing more on making connections between the learning outcomes and the skills and knowledge she needed for teaching. Annie enjoyed thinking reflectively about topics and concepts:

Assignments are significant in that we need to get a mark in order to pass university, but I found the assessment here very good because they were actually assessing learning outcomes that we need to be able to teach. So, I have actually found the assessment quite empowering and very effective in helping me to learn how to teach. They actually taught me to be reflective, and that was the whole purpose. We needed to reflect and look at other people's value systems. That was very powerful in helping me to become a teacher. A very powerful tool is being able to reflect. [T2:46.46]

Annie completed her practicum in a range of contexts and age groups. She discovered early childhood was not her preferred year level. She also experienced a multi-age classroom, where she was particularly impressed with her mentor teacher's ability to differentiate instruction for the range of ability groups.

Annie described one of her mentor teachers as 'brilliant', with a 'constructivist' approach to teaching. Annie felt she aligned with this teacher's philosophy of teaching

because it was a similar style of teaching to her current university experience. The class carried out many hands-on, practical activities, so the students were connected and engaged. The teacher was very well organised and differentiated instruction for many of her students. Annie also liked the ‘homely’ feel of the class, which she attributed to the teaching strategies and constructivist approach to teaching.

Annie also experienced a failed practicum, and described two effects of failing a practicum. First, she believed she was failed on a ‘technicality’ (lesson plans), and in hindsight, she believed she had not been ready for that teaching experience. As a result of the technicality, she pursued practicum requirements with rigorous attention to detail and empirical evidence to ensure she did not fail another. Second, through the experience of failing, she became particularly mindful of how she mentored future pre-service teachers. She aimed to be fair, honest and supportive.

4.1.3 Professional aspects.

Annie indicated that initially, she did not know a great deal about teaching, but felt she could be a good teacher because of her personal strengths and life experiences. However, her understanding of how to be a teacher had grown and changed. Annie’s current concept of teaching appeared to be reciprocal, in terms of the relationship between the teacher and the learner. She believed the teacher’s role was to facilitate learning, using a problem solving approach that activated prior knowledge, curiosity and motivation for learning. Annie also ascertained that the teacher needed to know her learners, and use their interests to build and connect with new knowledge. However, she also felt that learners needed to play an active role to be motivated, open to new ideas and willing to engage:

I tend to provoke the development of ideas and concepts in the student’s head rather than dish it out on a plate. I would rather they figure out how an equation works or how an equation came to be rather than saying the equation is blah blah. The role of the teacher is to connect with that learner’s interests. So, the teacher has to find out about the child: What stimulates and provokes them, in

order to provide some inspirational means for that learner to connect with and learn. [T1:13.47]

In terms of her professional aspects, Annie was highly confident about assessment and monitoring. She believed she had a solid understanding of the concepts of developmental learning, outcomes and standards, and a perceptive ability to position students in terms of their level of knowledge and skills. In her final interview, Annie attributed her ability to assess and evaluate students to her experiences at university, but also recognised that she had an aptitude for judging students' levels of attainment:

There are a couple of things I have come out with that I feel I am good at, and one of those things is assessment and evaluations. I think that is probably partly because of the progress map development that we did, and looking at what is at each level, and I think that is why I am good at assessment and evaluation. Also, I think there is something intrinsic there or something natural [so] that I am able to say this person is able to do this and that. [T3:1.28.30]

Annie's view of assessment and evaluation was that it was both a progressive and ongoing concept. Annie understood there had to be times for accountability, which may not necessarily be suited to students' readiness. However, she believed that when assessment/evaluation is viewed as the opportunity to set meaningful and achievable goals at an individual level, it is constructive and productive. In this regard, Annie was inclined to use types of assessment that were less formal and more flexible, such as portfolios, application of a framework to an individual project/inquiry, mind mapping, reflections and observations against a checklist or rubric.

Annie's understanding of pedagogy was that it was about teaching styles and strategies. She was usually confident in her pedagogy, attributing her confidence to the time and effort she put into planning and making decisions about teaching. She believed that teachers influenced learning by being either inspirational or boring. She aligned her personal philosophy with constructivism, metacognition, inclusivity (multiple intelligences and learning styles) and developmental learner-centred practices.

Annie was very metacognitive about her own learning, and believed this had translated into her teaching style. For example, she strongly believed that the learner played a significant part in the learning process, but the teacher had to inspire the learner to want to learn. She also believed that the learner's background knowledge was an important starting point for teachers. For Annie, this included learners' personal characteristics, such as age, phase, interests, skills and abilities, learning styles and disposition to learning. She believed this knowledge would guide decisions about how to select and present content, which would also provide purpose and relevance.

In explaining her approach to teaching her specialist subject matter, Annie asserted that topics and concepts needed to have a real life purpose and a meaningful context for learners. In planning for her specialist subject areas, she used mind mapping to integrate with other subject areas:

This was another mind map I did on this subject...I now do this as part of the course, which we learnt in one of the units and I just find myself doing them. In fact, I did a mind map in the exam, as my notes, which means that's a process that I have hooked onto and developed as part of a strategy for my own learning, and that will help me as a teacher because if I can mind map something it will help me to plan lessons, but it is something that started off small and it was one of those concepts that I've have built on. [T3:1.12.50]

Annie also acknowledged a change in her planning, from a very teacher-centred approach to a more student-centred one:

I looked at my lesson plans in that subject and I have compared them with now, and I have obviously learnt something, because they were appalling, very basic and very shallow. It was really interesting to look back. It was all about what the teacher was doing, whereas now it is all about the way the student is thinking. [T3:18.50]

Annie was methodical and strategic in planning lessons and learning experiences:

This [mind map] covers all the content without looking at a textbook because this actually explores the topic, and you can decide you want for your kids. Often looking in a textbook and deciding what I want for my kids is actually

hard. This [mind map] actually puts it on one page as a picture and you can draw in resources to match what is on your page, and you're teaching the kids what they need to learn, not what you are being told. This is a different way of looking at it, and it is more personal for your learners and it means you are not teaching the same stuff every year. [T3:1.19.35]

She felt that it was important to have an introduction to a lesson that stimulated interest. She liked using cooperative learning strategies and problem solving activities to keep students involved and engaged.

Annie rated herself as marginally confident in her knowledge of her learners. She consistently mentioned the need to get to know her students by experimenting with different types of activities, to discover individual personalities and class dynamics. She acknowledged that she would have a variety of learners, and as such, she would need to differentiate instruction:

I know about the social/emotional, physical, cognitive, language and creative domains of learning. So my knowledge of learners is going to come as I have a class and move them around and immerse them in different activities, so that I get to know how they work as individuals, as a group and as a whole class and as that develops I'll be able to teach them well. [T1:59.38]

Annie rated herself as marginally confident in her professional relationships, attributing this to her personality and past employment. She regarded herself as 'an easy-going' person who got along with most people. However, she did indicate that the high personal and professional standards she set for herself were not always shared by others, and she found this frustrating. She also felt that this might affect her relationships with other teachers, and she acknowledged the need to be diplomatic. As indicated earlier, she was anticipating some issues with parents, but she also recognised that it was critical not to be judgemental. Additionally, she was anxious about conflict and criticism because she had a disposition for hard work and was an advocate for students.

Although Annie was not confident in her rating of her KLA knowledge, she explained that this was based on her limited experiences in teaching science:

I guess I'm not confident because I haven't really taught science and don't know how much I know. I feel that I don't know enough because I don't know everything and I know I'll never know everything and I'm not an Einstein and so I feel my content knowledge will be weak. But it may not be, that might just be my perception—I don't know yet. [T1:1.03.00]

She acknowledged that her content knowledge had developed from learning at secondary school, past and present university experiences. Annie talked frequently about 'deep levels of learning', referring to conceptual understanding rather than formula or procedure learning:

I actually learnt how much I didn't know in this subject. Chance and data, I thought I was pretty good at the graphing and data analysis, but when it comes to things like what are the odds of getting these numbers and the maths behind working it out, I never did anything like the patterning and all the basics for algebra. But it was the way I was taught. I was taught this is the formula and you need to learn it this way. However, here at uni, this is the understanding, that's when the lights go on. [T3: 25.12]

Similar to key content knowledge, Annie lacked confidence in her professional ethical practice. The comments made during the first interview implied that she was unsure about what she did not know about ethics. She knew that there must be policy documents, and that the various education systems were likely to have some regulations. On her survey, she wrote 'I will need to address this area over the next six months'. In the interview she claimed she felt confident that she would achieve this, because it would be needs based.

Annie was unsure about her future in teaching. At times she saw herself in a position of responsibility, such as a specialist teacher, and at other times she simply wanted to be a generalist teacher and affect students' lives. She indicated her future in teaching would depend on how she was supported as a new teacher, and if the department she was placed in worked as a team.

4.1.4 Summary of aspects that influenced Annie's induction into teaching.

Annie made the decision to teach as a career changing event, at a point in her life when she needed a job that fitted with child rearing and was intellectually satisfying. This need for an intellectual challenge reverberated through her secondary schooling, previous studies and employment as she loved learning. It became her rationale for teaching because she empathised with students who had 'lost their way' and lacked motivation, inspiration and direction, and this was how she was going to make a difference and pass on a love of learning.

Annie's approach to learning to teach was analytical and scholarly. However, she was also an advocate for students, largely as a result of her school experiences and empathy for students. She was expecting to be successful and to work hard. She had a predisposition for logical thinking and a particular interest in science and mathematics. Additionally, she set and achieved goals and she believed success was achieved through effort and knowledge of outcomes. Her epistemological beliefs were usually sophisticated, in that she believed the knowledge was attained by making connections between concepts and ideas that could be sourced eclectically. She also believed knowledge needed to be internalised by the learner, and as such, it developed over time and with effort, motivation and familiarity. She was also metacognitive about her own learning experiences, and approached learning as a persistent and orderly process.

Annie conceded that her initial understanding of teaching was limited and based on her student experiences. Her understanding of teaching had changed significantly as a result of her Bachelor of Education course, and discovery of her preferred learning style. She realised how different her current learning experiences were compared to her experiences at secondary school and the two incomplete university experiences. Supplementing this realisation was her enjoyment of learning to teach. Her learning style was characterised by being an active participant in the co-construction of

knowledge, taking into consideration her life experiences and world views. Learning also involved collaboration and interaction with others, and the teacher facilitated learning by encouraging her to question, challenge, formulate her own ideas, opinions and conclusions, but there was also time for autonomous learning in the form of assignments. For Annie, the process of learning was internal and involved deep understandings that endured past the classes themselves. She was inspired by her university lecturers, and she had experienced a mentor teacher with a similar teaching philosophy and style. Annie was adamant that she did not learn to teach from a failed practicum, exams or transmission and didactic learning experiences, all of which she experienced in her Bachelor of Education course.

From her personal experience of learning in different contexts and styles, Annie concluded that younger learners would also need similar constructivist learning conditions. That is, students needed to see relevance, purpose and be stimulated to inquire and be involved in social learning interactions. The constructivist style translated into her current teaching style, which was to engage students through investigation, provocation, collaborative/cooperative learning interactions and self-discovery. The style was then trialled, evaluated and refined while on practicum.

Professionally, Annie has a high level of confidence in assessment and monitoring as attested by her rating and personal commentary. This thread was common throughout her interviews, in which she was metacognitive and self-regulatory about her own thinking and learning, and set goals for herself. This was applied to her awareness of her students' knowledge, skills, interests and outcomes in planning learning experiences. She had learnt that the learner's needs and interests were at the centre of teaching, and they not only informed her teaching but assisted in setting goals for her students to work towards. This sense of joint responsibility for the co-construction of knowledge and skills has been reinforced in her teaching practice.

Annie was ready to teach and consolidate her hypothesis about how students learn. She preferred teaching older students. At this point she had a perception that she might not have enough KLA knowledge and understanding about ethics, but proposed these would become more evident during her final practicum, and if the perception prevailed, she would address this with the same gusto and strategic action that she afforded her other professional aspects.

Thus, for Annie, the learning to teach experience was a combination of personal, contextual and professional aspects that were interwoven and integrated, similar to a kaleidoscope. The university experience was quite profound for Annie. It was the realisation that teaching was not about transmission of knowledge, something she had experienced at school and in other university courses, but rather the construction of knowledge with the learner. This realisation came directly from her success and enjoyment of learning at university, and her experience reinforced a concept and vision of teaching that aligned with constructivism, which she wanted to emulate in her own teaching. Annie was conscious that the learning to teach journey had only just begun and she was expecting to continue learning about teaching by monitoring and reflecting on her teaching and her students' achievements of desired outcomes.

4.2 Case Study Two: Lulu.

Lulu was a female pre-service teacher in her final year of study in a Bachelor of Education (primary to middle years) course at the same regional campus. She was in the 36 to 40 year age group, married with one child and of Australian descent. Her father worked in a trade and her mother worked in retail, cleaning and manual work.

4.2.1 Personal aspects.

Lulu went to primary school in the mid-1970s to early 1980s in a regional north-western town of Western Australia. She recalls more about her primary school teachers than her secondary teachers. Lulu also spent most of her secondary schooling (years 8 to 10) in the North West. However, at the end of year 10 the family moved to Perth. She commenced year 11 in Perth, but shortly after they moved to the South West of the state for 12 months, returning to Perth during the last semester of year 12. Lulu felt she did not settle back into school in Perth. She completed year 12 but did not do well enough to enter university. She attributed this to a combination of changed residency, social identity and an indifferent attitude towards the TEE. Lulu knew that when the time and place were right, she would apply herself and be successful:

I knew by the time I started year 12 that I wasn't going to have enough to get into uni. But it didn't worry me because I knew I could just explore what other options there were. I knew that eventually I could get there if I wanted to. I really didn't enjoy the last six months of year 12. [T1:07.02]

After secondary school, Lulu commenced a secretarial course and sat a public servants' entrance test. Three months into her secretarial course she was offered a youth traineeship in the public service so she commenced work as a public servant and completed her secretarial course as a requirement for traineeship. Additionally, a traineeship requirement was to work in various departments, and as a result she gained a good understanding of how each government department worked and, more importantly, the opportunities that were available. After the traineeship she was offered

a permanent position at level 1 and remained a public servant for 15 years, climbing the corporate ladder to her final position as executive level one in the national office.

Lulu indicated that she had wanted to be a teacher or involved in education since year 12, but the timing and circumstances had not been right. She recalled that during her time in government she took opportunities to be involved in the student education unit, in which she would visit schools to explain legislature. She often found herself drawn towards education issues in her work, which strengthened her belief that she would become involved in education. A combination of personal circumstances created the opportunity to pursue her dream of becoming a teacher.

Lulu's attraction to teaching was attributed to inspiration from her primary school teachers and concern for the adolescent phase of development. In particular, her year 4 teacher was inspiring because of his relationship with the class, his creative and memorable lessons relevant to real life and culture, and school camping trips and excursions. Lulu still vividly recalled lessons with this and another primary school teacher, and in particular the values they instilled. She was inspired to emulate them and make a difference to her students. She has used lesson ideas from these teachers in both her government and practicum experiences. Her second special teacher was inspirational for his interpersonal rather than teaching skills:

As an adult I have looked back at those two particular teachers and thought. If I am remembering so much of what they taught us and if I have pulled on board so many of the values they taught me, then I can do that. I could be a teacher that a student one day says as an adult 'I remember that teacher and she was great'. That's what I wanted to emulate, what they did for me. [T1:32.04]

Lulu had a deep concern for the adolescent phase of child development and the pressure on students to conform. She attributed this concern to her own disjointed upper secondary school experience, and her life experiences that recognised an alternative pathway to success outside of traditional time constraints:

I think that came from my experience of finishing year 12. It was very disjointed, but everyone was so focussed on their TEE score and if they didn't get into uni then their life would be over, and I made the decision not to look at it that way. I just thought 'something will happen'. I guess I am kind of optimistic in that regard. [T1:33.8]

She felt young adolescents were at a point in their development when they needed to discover themselves and their strengths in order to be resilient and contribute to society. In particular, she wanted to empower students to learn for themselves and to apply themselves in order to reach their potential outside of school. She also indicated that education was not simply the responsibility of the teacher or school but a community responsibility.

Lulu did not regard herself as 'super smart', and had surprised herself with how well she had done at university. While she attributed her high distinctions to her ability to apply herself, she also acknowledged a strong sense of obligation and responsibility to do well because both she and her husband had given up well paid and respected employment so she could pursue teaching:

I gave up my career to do this and my husband gave up his job so that we could come back here because we knew that we had family based close by and it would be much easier. He is in a much lower paid job than he was in the major city with no job prospects, and we've done all that so that I could pursue this. So I think I owe it to a lot of people to do well. [T.1:15.40]

Lulu described her personal strengths as common sense, forthrightness, good interpersonal skills (especially listening), varied life experiences and being flexible in thinking and planning. She was not easily perturbed by events and outcomes, but rather systematically went about solving and meeting the requirements of tasks and expecting further review and refinement. She imposed a rigorous weekly study schedule on herself for the duration of her course. She credits her previous workplace for the development of these skills, because she had to work in a variety of departments, roles, projects,

places and people. Lulu regards these skills and traits as being a significant advantage in learning to teach.

Lulu believed effective teachers possessed flexibility, strong interpersonal skills and an educative focus that included providing valuable feedback that students could use to achieve success and demonstrate improvement. She named administrative issues such as budgets, salary and dealing with inflexible teachers as her greatest challenges. In dealing with inflexible teachers, Lulu was surprised to find some teachers pragmatic to change, and pre-service teachers unwilling to challenge. She preferred to try something different, evaluate and make amendments to resolve. She was optimistic about progress and change, and believed in action, responsibility and modification.

Lulu approached learning to teach with very sophisticated epistemological beliefs, which also reflected her learning style. She believed that knowledge involved negotiation by the learner between their knowledge about the world and how that connected with new ideas being presented. She described being immersed in content and active engagement with it, so that the new knowledge could be used or applied. She attributed these skills to previous employment experiences, in which addressing the criteria was paramount. Other factors included collaborating with her colleagues, using previous experiences, research and reasoning skills. Lulu also acknowledged that sources of knowledge could be different for different people. She implied that valuable knowledge was ascertained by the learner, their motives and purpose for needing the information. As such, she stated that there were eclectic sources of knowledge at any one time:

I hit a brick wall. I had to work it out and I had to be accurate in order to report it or assess it. So I made this decision to take home everything I could find on that topic and I spread it all out on the desk, and I read everything and just made notes. I did it over a weekend and by the end of that weekend it was like a light bulb went on. It was a big 'ahaaa moment' for me. I knew where I was going from this total grey area of not really knowing what it was and how it worked, to being able to work it out. [T1:48.56]

Lulu believed knowledge was tentative and subject to change. She described a process in which the learner's beliefs moved along 'a sliding scale between black and white, with grey areas being when [she] did not understand' [T1:44.57]. Lulu also believed ability was not fixed, and that to improve required personal effort, motivation, positive self-efficacy, persistence and the ability to apply oneself. Lulu believed learning took time and was individual. She believed the rate of learning was largely ascertained by personal motivation, persistence and goals:

You learn as quickly as you need to. It's not definitive because it depends on where you are coming from. I mean, we have just done summer school. I did all the readings before we started because I wanted to have some basis to build on, and again it was, 'I have to know all this in a week so be prepared. [T1:1.02.21]

4.2.2 Contextual aspects.

Lulu was completing a degree course that allowed her to teach in years 1 to 10. She began her coursework in two minds. On the one hand, she was anxious because she had left a job she knew well and had a great deal of experience and confidence in to enter the unknown domain of teaching. On the other, she was both determined and obligated, because she had given up a good job to follow this path. She was expecting to have to work hard and apply herself, and she was expecting to succeed. She was also highly attentive to hints from lecturers about what was important for the assignments and exams, so actively engaged in lectures and tutorials and kept a diary of the points she considered important.

In reflecting on her learning to teach experiences, Lulu recalled learning a great deal of theory in the first two years. She felt she needed a theoretical approach to contextualise teaching. Her interpretation of the context was to understand the language of teachers and work with it. In this regard, she saw the first two years of the course as a time to build a teacher's identity and confidence, with snippets of practicum to role play being a teacher. For Lulu, it was imperative to be seen as creditable by her mentor

teachers and others. She called on her practicum experiences to make sense of some of the theories espoused in her coursework.

Lulu enjoyed the opportunity to explicitly identify and activate personal experiences and their relationship to or impact on her current beliefs and theories about teaching and learning. These opportunities were evident informally because in-class discussions and interaction and more formally, in assessment and research:

I really enjoyed doing that unit and we were able to explore what our current thoughts were in the assignment and in discussion. We started with where we are now and what are our influences and you actually acknowledged how your past experiences influenced now. [T2b:18.32]

Lulu also experienced several personally challenging learning area units. The anticipated challenge was based on her previous school experiences and a perceived lack of understanding or success in the learning areas. Her current experiences had a profound effect on Lulu because they changed her disposition to the subject area and influenced her approach to teaching. Lulu recognised how a problem solving approach, in which she could tackle the problem using her own resources, and trying multiple methods, led to deeper understandings of a concept. She also recognised that reflection and justification to self and others was a powerful tool for learning:

She opened my eyes to [subject area] and as a result I am better at KLA. So, for me, it benefitted me more personally than professionally because of where I was at, but having said that, we also had to do reflections every week and the lecturer wrote, 'did you realise your journey will make you a better [subject area] teacher because you understand students who don't like [subject area] or don't think they are any good at [subject area], where they can change and how to help them change their opinion of [subject area]', and I thought, 'oh, right'. [T2b: 34.00]

Lulu learnt that having explicit and transparent expectations, outcomes and assessment details would benefit all students. Additionally, she liked the development from didactic to practical laboratory sessions, followed up with an excursion that connected the content and practice. Lulu was highly engaged to such an extent that she adopted aspects of this delivery approach into her own lesson planning and teaching:

I really liked at the beginning of each lecture he would say, ‘This is what we are covering today dot, dot, dot’, and then he would talk to each dot point, then cross it out. I wouldn’t necessarily be so dogmatic, but I quite enjoyed it because it was different and I really liked that ‘this is what we are doing today’. I found that I was starting to do that. I have adopted that and it may seem a bit primary schoolish but it works for everyone. [T2b:55.07]

Lulu loved studying, and consequently found academic challenges engaging and motivating. However, Lulu admitted that her second year of study was particularly challenging. On reflection, she identified a number of conditions. First, a number of units were not directly related to teaching, but had significant workloads. Second, she became overwhelmed by the pressure to succeed, being accountable and responsible to herself and others. Third, the absence of a practicum in the first semester and a recommended load of five units contributed to a feeling of detachment from teaching, so she felt disconnected from her goal.

For Lulu, practical components—such as conducting lessons or assessing real students and going on excursions—were valued most. Excursions became a recurring theme in both her own primary school experiences, her pre-service teacher role as a student, and her teaching. As a pre-service teacher, she regarded practical experiences as highly relevant, and recalled that they contributed to her making connections between theories and practical teaching. The practical one-to-one interaction with students (as opposed to whole class teaching) was also considered important in developing Lulu’s teaching confidence and skills, especially in the first two years. However, more profoundly in her third year, Lulu experienced a micro-teaching session in which she realised that teaching was not all about the teacher but also about extending students by differentiating instructions to meet their needs. Lulu moved from a teacher-centred, ego-centric view of teaching (and learning) to a more student-centred and managerial role. The change in perspective was based on her concerns about what students were achieving or not achieving from the learning experiences she provided:

I found the first week really hard with my student and I think I tried to make it all about me and what I am going to get out of it rather than what I can help this student get out of it. Whereas my second week I changed that and I let her do all the talking and I didn't ask too many questions and I just let her talk to me when she wanted to. [T3:07.33]

As a pre-service teacher, Lulu planned for practical, hands-on activities, believing these resulted in better quality student engagement. She also liked to negotiate aspects of learning tasks and assessment with her students, taking on board some of their suggestions. She noted this appeared to generate greater cooperation and respect towards her and between students. Additionally, she noticed greater achievement of desired outcomes and self-motivation.

Lulu described 'bonding' experiences with other pre-service teachers. In particular, she indicated the importance of being in similar classes over a semester, so that pre-service teachers could get to know others personally and professionally. Collaboration and sharing were particularly significant in building trust and camaraderie. In her second year, specialist learning areas were chosen, and she recalled feeling a bond with the other pre-service teachers who chose the same area. In the third year, the cohort experienced micro-teaching sessions, followed by debriefings, which also seemed to unite the group. Lulu felt the 'shared experience' helped develop connections with each other, having common goals and validation of similar teaching experiences.

As acknowledged above, Lulu recalled a change in her approach to her studies in her third year. She acknowledged her purpose for doing assignments changed. In hindsight, she recalled the first two years as surreal, whereas in her third and final year the same types of activities became more realistic and purposeful. It became more important for her to rationalise her decision-making process when planning learning experiences. She acknowledged a deeper sensitivity to analysing what students were doing and the worthiness of activities, to extend students' knowledge and skills:

I think it is more real. I need to be able to understand what I am doing in the classroom to justify it to a uni supervisor and to the mentor teacher. I need to be able to analyse what they [students] are doing in those first couple of weeks. Then I know what decision I can make with the students or what strategies I can use that will work. It is all about being a professional now. It is no longer a university degree and I think that is quite unique with education students. [T3:1.08.16]

Lulu also acknowledged that the university experience presented situations in which pre-service teachers had to be systematic and metacognitive in their approaches to learning, particularly in assignments. It was these dilemmas about how to start assignments, gain background information and evidence that were both autonomous and productive learning to teach activities for Lulu. She acknowledged that the university experience had helped her learn to teach because it provided opportunities to access publications, resources and strategies. She also acknowledged that learning to teach was developmental, because sensitivity to detail and elaboration increased after strategies or theoretical concepts were presented and represented. The shift in thinking also represented Lulu's growing confidence, self-efficacy and status as a teacher, rather than a student. There was a different sense of identity as a teacher by the end of the third year:

I can't wait to consolidate all this stuff in my head. I can't wait to test it out and see if it works. The experiences at school have made me understand that that is what I need now. I am ready for this now. It is a readiness thing definitely. [T3:06.09]

Lulu's practicum experiences were quite unique and took place in alternative settings to the regional schools. An early school experience involved visiting farming stations, conducting 'on air' lessons and visiting a district high school. Lulu was surprised by the prescriptive nature of lessons, but rationalised that this was needed in order for students to be prepared for the lessons. She was also surprised by the dynamic student responses in these 'on air' lessons.

Lulu also had a practicum at a kindergarten to year 12 religious school, where she believed she gained a holistic and dynamic view of how the school worked. She became aware of the teachers' positive and constructive perceptions of their students' needs; multiple ways in which students learn similar concepts; energy levels required to teach in less familiar subjects; and the enjoyment of reading to students. She discovered that using students' ideas was highly motivating, and they were more interested in the topic.

Lulu's North West, remote district secondary school experience had an important effect. She acknowledged that the collegial support at this school was phenomenal and inspiring. It was also on this practicum that she made the decision to teach in secondary school. Although she found the secondary curriculum rather prescriptive, she continued her student-centred approach and learnt to plan learning experiences by working backwards from the students' assessment task. She also incorporated a practical activity planned by the students to conclude the topic. It was also in this practicum that she combined her student-centred approach with explicitly stating her expectations in terms of achievement outcomes. This was a strategy she had learnt from one of her lecturers.

Lulu reported that most of her practicum experiences were very anxious times for her. She lacked confidence in her ability to 'look the part', and saw herself rehearsing the role of the teacher. It was not until half way through her third-year practicum that she had acquired confidence in her ability to teach:

I would be getting ready to go to school and I would have knots in my stomach and I'd be worried about whether they believed I could do it, whether or not I can pull it off, and act my way through the day. You know, I need to look like a teacher. I need to sound like a teacher. I need to have a teacher's voice and then I'd get in there and I was so focussed on 'how do I look? How do I sound?' and then after a while that wore down. [T1:1.09.45]

4.2.3 Professional aspects.

Lulu believed that teaching was student-centred, learning was an active process and that there were various learner variables that affected the learning situation and outcomes. She believed teaching was the art of facilitating meaningful and engaging learning experiences. To do this, she aimed to develop a learning culture by establishing transparent and common ground. Additionally, she liked to put the responsibility for learning back on students, so they had some control over where they were going and what they were learning, and had a rationale for learning the content:

You know when you talked about the first week of starting school? I really related to that because I think all too often teachers come into a classroom and they are just in a rush to get on with the learning. If they just took a week or two to do structured activities that pull the group together, that creates common ground, that creates understanding of this is what I am here for, or this is what I am hoping to do, and what is it that you [students] are hoping to do. I think if we spent more time building that, the rest of the stuff would be a lot easier.
[T1:1.07.35]

She viewed the student's role as active, engaged and connected to the learning context. For example, she believed that learning was not about receiving knowledge but rather being receptive to it. Additionally, she believed students came to school with personal and emotional factors that may not be within their control, but which effect learning. She believed that students had a variety of background knowledge and preferred learning style that influenced what was learnt, so teachers needed to match this with students' needs.

Lulu was most confident about her professional relationships and ethics. She was usually confident about her relationships with students, mentor teachers, colleagues, parents and administration. From the perspectives of her students, she believed it was important to develop a trusting and respectful learning environment. She indicated a need for calm and time spent reflecting. She believed students had very busy lives, and there was a need for opportunities to 'chill out'. This strategy was also

commented on by one of her mentor teachers: 'she quickly establishes a calm working relationship with her students' [Artefact 5].

She attributed her ability to communicate effectively to experiences with diverse people and professionals in her role in the government department. She was readily able to diffuse situations of conflict, identify critical events and calmly but constructively negotiate potential solutions. She had a great deal of experience making decisions, so tended to follow a due process for negotiation in which she would 'make a decision and just stick to it, ride it out and if it ends up being wrong, you take responsibility for it and try again' [T1:15.40].

She was very keen to pursue partnerships with parents and acknowledged a desire to do further study on parent involvement in secondary schools. She was keen to keep parents informed and encouraged them to participate in their children's education. She talked about her ability to appeal to people's better nature as a direct result of her experience in the government and her dealings with the public. She actively and genuinely sought to understand the problems and perspectives, and used a strategic approach to solving them.

Lulu was usually confident in her knowledge of professional ethics, and attributed this confidence to her previous employment, in which there were many policies and procedures to adhere to for accountability, developing her data collection and analysis skills to a high degree. She was tenacious and intuitive about what she did not know, and actively sought to rectify this.

Lulu thought she was only marginally confident in her KLA content. She based this on her experiences in secondary practicums, where she noted the curriculum was prescriptive, so felt she would need to relearn and research topics. When she recognised her lack of knowledge she immersed herself in the topic in the same way that she did when she studied. She also used the areas in which she lacked knowledge as a gauge for

material that might also be unfamiliar to her students. Therefore, Lulu was able to research topics and consider content in relation to her students, the context, curriculum outcomes and herself to make learning experiences meaningful. Additionally, she commented that she was learning the content through the experience of having to teach it, learning with the students:

I was given a year eight topic and I thought 'Crap, I know nothing about that!' So that night, I Googled everything I could possibly find on medieval history and took books out of the library. Then he [mentor] said 'Here's the assessment that the students have to do at the end of the four weeks'. It was a fantastic unit of work. They did a classroom dictionary of medieval terms and I gave them a pop quiz. Then at the end of that unit we did a banquet, but I let them direct it. I knew nothing about medieval history, and again it was that whole, I am acting, pretending thing. But I actually know what it is and I understand it, which was really cool because we learnt together. [T1:39.44]

Lulu attributed KLA knowledge in her specialist areas to her secondary education and previous employment. While her KLA knowledge had not changed much during her university experience, Lulu felt she could concentrate on learning the pedagogy for teaching those areas; therefore, she has learnt about student outcomes, strategies and topic development.

Lulu was undecided about her pedagogy. She attributes this indecision to limited practice in her own style of teaching. She tended to imitate her mentor teachers' styles because she did not want to disrupt established routines:

I guess being unsure of my style I tend to watch the mentor teacher and I just mimic. But again, in [North West town] I slowly changed to my style and it was probably towards the last week that I was starting to understand what my style was, because I know what I want to achieve and what I would like to be like but I am not sure if that is who am yet or who I will be. [T1:36.26]

Artefacts (lesson descriptions, plans and forward planning documents) from her university experiences implied that Lulu considered the curriculum outcomes and students' abilities equally when planning for learning experiences. She noted that she began to use a teaching model, whereby the desired outcomes (goals) and elements of

the lesson were made explicit at the beginning of each lesson, and she signalled when she had covered that outcome or element. This model was one she observed from a university lecturer, which she felt would work for most students.

Her personal teaching philosophy statement identified inclusivity as an important part of her thinking about teaching. She was aware of different learning styles and the need to allow students to use ‘multiple means of representing, expressing and engagement’ [Artefact 1]. She believed learning should be holistic, so provided learning experiences in which students’ interests were taken into consideration and the development of a topic was relinquished to them. She achieved both academic outcomes and student engagement by making students responsible and learning experiences relevant. She empowered her students to learn new concepts and gain deeper understanding using an ownership model of learning.

She was also metacognitive about her own learning, and this translated into her teaching practice. For example, she kept a reflective journal during ATP to record the development of her pedagogical style and her effect upon students. This showed her sensitivity to the effect of the personal constraints on learning (affective elements, prior knowledge, experience and skills). Lulu felt that she had a good understanding of diverse learners, universal learning principles, multiple intelligences, developmental learning, cooperative learning and metacognition.

Lulu was undecided about her understanding of learners. However, she empathised with adolescents’ social and emotional needs, alleging that these can significantly affect learning, and may not be within the student’s control. Specifically, she described security, safety, motivation and interest as important areas for teachers to target. She articulated a need for them to match social and emotional needs with the cognitive needs of students, and proposed engagement-type activities to arouse curiosity, set learning purposes and clearly articulate expectations. Lulu’s philosophy of

teaching emphasised relevance to learners, but she recognised that curriculum constraints meant teachers had to be very creative to make learning experiences meaningful.

Lulu indicated a preference for teaching secondary learners because she was concerned about their lack of hope, ambition and inability to see their own potential. She related this directly to her personal experiences in years 11 and 12, but also her practicum experience with years 8 to 10 in the North West school. Both experiences made her realise that students needed to understand that they have choices, and that with choice comes deliberation, risk taking, responsibility, evaluation, re-thinking or refining the move forward. Students' needs, achievements and accountability were at the centre of her understanding of teaching.

Lulu's least confident area of teaching was assessment and monitoring. She conceded that this was not so much a lack of assessment learning at university, but rather a lack of practicum experiences with assessment and teachers not sharing their student records. She understood that the purpose for assessment was to inform teaching, because she acknowledged the development of individual education plans as a result of conducting an assessment task:

Probably not so much that we haven't had the university input because we had one particular unit that focussed on it, and I remember thinking there were lots of light bulbs going off in that unit, and it was a complete package on how to assess and how to report, but we haven't had the chance to consolidate it in a prac. [T2b:13.00]

Lulu acknowledged that assessment was an ongoing task for teachers to inform their teaching. She felt she knew how to administer a variety of assessments, but was unsure about interpreting the results. Hence, maintaining records, providing feedback to students, parents and the system and being critically constructive about the test's validity and reliability were areas needing further professional development. Her

understanding of types of assessment indicated a combination of paper and pencil, observation and performance. She mentioned marking assessments using scores and/or scaling scores. Reference was made to a student being 'at the bottom' or 'at the top' of the class, implying an understanding of cohorts.

In discussing her future, Lulu was sure about wanting to teach in a classroom and making a difference, and hinted at being a head of KLA in the future.

4.2.4 Summary of aspects that influenced Lulu's induction into teaching.

Lulu had made a major career and life change to follow her dream of teaching. She entered the course anticipating that she would need to work hard because the content would be new, and she was not entirely confident about teaching. She sought to control her own learning by controlling factors such as diligent attendance, active engagement and participation in classes, strong convictions, an obligation to be successful and a rigorous self-imposed study schedule. She saw learning to teach as a gradual process, and believed that the first two years in university were significant in socialising one to become a teacher. This period was characterised by learning the rhetoric and theories, developing a repertoire of teaching strategies and rehearsing the role of a teacher to develop confidence.

Second, her age, life experiences and being a mother meant she came into teaching with a wealth of work and life experiences, in addition to witnessing her daughter's physical and cognitive development. Her own adolescent and school experiences, together with a highly successful second year practicum in a secondary school, cemented her love for and advocacy of the adolescent age group in particular. She wanted to share her love of learning and show students how they could set and achieve goals to reach their potential. This empathy, mixed with her ability to apply herself, was how she was going to make a difference to her students. Lulu was scholarly but also an advocate and crusader for her students.

Lulu believed ways of knowing were idiosyncratic, in that the learner took control of the process with determination and effort but it took time and was diverse for each individual, content and context. She was metacognitive and self-regulatory about her understanding of the content and when, where and how she needed to redirect her attention. Sometimes the content and rhetoric were new and she needed to concentrate on that, while at other times (particularly in her specialist areas) she was more sensitive to the pedagogy of teaching the subject. She was particularly reflective, and acknowledged journal writing as an effective learning tool for connecting personal to ecological understandings. She acknowledged teaching as being somewhat intuitive and related to her parenting style. However, she believed the university experience had provided her with the rationale for her decision making, forward planning and lesson planning, and this was seen as crucial for the practicum and being seen as credible.

Fourth, she acknowledged learning to teach from past teachers, mentor teachers and university lecturers. Her past teachers inspired her with their interpersonal attributes, creativity, flexibility and relevant real life skills and values. On practicums she tended to adopt the teaching styles of her mentor teachers so as not to disrupt set routines and practices for the students, but also because they worked and could be relied upon. It was not until the end of her most recent practicum that she felt her personal teaching style was beginning to emerge. She acknowledged that her students' needs and interests were at the centre of her teaching, so she would spend quality time getting to know them and setting up a positive learning community before planning for their learning. Additionally, she liked to make teaching expectations and goals for her students explicit, and used a systematic approach to teaching content with signposts and checkpoints for revision, which she identified as a teaching style experienced at university and one she aligned with. She anticipated using student involvement and

negotiation on aspects of their learning as a teaching strategy that developed ownership, obligation, independence and responsibility.

Finally, the feedback and success from her units of study and mentor teachers, and being on the Dean's list,¹ contributed to Lulu being comfortably confident in her ability to teach. Professionally, she was confident in her relationships with people and students and her ethical understanding of teaching, because these were personal strengths based on her life experiences. However, she acknowledged a lower level of confidence in her KLA knowledge, and at this point was unsure of her pedagogy and knowledge of learners. This was based largely on the range of topics, outcomes and levels of development of students that she had yet to experience. Lulu could describe a lucid framework for planning learning experiences and teaching, and her students' needs and the learning environment were important to her. She felt least confident about assessment and evaluation because she had not experienced reporting and grading on practicum, hence assessment would need further professional development.

For Lulu, it was difficult to separate the effects of her personal, professional and contextual aspects because all worked collectively to contribute to how she had learnt to teach. She was confident and comfortable with her own learning style, and would approach teaching with the same strong research and analytical skills largely attributed to her past employment and personal motivation. For Lulu, the university context was important in developing her credibility and identity as a teacher. Students featured strongly in Lulu's concept of teaching and learning. She felt it was most important to develop a learning community, and that students were jointly and collaboratively responsible. She felt very ready to teach by her fourth year practicum, and was eager to put into practice what she had learnt and to join the teaching fraternity.

¹ The Dean's list is an acknowledgement letter that pre-service teachers receive each semester if their marks are in the top 10 per cent for the education programme.

4.3 Case Study Three: Dallas

Dallas was a female pre-service teacher in her final year of study towards a Bachelor of Education at the same regional university campus. She was under 25 years of age, single and living at home. She was Australian, with a father employed in the trades and a mother involved in home duties.

4.3.1 Personal aspects.

Dallas went to government primary and secondary schools in the 1990s. She completed 12 years of schooling and was head girl. She completed a TEE, but claims that she did not do well in the exam. Immediately after completing secondary school she commenced employment as a swimming coach while completing a one year Certificate Four in sport and development at a Technical and Further Education (TAFE) institution. She also began working as an education assistant for a local special needs school. In the year before commencing university she attended Camp America and travelled around the world for nine months. Dallas entered university with a portfolio entry and accreditation for prior learning and work experience. She also re-joined the special needs school as an education assistant, and was currently employed there. She worked between 15 and 20 hours per week as both a teacher assistant and a swimming coach.

Dallas made the decision to teach after a negative year 11 and 12 school experience, in which a teacher discouraged her from applying for the role of a student prefect. She applied for the position and was successful. The following year she applied for the head girl position and again was discouraged by the same teacher, and again was successful. She chose teaching because she believed she could be a better teacher than her year 11 and 12 teacher, because she believed she could do anything if she was motivated and willing to put in the effort to achieve. These beliefs about self and the power of realistic encouragement, expectation and belief in a student were the catalyst

for considering teaching as a profession. Additionally, she had always enjoyed children and her positive experiences with students as a teacher assistant, coach and camp leader fortified her decision to teach. At the commencement of her teacher education programme she looked at the total course outline and responded 'Yeah, that's not going to take me four years' which implied that Dallas' self-efficacy and confidence about working with children and becoming a teacher were high.

Dallas' motivation to teach was to make a difference. In particular, she indicated making a difference to students with backgrounds different from her own. Her current work experience in a special needs school confirmed her sensitivity to making a difference to students with behavioural, academic and physical needs. Dallas indicated that teaching appealed to her because the working hours were conducive to motherhood in the future:

I like the idea that when I am a mum I am still going to get two weeks, every ten weeks, with my kids. I like the idea that your kids can go to school and you can teach and then after school you can pick them up and go home and you can still plan. I like that idea of having more time with your own family. [T1:25.05]

In terms of her academic ability, Dallas claimed she was average at secondary school, but when she applied herself she usually achieved higher marks. She was currently averaging a very high credit, almost a distinction. She described her personal strengths as organisational skills, openness, happiness, a sense of humour and empathy. Her academic strengths included focus and high motivation towards completing her university course with a sense of urgency and purpose:

I am focussed in the way that I know what I want and that is to hurry up and finish, and I was focussed that I wanted to do it in three and a half years and not four so that won't change. [T1: 01.35]

She was also dedicated and enthusiastic about learning and teaching, but her priority was course completion, which she saw as her personal responsibility. She

attributed these strengths to being a more mature learner as a result of her swimming coaching, time at TAFE, travelling by herself and as a teacher assistant:

I didn't know I was going to be such a stickler for doing everything properly. Like at school, I used to read and write the questions and sometimes I'd just look in the back. I think it comes from when I had two years off and a year at TAFE, and then I travelled around the world for nine months. So I'd done what I wanted to do and now I am here to do it properly. [T1:26.34]

Her personal challenges were related to time management. She found it challenging to balance university, employment and time for self, family and friends. Academic challenges were also time related. She described herself as perhaps too dedicated and self-competitive, as she was inclined to work too hard and put in too much effort for what she perceived might be the same end result.

The qualities she believed she had that were suited to teaching were similar to her personal strengths. She also cited quick thinking skills, and when she elaborated on this she intimated having ecological knowledge that involved being flexible and spontaneous in an unpredictable, live classroom context. She had developed the ability to adapt lessons as she judged student interest.

Similarly, Dallas described effective teachers as being engaging and flexible, prepared and organised, having effective communication skills and being caring, knowledgeable and happy. Dallas anticipated her greatest challenge in teaching would be time management, such as not being able to plan for everything, trying to accomplish too much, and having to take work home.

Dallas' approach to learning at university had changed since her TEE/year 12. During her secondary schooling she learnt the content knowledge for her KLAs by answering questions and regurgitation, so believed knowledge was isolated to subject areas and specific facts. On reflection, she found this was not particularly successful nor useful because she had not retained information from year 12. She acknowledged

having a different approach to her studies at university. In her university course she displayed marginally sophisticated epistemological beliefs, holding a subjective view such as knowledge based on opinions related to experiences. She felt she was learning the content by co-construction between her own ideas and beliefs and critically considering the ideas being presented for plausibility and potential. She saw knowledge developing as she became more sensitive to what was important and questioning why her point of view was different to the one suggested:

You have to create your own understanding. When I was at high school you basically just read through the books and did the activities and then you sat the TEE. It was basically just write out the answers or just regurgitate all the information. It wasn't your understanding of it. So I didn't do that well in my TEE. [T1:05.54]

She was adamant that she did not learn in lectures. She applied a process to self-engage which involved preparation by reading set readings and PowerPoint slides prior to the lecture. She approached the lecture with the intention of actively listening and recording notes to the questions she had posed beforehand. Dallas found the seminars and tutorials most useful because that was where group discussions and opinions further clarified her understanding. Dallas had developed an understanding that her own knowledge and worldview contributed to making sense of other people's opinions and ideas:

The main thing for me is group discussion, especially if I know that we have to do a group reading and you come back and if you've read it and everyone else sort of contributes and discusses and that for me is the easiest thing for me to learn. [T1:04.26]

Dallas distinguished disparity between studying and knowing. She seemed to regard studying as fixed and dependent on the 'expert' or lecturer, while knowing was about having a reasoned opinion and being reasonably confident in your belief. However, she acknowledged that both experts and authors had opinions and learners needed to discern the difference and come to a shared understanding:

I was sort of wondering whether it was truth and then someone else comes along and says no. And for us at uni, when a lecturer comes and says 'No, this is the way it goes'. So is what you're thinking right, or the person who has a higher degree or you know, is seen as an expert. [T1:06.47]

Dallas' beliefs about the stability of knowledge were inconsistent. Sometimes she had a tentative view of knowledge, implying that while learning to teach she had built on the knowledge from year to year. She described an increasing sensitivity to more sophisticated details and increasing confidence in challenging and thinking critically about propositions:

I think it's ever changing and especially at uni, you build on it so what you're learning in first year is changed or altered to what you learn in second year, and then I think when you get to third year you start to learn that you can challenge knowledge or other people's knowledge or what's written down. Especially now, I think critical reflection or critical literacy is a big part of that. I don't just take it on face value. [T1:07.38]

In contrast, she argued that sometimes, knowledge was constant, particularly historical facts such as dates, time and place. However, she recognised that perspectives about the events of history could change. Dallas concluded that the stability of knowledge was conditional on the type of information, and that some facts were certain while others were opinions that could change with further inquiry and investigation.

Dallas' newfound value for being critical and questioning the knowledge and materials presented resulted in her view most knowledge was sourced from empirical experiences. However, she believed the lecturer's attention and enthusiasm for the subject influenced the effort she put into the subject. It was not so much what was being taught but how important the source deemed the information:

I think they [lecturers] are a trigger for me, if they're not engaged with it or don't seem enthusiastic about it then I think 'I don't need to know about it'. But if they come up with more points and you need to know this because...or knowing these things will lead into this...then I think, 'Oh, maybe I should make the effort and understand it'. It influences how much attention or how much effort you are going to put into it. [T1:0010.42]

In line with her belief that you can do anything you put your mind to, Dallas believed ability was not fixed, but rather improvable with effort, perseverance, motivation and practice. Again, she described the role of the mindset in contributing to expertise:

But I think everyone pretty much has the chance to do anything they want if they put in the effort. If it is motivating and engaging for them then they will do it. Some people aren't born athletes but they still get gold medals and that is from training and everything else that you put into it. [T1:14.42]

Dallas took the view that learning took time. She was quite strategic and methodical in her approach to her studies. However, the emphasis was on recalling information, albeit the strategies for recall were more metacognitive and self-regulatory. For example, on a weekly basis she brainstormed, using a concept map to record what she had learnt from the lecture and tutorial as revision. She placed the concept map in places where she was forced to read and reread it:

I take a while. For me to remember I have to take it home and do this huge big brainstorm usually for each unit. I have a huge big piece of card and I have the main thing in the middle and I have week one of it and then lecture, tute or reading, and then I'll leave it stuck to our toilet door or the shower where I can read it. The next week I pull it off, put week two on. So by the end of the semester I would have read week one ten times, week two nine times so it's more repetitive. [T1:12.31]

She said she was also self-regulatory about any texts or articles she read, preferring to do a blind first read to orient herself, followed by a reread to establish main points. She concluded her reading with a question formulation session, where she attempted to create questions that 'stood above' the text and were generated from concerns or wonder:

I'd read the chapter and not write anything and then I have to go back and pull out the bits that I thought were interesting and then I'd reformulate into questions that I would ask about that chapter. [T1:13.39]

4.3.2 Contextual aspects.

Dallas was completing a degree course that entitled her to teach in years one to ten. Her major learning areas were Health and Physical Education and Studies of Society and Environment [SOSE]. She chose these areas because she had always played sport and she had a personal interest in current affairs.

Her first sense of university was her age group. She noted she was in the middle, with many students being younger and some significantly older than her. She wasn't anticipating this to be a problem because the total number of students was small, and it would not take long to become familiar with others. Her expectations of herself were that she would work hard and not have any late assignments. Dallas was expecting success and she was confident she would be able to finish the course early by overloading (doing more than the required units per semester) and completing summer and winter school units. Unlike her studies at TAFE, she expected grades for her university assignments, rather than a pass/fail mark. She was particularly happy with this arrangement because the practice rewarded effort.

On reflection, Dallas did not anticipate the amount of theory and strategies in her first year at university. There was more theory than expected but there were more teaching strategies taught, which she thought would have come from practicum experiences rather than in the university setting:

I probably expected a bit less theory. I didn't think there would be half as much theory as what there was. And strategies, I thought that would be more on the job. I love all the strategies and the placemat theories and all that. I think in first year you get all these theories and you never remember them. [T2:07.02]

In particular, she recalled theories about how students learn. She indicated that she was overwhelmed with the amount of theory and content, and therefore was not sensitive to rationales, and often could not see the relevance to teaching. Dallas felt the first two years needed more explicit directions about what to do and why. For example,

she recalled doing lots of games and remembered a suggestion to record these, but at the time did not understand the significance or what to record, and thus regrets not doing so. At this late stage of learning to teach, she could readily identify the salient aspects of teaching tasks and evaluate them according to practical use.

She described the structure of learning experiences as typically large lectures followed by tutorial classes. Sometimes units worked in seminar style, which she preferred. She did not like lectures and believed this university practice contradicted the teaching and learning practice and theory being advocated:

I think it's funny because they contradict themselves by saying that not everyone learns the same and that the least amount of learning is through sitting, listening and watching. And yet we sit there in lectures for 75 per cent of the time. So I wonder if it's the easiest way to deliver it to everyone. Maybe they think that you absorb it at home by reflecting and you know, doing journals and doing your readings. [T2:07.50]

Dallas also found that focus questions at the commencement of the lecture assisted her active listening and focussed her attention on the spoken detail rather than the information on the slides. There was also a sense of having to learn a new specialised, contextualised language that caused her unnecessary angst:

That was all about pedagogies and that freaked everyone out. The whole thing was 'what's a pedagogy?' And it was very critical thinking and critical reading and that was a seminar, so I liked it in that I couldn't have coped with that if it was in a lecture, but it was very scary for a first year. [T2:18.50]

Dallas was critical of a number of units for being irrelevant to teaching. She described the content as either too difficult, beyond what a teacher would need, or too simple. Often the content did not cater to pre-service teachers' needs, and assumed a one-size-fits-all approach.

Dallas also mentioned her love of summer and winter school units. These units were condensed into five full days. She particularly liked these because there was continuity of information, and the connections between information seemed clearer and

more logical. She believed she remembered more about those units than the 12 week units, and the exams for these summer/winter school units seemed easier:

I loved summer school units. I love doing it in a week, because you go home and I still remember more in that unit than I do for my first year units even though it was probably a year later but I think because it's so compacted and it is in one week you can sort of link everything a bit easier. [T2:24.14]

When discussing her coursework, Dallas often referred to assignments. She cited a number of 'good' assignments that contributed to her knowledge of teaching. Usually, these assignments were practical and directly applicable to teaching. Dallas recalled learning how to assess and level a 'real' student. She learnt how to use current teaching documents to plan learning experiences:

It was how you applied it to school. We learnt about the special textbook that most schools have and we had to buy one and I went out and bought the other nine. So it is really good being taught how to use them. What you should see in each level and that was the first time we did levelling. [T2:28.23]

Dallas also reported learning how to teach from assignments that required research, inquiry and investigation work, such as school profiles/situational analysis. These assignments often required her to critically reflect and/or analyse practical teaching artefacts and resources. She also learnt how to set up a personal teaching portfolio and how reflections could be used for accountability:

I like practical assignments so I liked the assessment on the kids' reading. I don't mind having to research and find out and then you sort of have to make it into your own interpretation. I like reflections or critical [reading] because that was my interpretation so it can't really be wrong because it is mine. [T2:37.50]

Assignments that were not well received by Dallas involved lengthy and unparalleled workloads compared to other units and where she could not see the explicit relevance to teaching. Dallas noted that many of these types of assignment were not realistic to conduct with children, so she would not use them.

In looking back through her files and transcripts, Dallas summarised her first two years of university as too much theory, too much paperwork, and a lack of relevance to direct teaching or having no practical links to teaching. She described her approach to teaching as more hands-on and practical, so she would have preferred to learn to teach by working in schools alongside a mentor teacher, with one day a week at university. She believed the theories and language put new names to what she already knew and did:

I think when I teach I will be more hands-on because I think in the first two years was a lot of theory. Lot of paperwork, not much was really relevant and not many were teaching. Not much I can actually apply to my class. Probably maybe three units out of two years, which is not really that much. You already know [it and it] is just what you do. They just put a name to it. [T2:31.47]

Somewhat contradictorily, Dallas talked about her last years at university as different to the first few because she believed she was qualified to have an opinion, based on research and understandings of theories. She described her first two years as ‘pretending’, indicating that her sense of identity as a professional teacher was developing. She alluded to third year as being more relevant and flexible, with pre-service teachers being able to negotiate their learning:

The second two years you start to get to do it your own way. You can sort of say ‘This is my opinion because I have done so much research and theory now and you have an opinion’. So I think first year you sort of just pretending and you’re just keeping your head above water, whereas the second two years you sort of, you can say ‘No that’s not right’. [T3:32.31]

Dallas also liked units in which teaching strategies were demonstrated on the pre-service teachers. She felt experiencing the task from a student’s point of view helped her break down the skills in the task and experience the type of dialogue that students would engage in. For example, in one unit she had to choose a picture to capture and conceptualise her learning. Dallas felt this was particularly useful because she had to make an analogy between her learning and something in the picture that was

memorable. Recalling information and ways of making knowledge memorable were important for Dallas.

A second positive element of her third-year units was the university's decision to run eight week units because of a clash with practicum placements. Unlike summer and winter school, where units were contracted to full days over a week, the units in her third year were one full day per week over eight weeks. Again, this was fortuitous for Dallas because she liked the reduced time, continuity and cohesiveness of concepts and the seminar format.

Practicums were highly valued by Dallas. She believed they were where she learnt the most about teaching. She experienced a variety of school contexts: team teaching in a large pre-primary class, a special needs school in which class sizes were five to six students, and a secondary context. As a result of these experiences, Dallas felt quite confident about learners in the foundation levels, but not as confident with older students.

In terms of team teaching, Dallas described the mentor teachers as 'pretty switched on', and she was very impressed with the concept of team teaching. In particular, she liked the idea of sharing ideas and workloads. Other things she noted was the practice of concluding each day with a whole class contribution to a teacher modelled diary of the day's events, and recognition of particular students' achievements for the day. The diary entry was recorded on a flip chart which was placed at the entrance to the centre, so that parents could read it. She acknowledged this strategy was effective in promoting students' self-esteem while also communicating to parents and the school community.

The special needs school experience was not new to Dallas; however, she described a profound moment when she realised her students did not view the world in the same way that she did, and that even small and seemingly uncomplicated tasks had

to be simplified. Sometimes she wondered how much further she could break down the tasks to enable her students to achieve the task. Similarly, Dallas realised that small gains were actually significant, and that all the students had to be on individual education plans (IEPs). She also acknowledged the difficulty of bringing up a special needs child, and that schools had an additional role in providing parents with respite.

Dallas acknowledged that some practicums had a university component with particular foci. The introduction of a university component was significant for her because it assisted her in focussing on what to observe while in the classes. For example, principles of classroom management, lesson planning and student engagement were studied. Dallas was instructed to look for examples of these principles in practice, which she brought back to university to share and debrief. Dallas felt she learnt to link the theory with the practice; however, she maintained that this was more often giving a name to what she already knew. However, by her third year, Dallas was highly critical of the university component of the practicum because she felt there it focusses on theoretical understandings rather than practical understandings about teaching.

4.3.3 Professional aspects.

In terms of her understanding about teaching, Dallas had spent a considerable amount of time in teaching type roles in which she had experienced both the professional nature of teaching and feedback from others about how well she was performing. She looked at her course outline and decided to fast track. Dallas thought it was the teacher's responsibility to be enthusiastic about teaching and the subject matter, and also be involved, caring, knowledgeable and flexible. She indicated that teachers were a major influence on learning, and she hinted that her students were central in her teaching. However, she also acknowledged that factors such as student diversity in terms of reasons for going to school, socioeconomic position and students' home lives also affected learning. Her teaching philosophy statement gave further support for the

teacher's role as a facilitator. In further elaborations Dallas asserted the need for learners to evaluate their understanding based on their world view, which might be different from the teacher's view. She alluded to teachers giving students the option to raise feasible perspectives or hypotheses and test their predictions.

Dallas was highly confident about her professional relationships and interpersonal skills, both of which she believed she had learnt from her parents, family and employment. Her parents encouraged and expected Dallas to be well behaved, with an emphasis on manners, appropriate conduct and ways of communicating with people. She had been voted into two prefect positions at secondary school, highlighting her personable nature and potential leadership qualities. Complementing her interpersonal skills were employment in a customer service role for five years which involved solving problems, and as a teacher assistant and swimming coach. Dallas also described herself as an outgoing person, traits she believed were inherent in and suited to teaching.

Dallas was usually confident with the professional ethical dimension of teachers' work. Again, she attributed her confidence in professional ethics to her parents. She believed that knowing 'right from wrong' would easily transfer into teaching ethics. Dallas' portfolio also described a practicum experience in which she realised the importance of reflection-on-action. Her reflection showed understanding about using open-ended questions, and the difference between social and academic learning. Dallas implied an understanding of the value of 'teachable moments', as opposed to simply and blindly following lesson plans. Her reflection included what she learnt from the experience, what her students were able to demonstrate and concluded with implications for future lessons. Her conclusion included a range of implications, from practical tasks (equipment to bring), teacher planning (inform student of lesson plan and avoiding 'yes' questions) and teacher assessment (of student ability to complete the task to a set criteria). Of particular interest in this reflection was the way

Dallas related two of the lesson outcomes/experiences to knowledge she had gained from her university experience.

Dallas had a strong opinion about learning to teach by actual teaching. She indicated a preference for learning to teach in the actual classroom. There were several references to learning the most about teaching in her first two years of in-service teaching, rather than from university:

I think I will probably learn more in the first two years when I get out than I have probably the whole time at uni. Because I know when you go on prac the teachers say 'Oh, no, we do it this way now or this way is quicker'. So I think that on the job training. That's why I like the idea of getting a mentor because I think they are going to give you so many tricks. [T1:19.54]

While Dallas usually agreed that the university experience helped her learn about teaching, she emphasised that the practicum component was the most significant experience provided by the university. She alluded to the opportunity for a trial and error approach based on reflective self-evaluation of lessons and repeating lessons to improve skills:

I think it is a little bit of trial and error and you learn from your mistakes and if it doesn't work you're going to do it again or you're going to change something. So I think it's a lot about preparation. If you're not prepared and you're not organised, you're not enthusiastic and all the other things then really it's going to be a disaster. [T1:21.40]

Dallas initially selected physical education as a major because she had been involved and interested in sport all her life, but in hindsight believed that this was not a good decision because she was too familiar and confident with the content. She chose society and environment because she was interested in world events, current affairs and had travelled extensively, so could capitalise on her interest, enthusiasm and background knowledge in this area.

Dallas was usually confident about her KLA knowledge, although in her elaboration she felt this level of confidence would change once she actually began

teaching. She said her KLA knowledge was sourced from mass media, travel, coaching/teacher assistant experiences, TAFE and secondary school, and some university units:

I think I got a lot from the news and current events. I did two of my SOSE units in [xyz] environment, so a lot of it came from uni. Some of the things are still from high school, like economics. I have done PE forever. I have never got anything less than A for PE and I have always done some kind of team sport, so it's more from participating than uni. [T1:28.44]

Dallas was usually confident about her awareness of learners; in particular, early and foundational level learners because of her teacher assistant experience and one practicum. She was familiar and confident with secondary school due to a practicum experience. However, she had not taught in the primary years (one to seven) yet, and was less confident about teaching of this age group.

In her portfolio, Dallas described a scenario from her second year practicum, in which she realised the need to differentiate instructions and expectations appropriate to each student. Her lesson plan showed a strong sense of discovery learning, with practical and concrete sensory experiences, clear and measurable outcomes and purposes.

Dallas was unsure about her ability to assess and monitor student learning, largely because she had limited experience in assessment of students. She cited only one university assignment on this topic, which she believed was a weakness of her university coursework. She demonstrated an awareness of levels or phases of development, but she had no understanding of what particular levels looked like in practical examples or work samples. Her elaborations also demonstrated the need for assessment to be comprehensive, valid and matching students' needs.

In her portfolio, Dallas gave an example of assessment using photography to show what students were doing. While her students participated in the sensory

experiences, she instructed the teacher assistant to photograph the students. She chose photography because her students were not literate, but they were learning communication skills. The photographs were collated so that the students could use them as prompts to 'recall and describe' their experience. Dallas' outcomes demonstrated explicit attention to detail that matched the students' individual needs. She understood how to construct Individual Education Plans [IEPs] as a result of her experiences as a teacher assistant in the special needs school.

Dallas despised the term 'pedagogy', and asserted it was a 'fancy pants term for teaching that some expert made up'. Despite her quite extensive experience coaching and in her teacher assistant position, Dallas rated her level of confidence in pedagogy as marginally unconfident. She attributed this lack of confidence to not enough experience in actual classrooms and teaching. She felt this was a limitation of the university experience:

You are probably not confident till you've had more experience. Four pracs in four years is not enough for me. I am not confident now but I think it will probably change after this year's prac. I think you're more confident with every prac and I think prac is the underlining thing. It's where you're going to learn the most and get your confidence. [T1:36.50]

Dallas' disposition for teaching was evident in her teaching philosophy statement. Her overriding goal was to provide students with lifelong learning skills to enable them to thrive outside the school environment. She recognised diversity, and believed learning needs could be catered for using multiple intelligences, constructivism, inquiry-based activities and discovery learning. Learners needed to be actively engaged, motivated, independent, creative and problem solvers. Dallas was surprised about English because she did not believe she was going to enjoy it yet she did. She was confident in being able to teach most subject areas, except for IT because she felt the students would probably know more about this than she did.

In particular, her swimming coaching suggested a model of teaching that Dallas seemed confident with and aligned to. It included students knowing the purpose for learning, articulated outcomes of achievement and expectation, practice using different approaches, assessment and setting challenges. It was also very likely that she received positive feedback and accolades from this experience, which may have contributed to a confident identity towards the profession and learning to teach:

So I think that[swimming] is very similar to teaching, you've got to set the boundaries, got to set the rules, and there is expectation so I always tell kids 'to pass this level you need to show me that you can do this this and this more than once'. So I think that will probably be one of my things in my classroom. So the kids are aware of those outcomes. They might not be mine, they might be what we have to assess but they know that these are the things we are going to focus on for the term and that's what we will be doing. [T1:38.16]

Dallas believed she would learn the pedagogy from actually teaching and from further teaching practicum experiences. This was further confirmed in a reflection from a unit at university that included several visits to a school to work with a student on a one-to-one basis. She claimed to have learnt more from the visit to the school than she had in all the lectures (on the subject). However, in this reflection she demonstrated evidence of linking theory with practice.

Dallas stated that at this stage of her career, she was at saturation point in terms of being told about teaching and how to do it. She felt she needed to apply her knowledge before she could take on more information:

My fourth year will probably be the most relevant. Third year was really good with a lot more things I can use. You have a little bit more flexibility, like in one class the teacher set outcomes but then at the first week we decided each week what we wanted to cover. I like those that you can actually apply in the classroom. Theories are good but there is only so much theory you can take. [T3:33.30]

Typical of Dallas' ability to forward think and plan goals, she was very clear about where she saw herself in five years' time. She planned to work in northern WA

for a few years, or spend the next few years teaching overseas and travel while working. She indicated eventually settling down, buying a house and having a family, but she wanted to get the travelling and different teaching experiences behind her before doing those things.

4.3.4 Summary of aspects that influenced Dallas' induction into teaching.

Dallas was highly confident about her dispositions and highly focussed on her career choice. This had been reinforced by her past and current employment and life experiences. Dallas entered her course relatively confident in her prior knowledge and understanding about teaching, so she fast-tracked her coursework by completing it in three and a half years. Dallas believed her personal disposition, strengths and skills were suited to teaching, and her description of effective teaching qualities all aligned and were attributed to common sense, growing up and employment experiences. She felt she would learn more about teaching in her first couple of years as a qualified teacher than from university. In this regard, Dallas was the practical and focussed pre-service teacher.

For Dallas, her university context did not contribute much new knowledge, but rather affirmed and put a name and model to what she already knew about teaching and learning. Her practicum experiences were the most valued, where she learnt the most about teaching and where she could trial and improvise strategies. She would have preferred an apprenticeship or intern model for learning to teach.

She was confident in terms of her professional aspects, and mainly attributed this to common sense and her personal experiences as a student and employee. Ethical knowledge came from her upbringing, which would guide her decision making. KLA knowledge came from the need to teach something, and she was confident in her research/inquiry skills. Her knowledge of pedagogy and her learners came from her ecological employment experiences as a teacher assistant and swimming coach, because

she recognised and connected her experiences to theories and jargon she was reading about and learning. She also had a particular sensitivity for students with special needs, and recognised diversity in students. She saw the teacher's role as the primary knower, but the teacher also had to be highly motivated, enthusiastic and committed to providing relevant and flexible learning experiences. However, she did acknowledge a change between the first two years of learning to teach, and the last 18 months. This change was a shift from 'pretending' to be a teacher to having an informed opinion based on research and critical reflection and rationales.

Dallas acknowledged that another change was her epistemological beliefs. In secondary school she had naive and unsophisticated beliefs about the nature of knowledge and ways of knowing; therefore, knowledge did not 'stick'. This change, while not directly attributed to the university experience, saw her change to more strategic and self-regulatory learning strategies that incorporated her prior knowledge, critical reflection and having the confidence to challenge ideas. However, she still maintained the need to memorise information as a useful way of knowing.

For Dallas, the learning to teach experience was largely attributed to her personal aspects, with practicum school experiences considered the more influential contexts for learning to teach, and professional knowledge considered common sense. At this point, Dallas thought she was at 'saturation' point in terms of theories and strategies. She was ready to start teaching and learning her pedagogy on the job. She recognised her lack of understanding about assessment and monitoring, but she expected to learn this on the job and from colleagues.

4.4 Case Study Four: Lara

Lara was a female pre-service teacher in her final year of a Bachelor of Education at the same regional campus. She was a mature-aged student aged between 31 and 35 years of age, married with two children aged four and six. Her father had a teaching degree and her mother worked in the public service.

4.4.1 Personal aspects.

Lara went to primary school in the mid-1980s, and secondary school in the 1990s. She completed 12 years of school and a TEE, but did not gain enough points to enter her chosen course of study, social work. She commenced a Certificate Four in social services at TAFE to gain access to the social work degree at a metropolitan university. She did approximately half of the three year degree before withdrawing, due to her uncertainty about being suited to the career. Before withdrawing, Lara had changed to an external mode of study, which was not her preferred style, and she felt she was always behind in her studies.

These experiences were followed by employment in the retail and mining industries. During this time, she married and had two children. She decided to start her education degree so that she would qualify and return to the workforce when her children started school. At the time of research, Lara was not working.

Lara made the decision to teach after several conversations with a teaching friend. At the same time, Lara was involved in a drama production and her friend suggested she could become a drama teacher, which she had not considered a possibility:

She is a teacher and we were just talking about what I was going to do when I grow up and I have a love for drama so she suggested maybe I become a drama teacher, which I never thought of before. I thought teaching was teaching and that was kind of it. I had not thought about focussing on drama. So I thought I would give it a go. [T1:24.42]

Lara was attracted to teaching because she identified with her teaching friend's experiences of challenging and inspiring students. Lara also alluded to teaching having a special role in society. She described having the ability to contribute to students' lives by caring about everyday concerns, and being interested in student's lives outside school. Lara's own love of learning and the desire to pass that on to students was also an incentive to teach. Lara also enjoyed seeing the students' responses when they finally understand something. Lara liked the idea of combining her passion for drama with teaching. However, the focus on drama did change as she proceeded through her course. Finally, Lara was drawn to teaching because of her personal love of learning and how the possibility of passing that on to her students appealed to her:

I suppose I like learning and I like seeing someone learn and go through that next step to the 'Ahh now I get it'. And not only do you know what that feels like but you may have helped in that process or showed them how to get there. Seeing that in your own child's face, when you are explaining something to them, I can just imagine seeing it in other kids' faces as well. It would be very special. [T1:26.18]

Finally, the thought of returning to retail or mining was not attractive and encouraged her to seek an alternative career. She did not want to work while her children were younger, but she did want to consider her options once they went to school:

The main influences were from those two things but also the fact that I knew that I didn't want to go back into it [mining] again. So I needed to find something else to do and I am a people-person as well. I like people and I like kids so I think that inherent nature in yourself will help with teaching. [T2:05.50]

Lara described herself as 'just average' at school, but she believed she had changed now that she was on a career path that motivated and interested her. This was confirmed by the number of distinction grades in her coursework. Her academic strengths included dedication to achieving well at university and doing the degree

properly because she felt an obligation to her family. She also described herself as persistent and organised:

Because I give 110 per cent and nothing less. You know they say 'P's get degrees' but I don't know how to do just enough to pass. And there is two reasons for that. One is that I don't want to and I'm taking up a lot of my family time and resources doing this, so I want to show them as well as myself that I can do as good as I possibly can and give it everything I've got. [T2:06.20]

She described her personal strengths as flexibility, friendliness and approachability, with a caring and compassionate personality. Personal challenges included being too accepting of other people's beliefs, time management and not being spontaneous. She liked most people and took them at face value, which she believed made her vulnerable. Time management was a challenge, as she has a tendency to focus on what she would like to do rather than what is needed. Finally, she liked to think about things rather than 'do things on the spur of the moment'. Academically, she was challenged by a conflict of priorities because she wanted to take time to learn all the aspects, but taking too much time affected her family commitments.

Lara listed her qualities that she considered suited to teaching as empathy and as a result cognisance of individual needs and differences; flexibility and accommodation; and valuing pragmatics and communication as a guide to behaviour and action. Lara stated that:

I think I am flexible, like thinking on your feet when you are teaching and being able to change the way things go and I don't get too worried if things don't turn out the way they're planned. I kind of just go, 'Oh well let's move on and try something different'. [T1:26.50]

Lara described effective teachers as having qualities such as organisation, motivation, care, flexibility and knowledge. She qualified good organisation skills as including the ability to organise the physical learning environment, as well as planning for learning experiences during the day. She talked about motivation as enthusiasm for the job, and enthusing students to learn, which required teacher's energy and stamina.

Her elaboration of being caring implied both caring about students' affective domains as well as recognising a diversity of skills and needs among students. In terms of being knowledgeable, Lara detailed content/subject area knowledge, knowledge of learners and pedagogical knowledge. While not completely confident about teaching, Lara believed her flexibility would assist her.

She believed her biggest challenges would involve the interpersonal skills of managing student behaviour and dealing with parents. These concerns came from a negative practicum experience, and her personal trait of being non-confrontational:

I think that goes back to me being too accepting. I try to just take everything [on]. I wear my heart on my sleeve. So I wouldn't ever want to be accused of something. I don't deal with confrontation very well and I have seen and heard parents that just attack, and that scares me. But I suppose if I am organised and I have that knowledge behind me then you can always back it up, whether it's face-to-face or in a letter or something. So I have got to get tougher. [T1:31.03]

Lara approached learning to teach with usually sophisticated epistemological beliefs. Her understanding of the structure of knowledge was that it was 'a way of knowing'. She believed knowledge was an integration of facts that form a big picture. However, this big picture must also be integrated with the learner's prior knowledge and understanding. She believed deep understanding came from active engagement and careful consideration of the concepts and ideas. In addition, she believed knowledge and truth were owned by the learner and so the structure of knowledge may be different for different people:

I have to understand the parts before I can understand the end result. I have to break it down. I really have to know like all the steps before I can see the big picture. Like I was saying before, you can understand the parts, but if you don't understand the whole as a picture and form your own ideas about that then it is not a 'deep' knowledge. [T1:04.03]

Lara took the view that knowledge was not fixed but rather tentative and evolving. She alluded to there being a depth to understanding based on familiarity with the concept or content:

You can think you know about something but there is always that thing in the back of your mind that says: Oh, maybe that is not quite right or 100%, maybe I don't know everything about that. So that is why it is a bit tentative because you can always learn more. Even about something that you think you know about. [T1:09.08]

She implied that the stability of knowledge was conditional because some knowledge and facts could be fixed and dependent on the context and personal beliefs. Lara believed knowledge came from eclectic sources. That is, understanding was reached as a result of observations or experiences, critical research and with learners using their prior knowledge to reason and make connections with information. While Lara believed the teacher had a significant influence on what was learnt, she conceded other factors, such as environment, external factors and the learner, also had an impact.

Lara viewed ability as improvable, if the learner was personally challenged, motivated to learn and interested. In addition, she claimed character traits such as perseverance, persistence and determination could also improve initial ability:

Yeah, because I didn't do very well, well I was just average all the way through high school, but I have worked hard so I have kind of changed that. But I think that you can change that if you want to with motivation and if you are enjoying it and you are interested in what you are learning then you're going to do better than if you are not really that fussed about it. [T1:17.41]

Lara believed learning and knowing something took time and could be a slow process. She described knowing as a process of gradually building up knowledge and that it took effort, perseverance and motive on the part of the learner:

Learning can definitely be slow. When I am trying very hard to understand something I just spend the time really pushing myself to understand it. Talking about it helps and it is almost like you come across a wall and your mind can't go there but if you keep thinking about it and keep trying to process something then you can understand it. [T1:14.45]

4.4.2 Contextual aspects.

Lara was completing a degree that allowed her to teach in years 1 to 10. Her major KLAS were English and SOSE. Lara commenced her course as a part-time student to find out the impact on her family. She was expecting to take responsibility for her own learning. For example, in situations where unknown jargon, acronyms, and theorists were presented, Lara was reluctant to ask for help because she felt she was the only one not in the 'know' and this compelled her to seek the knowledge for herself:

Theory went through a lot of the units. I remember once Mr X said 'So you know about such and such theorists' and a few people nodded so he assumed that we already knew. I was just too shy to say anything but I didn't know anyone that he was talking about. So from my point of view, we're adults and we're meant to be learning for ourselves, so if you don't know, go find out. [T2:32.15]

She recalled thinking teaching was harder than she had expected. She also recalled differences between her initial experience on a metropolitan campus and the regional campus. Positive differences included the smaller cohort size and classes and the more personal nature of the regional campus experience. She had always found lecturers approachable when she asked for help:

I also thought this campus was much more friendly than the metropolitan campuses [which were] very impersonal. Here you walk past a lecturer and say 'hi' and you are using their names so it was a lot more personal and that's what I liked more about that. [T2: 33.47]

In reflection on her university experiences, Lara believed she learnt a great deal of theory and many practical tasks. She liked to know about theories because she believed they were grounded in research. She often was able to relate these theories to concrete representations in her own children and in classrooms. She described having an eclectic construction of theories about how children learn:

I like theories. I just like being able to know that when I can see something happening in a classroom like it just clicks in my head like 'Oh, that is such and such'. Just knowing that the things that we do are grounded in some sort of

research. You are able to see it. I can't say that I follow one [theory] or like one more than the other. It is a blend of everything. [T3:14.00]

In addition, she also noted that many of the theories were similar or could be applied to different units and KLAs. This provided consistent threads and the ability to generalise and revisit in terms of second and third wave teaching/learning. She especially found this useful in terms of her own development as a teacher:

I remember doing it [critical reflection strategy] in ABC and I just didn't get it and I am thinking 'this is crazy, like why are we doing this?' But then we did it again in XYZ and I understood a bit more. So that was interesting. I suppose that same strategy being used and then knowing that you've grown from there, and the next dip you get a lot more. So probably now if I did it again, I probably get more out of it as well. [T2:13.00]

There was also a sense of a new language and acronyms that she had to learn as part of becoming a teacher:

That was great but that was tough because that was a third year unit and they were talking about 'acronyms' that I had no clue about. And just the jargon that you start to use when you're in third and fourth year that you don't have a clue about [in first year]. But I am very resourceful like that and I just made a lot of notes and went home and did my own research. So I suppose in that way it helped because you are making your own notes of what is going on. [T2:16.43]

Assignments featured heavily in Lara's discussion about learning to teach at university. Again, Lara liked assignments with practical applications. Sometimes these produced practical resources and concrete examples of ideas that she could use in classrooms. Other times it involved practical activities with 'real' students; thus, she was able to apply and make links between theory and practice, which she believed gave credibility to the content. Similarly, other assignments involved research on 'real' teaching problems. Lara felt these types of assignments forged links between research and classroom reality and increasingly, she was developing an awareness of the need to differentiate instruction. Lara stated:

The assignment was very in-depth. We had to choose an area of special needs and write how you'd include a child with the special need into your classroom.

You had to research the special need and then work out what strategies you would use. It was very useful. Most people picked things that you would find in the classroom like Asperger syndrome or ADHD [Attention Deficit Hyperactivity Disorder] or something like that. [T2: 21.42]

Lara learnt about forward planning from assignments. She like the progression from single lesson, lesson sequences and finally, forward planning. She recalled learning to work backwards from the final desired student outcomes to design a learning experience plan. Both the progression and working backwards appealed to Lara because the 'big picture' and 'steps' were similar to her learning style. In addition, she acknowledged and valued forward planning assignments as potential resources for real teaching, so much so that when she received the lecturer's feedback from marked assignments, she immediately pursued their recommendations:

I think I would have struggled with the forward planning in the first couple of years. But I think now they are very valuable because I make them so I can use them later on. I seem to target them around the ages that I'd like to work with later. Whether or not that is going to happen I don't know but it becomes a resource. And the feedback that you get from the lecturers, I change it straight away or do whatever I need to do, because the feedback obviously is very important. [T3:13.02]

Lara also commented on the structure of units as having a significant impact on learning to teach, in particular, the structure and organisation of summer and winter school units. Generally, these were units condensed into a full week. She explained that while these were heavy and in-depth units, they appealed to her because they were so focussed and seemed more cohesive. In addition, there was also an element of social networking because class sizes were smaller. She also indicated that this flexible unit structure fitted in with family life. She stated:

[I liked them] for the social reason. But also the fact that it is intensive and it is hard work for that week but then it is done and in those particular units having the information over a whole semester or 10 weeks, would just be drawing the process out. I mean obviously some of them you can't compact because there is so much information, like the ABC and 123. I would have just struggled with that because you realise how much is in those ones. But I found summer units

much more cohesive because it's all in one go and you are there and you focus for the whole week. You family knows that you're at uni and you're going to have homework every night so it's just do it and get it done. [T2: 02.50]

Lara claimed one of her favourite things about the course was the number and type of teaching strategies she had learnt. She reported learning about the teaching strategies by experiencing them from a student perspective. She experienced a shift in perspective because she recognised empirical learning in practice. She identified the learning/teaching process that allowed participants to explain, model and debrief on what was learnt:

We loved the way that was delivered as well. Lots and lots of activities and strategies for using with kids. But I loved the way she explains about a strategy, then she does that in your class. So you get to not only understand at a theoretical level but you are getting it modelled to you as well as explained and then you do it as a student and that was very much based around experiential learning. So we did have our experience and then creatively reflect and then critically and make new knowledge. So that was something that has just really stuck with me. [T3:08.02]

She also recognised the incremental and logical thematic development of content in one core KLA over the four years. She described learning content that was directly applicable to teaching the core subject and how each year she built on from the previous year's theme. In this regard, she recognised her own developmental learning:

I liked the way the KLA units have been broken up into the themes like the different phases, the oral and early and then middle or fluent and then diverse learners. [T2:27.45]

I mentioned before that I liked the way the KLA units are run based on the gradual release of responsibility model, which I really like. [T4:05.07]

There were number of units that Lara did not believe were useful because they were not relevant to teaching. She believed she would not use the information, assignment or texts. Two units in particular were 'a waste of time' because the content was too simple and was not tailored to her and other pre-service teachers' needs. She proposed a pre-test would have quickly determined pre-service teachers' levels of

knowledge and hence would have provided lecturers with the knowledge to differentiate instruction.

Another criticism was the marking procedure for one of her units. The exam was a 50 item multiple choice test where ‘guessing answers’ was discouraged because items incorrectly marked had a point deducted, whereas if an item was left unanswered it identified a lack of confidence in the answer. In reflection, Lara demonstrated a quite profound understanding. She believed she understood the theory behind this type of marking, and that it could provide useful formative feedback to both the student and the teacher. As a result of this thinking, she believed she would use the strategy in her own teaching:

So that is beneficial in a way because then if it [the answer] is left then as a teacher you know that child has no idea about that and if everyone in your class has left that one [question] well obviously you need to cover that content again. So that would be beneficial. [T2:23.40]

In terms of the difference between the first two years and her last two years, Lara felt the last years were more practical and related to actual teaching in the assignments, text books and content as opposed to theory in the first years. She felt this was appropriate and that it matched how she learnt, which involved the ‘big picture’ followed by the steps that lead to it:

The first two years was a lot of theory and then the last two years with a lot more practical information. I think if it was swapped I don’t think the theory would have made much sense. I think that is the way I learn and I like to know the basis for why we do certain things. So that worked for me. Also throughout the whole degree the lecturers have given you lots of strategies in class and things that you can use later on. If I’m thinking about what we’re actually doing as well as what we’re meant to be learning, then that’s helping me remember. [T4:05.07]

Lara also valued assignments that used critical reflection because she believed being a critical practitioner was a vital element to improving teaching. One of her last units required the construction of a portfolio about her professional development as a

teacher. In her reflective journal, she stated her appreciation for an assessment that reflected what she had achieved. She wrote:

How can you accurately assess a unit that is designed to equip pre-service teachers with the knowledge that they need to go forward in their career? The portfolio assessment is a chance for us to develop and expand our skills in a professional capacity. The link between university and the 'real' world seems a little step closer! (Artefact 1, p. 50)

In her third year, she began to identify with a lecturer's teaching style. She described the lecturer's passion for the subject, use of personal experiences, multiple and varied explanations (drawing), hints about important things to know and knowledge of his learners:

There was lots and lots of content and information but delivered in a way that was interesting and engaging. If you were listening to the lecturer when they say things like 'smart players' or 'people that want to do well will remember such and such' if you're not listening then you won't write it down so you miss it. I think because XYZ is so passionate about that particular subject topic, the way he describes things was just very relevant and he used his experience a lot of the time and just putting things in a different way. And I think because it was his passion and the way he'd do it and if he could see people's blank looks he'd change it and he'd do it in different ways. [T3:06.04]

Finally, Lara also completed an external study, which she claimed was not her preferred style of learning. She acknowledged that she had to be very self-disciplined and she tended to lose motivation if she did not attend university and was unable to talk to people:

I wouldn't have done it externally again had I had my chance over because it was pretty hard to do externally but I think that was just me and my study techniques. I think because it was an external unit you know you forget a week, and you think you will catch up but you don't. That is how I started my social work degree. I started it on campus and then I went off campus and I should know myself. I just lose motivation if I don't go to a lecture or talking to people all the time. It's nice to have a balance. [T3:13.50]

In summing up her experiences at university, Lara made a revealing statement in one of her reflective journals that illustrates how Lara's view of teaching had changed to a more critical social concept. She wrote:

I believe I am a product of ‘good schooling’ and found it very difficult that in his [Gatto, 2008] words I would be deemed ‘useless’! However, I persisted and reread the chapter, taking away the emotional rejection of the word ‘useless’ and I was astounded at my shift in perspective. I have realised that as a result of being successfully schooled meant that I was not a disturbance to the system, went along with the rules, did my homework and did it because it was expected of me. Although I was ‘schooled’ I think I have only really been educated since going to uni and being challenged in the way I think. We were not taught to think critically, to ask the hard questions or to challenge the content of what we were being taught. This chapter has had a profound impact on the way I now see teaching; will I be able to provide an opportunity for my students to be educated or to be taught? (Artefact 1)

Lara did not give detailed accounts of her practicum experiences. However, she did acknowledge the practicum experience as having the greatest impact on learning to teach. She also implied that this was the place and time where theory met with practice. Lara experienced a range of classes across all year levels, which gave her a confident understanding about the variety of developmental levels and which level she preferred. She did not want to teach in secondary school.

Lara recalled the introduction of a university component attached to the practicum. She felt having a theme, such as behaviour management and diverse learners, was beneficial because it provided a framework for observation. Lara learnt about an inclusivity framework (Universal Design for Learning Model) and the importance of building up a class profile (situational analysis). Lara learnt how to differentiate instruction in order to cater for multiple learning styles.

4.4.3 Professional aspects.

Lara viewed the teacher’s role as facilitating learning. She stated this was done by the teacher providing inspiration or challenges that activated intrigue, interest and motivation for the learner. She wanted to emphasise ‘helping’ as a type of tactical response or manipulation strategy:

To learn something you need to be able to take on board what you have been given in terms of information. You receive the information and then you process it and do whatever you have to in your mind to understand it. It’s helping rather

than teaching because it is almost like that facilitating thing. So rather than saying I am the expert and this is what you are meant to learn, you help them learn the ideas themselves and develop. [T1:19.25]

Lara believed learning to teach was not so much an innate natural ability but rather a person had to have the disposition to teach. She also believed the ability to teach developed over time and predominantly from trial and error and some university experiences. She did not believe she learnt to teach by watching others teach, but rather from being involved in the process itself. In addition, she explained that students' behaviour and/or achievement of outcomes influenced her teaching strategies and style:

I suppose some people are born to teach, whether or not they have that natural ability to pass knowledge on or helping someone develop their concepts and ideas. So some people have the right aptitude to use those skills to help other people but I think things can be taught as well and if you have that passion or that interest that can be taught. Teaching can be taught. [T1:21.40]

In terms of her understanding about teaching, Lara was most confident about her professional relationships. She understood professional relationships to be collegial and administrative—with parents and professional associations. She put her level of confidence down to her interpersonal skills, the range of employment experiences, life experiences and her level of maturity. In addition, she readily recognised the need to modify communication skills to suit appropriate circumstances:

How you interact with your peers, your teaching peers, the admin staff, everyone on staff in the school, the principal. I am pretty confident with that. I have worked in a lot of different fields already whether it has been retail, mining or secretarial or whatever and I have always got along with workmates. Obviously you come across situations that are ... or people that you don't really like, but you just move on and find a way to deal with them. I suppose that comes in with being professional. [T1:33.49]

She was vice-president of the Parents and Citizens (P&C) association at her children's school and she emphasised the need for positive relationships and the common good. In the case of schools, she felt successful schools had 'a dedicated and engaged collection of people working to enhance student's learning' (Artefact 3, p5). In

this regard, she reflected on the importance of the school community. She was not as confident dealing with parents, and anticipated this would be one of her biggest challenges. This lack of confidence came from her personal dislike for confrontation.

Lara understood pedagogy to mean her style of teaching and the types of strategies and activities that she used in the classroom. She tended to be confident in this area. Her teaching philosophy statement supported a constructivist and holistic teaching approach. She described constructivism as building on students' previous knowledge; facilitating inquiry-based learning activities that target individual needs; and authentic learning tasks that engage and motivate learners. Holistic teaching was described as 'focussing on individual needs through an appropriate process of learning' and catering for diversity through developmentally appropriate teaching and understanding universal design for learning. Her philosophy statement directly reflected not only her passion for learning, but how she learns. She wrote:

I think it is important to immerse students in experiences that provide the entire picture and it is equally important to provide the necessary steps for them to scaffold their learning in a time and way that suits their individual style [Artefact 3, p. 1].

Lara's approach to teaching was based on her own learning experiences. She identified topics relevant to age group, the learner's motivation and focus, and having real purposes for learning. Her planning was strategically developed or mapped backwards from the 'whole' task to the steps leading to the complete task. She acknowledged her role was to scaffold and facilitate learning but students also needed to be responsible and actively engaged with the tasks. She deliberately incorporated multiple learning styles in the tasks. In reflecting on her process of planning, she was unsure of whether this ability was intuitive or learnt from university studies:

That is the way you are going to teach? I think you come in to teaching with your own stuff behind you so you know or you have a feeling about how you

want your classroom to run and we have been taught so many strategies. [T1: 32.19]

Lara tended to be confident about her knowledge of learners. She put this level of confidence down to one practicum in her first year where she was placed in every class/level in the school for a period of observation. She believed the experience gave her a good 'big picture' of the levels and stages of development. Both her teaching philosophy statement and her portfolio recognise the diversity of students and their contributions to the class dynamics. She also recognised differences in her own children and believed it was important for teachers to recognise student diversity and differentiate instruction to match.

Lara understood assessment and monitoring to include awareness of desired outcomes, developmental learning, levelling and rating of students. She also demonstrated an understanding of different types of tests, purposes for tests and reporting. While she tended to be confident about assessment/monitoring and cited the university as the source of most of this information, she conceded a lack of practical opportunities to actually assess students and report to parents:

I feel like we have had a little bit of that exposure through uni and the feedback that I have got from the things that I have handed in. So here is the outcome and this is what we need to do to assess it and where we need to take them, but [I] tend to be confident once again because I haven't done a lot of it. I had some experience in levelling in year 9s and I didn't get it right. [T1:35.28]

In terms of accountability, she believed this was dependent on the learner rather than the teacher. However, Lara believed it was the teacher's role to stimulate interest, intrigue and purpose for learning and that learners must take responsibility and ownership for active engagement.

Lara understood professional ethical practices to involve a personal teaching style that met the expectations and professional standards of observers, educational organisations, interest groups and associations. As a pre-service teacher, her

involvement in professional organisations and professional development had been limited. However, she recognised the importance of collegial networks and had volunteered to help at a local conference. In this regard, she tended to be confident about ‘doing the right thing professionally’. She attributed her understanding and level of confidence to maturity and work-related experiences:

I don’t know what it was at the time but now it is ‘how you come across in your practice’, is that right? How you are ethically professional. Joining the Literacy Association, and that would be definitely an interest of mine ... I think those networks are very important. [T1:36.05]

Lara was not sure about her level of confidence in KLAs. She explained her indecision was due to the range of student levels. At this point in time, she did not feel she had enough content knowledge in the older year groups but she felt confident about where to access that information. She chose English because she considered it to be area of strength and she attributed her English KLA knowledge to her secondary school experiences in English literature. SOSE was her other major and this was chosen for timetabling reasons.

Her portfolio provided evidence of her content knowledge in a forward planning document on feature articles. Her planning demonstrated support for her ability to access the appropriate content knowledge needed to teach. She had prepared an authentic assessment task ahead of the programme implementation, illustrating she used working backwards from the desired student’s outcome. She understood about activating students’ prior knowledge about the topic and how she could ascertain whole class and individual needs (investigation of a ‘good’ sample). She did not explain how she would ascertain the students’ individual needs, but she did acknowledge how this was implemented into the assessment task by allowing students to choose their topics. Once she had identified students’ ‘needs’, she explicitly taught students the characteristics they had not discovered. Finally, she prepared an outline of their

assessment task to guide her students' independent work on a feature article. Hence, she readily enacted the gradual release of responsibility to students, collaborative learning activities, and was inquiry-based and creative.

In the future, she can see herself teaching in a classroom. She was not in a position to take up employment outside of her regional centre, and as such, she expected to be in temporary positions for a few years. She was happy to do this as it might be less stressful while her children are still young and dependent on her. She expected that with more actual teaching experience, she would secure a more permanent position.

4.4.4 Summary of aspects that influenced Lara's induction into teaching.

Lara entered her course as a married, mature-aged student with a young family. Having previously pursued another university course prior to this experience, she expected an adult learning environment in which she was responsible for her learning. She was inspired to teach by encouragement from a teacher friend and because she felt she had the temperament and disposition to be an effective teacher, as well as passing on her love of learning. However, she concluded that learning to teach was more complicated than she had first thought. She was now highly motivated and committed to her studies. In addition, she had an obligation to her family to do well and place them in a better financial position.

Lara felt being a mother of two children who were within the pre-school and beginning school experience was significant because she had 'real' examples of children's development in numerous areas: language, physical, cognitive and behaviour. She had to be very organised in order to balance family and study.

For Lara, the practicum context was where she believed she had learnt the most about teaching. However, she felt the content and theoretical component of her university experience provided a framework and backdrop for her planning of learning experiences. Indeed, she believed it was important to know about theories because they

were grounded in research. She gained valuable knowledge about learners, in terms of levels of development and diversity of learning styles, and this was where and how she linked her theories to practicum.

In terms of what she had learnt about teaching, she had learnt the pedagogical knowledge from her university coursework mixed with practicum and parenting experiences. During her first two years, there were many theories, jargon and acronyms to learn whereas the last two years involved more practical teaching strategies. She felt this was in line with her learning style, as the theories offered grounding, justification and credibility for decisions. Some of her content knowledge came from her university experiences, which contributed to a process for teaching and facilitating the learning of that knowledge. She increased her awareness of her own 'big picture' small steps learning style, which influenced how she planned and prepared for lessons. She demonstrated a constructivist view of teaching and learning, where she liked to build from what was known, create intrigue and present information that recognised diverse learners' needs. Lara also used a working backwards model for her planning of lessons and sequences.

She attributed her age, maturity, life experiences and employment to high self-efficacy in terms of professional relationships and ethics and as such, these have not changed. Her disposition for teaching also remained constant. However, as stated earlier, her concept of teaching had changed. She retained her lack of confidence dealing with parents and confrontation. Lara was the protector and nurturing pre-service teacher. She wanted her classroom to be a 'safe haven' for her students. She wanted a place where her students could gain a love of learning and feel happy and safe.

Hence for Lara, the learning to teach experience was a combination of personal, professional and contextual factors. Her personal dispositions and parenting combined with her love of learning at her current university and her professional knowledge

grounded in research. Lara felt she needed more practical experience in classrooms with diverse learners and more content area knowledge. However, she was expecting much relearning and was confident about accessing information. Additionally, she felt her ability to be flexible would assist her with diverse learners and behaviours.

4.5 Case Study Five: Barb

Barb was a female pre-service teacher in her final year of a Bachelor of Education degree at the same regional campus. She was aged between 31–35 years and is married with three children, aged between six and 13 years. She was born in New Zealand, but is an Australian citizen. Her father worked in a trade and her mother worked in retail.

4.5.1 Personal aspects.

Barb completed her primary and secondary education in New Zealand in the 1980s and 1990s. She completed her fifth form certificate, which is equivalent to year 10 in Australia. She worked briefly in retail, before marrying and starting a family. Before entering university, Barb completed a university preparation course (UPC). During her studies she worked irregularly doing her husband's bookkeeping but has not worked since having children.

Barb made the decision to teach before she had children and since having children, her desire and self-efficacy for teaching have been fortified:

I mean I did want to do teaching before I had children but it didn't happen like that but I guess once I had them it really consolidated that I have the patience and that passion to work with children. [T1:27.32]

On two occasions, she mentioned being disadvantaged by not completing her secondary schooling (year 10) and she held education in high regard because of its impact on life:

I probably regret not going further with my own education when I had the chance. I sort of really value education now and want [my] kids to value education. Just being educated and exposure to good education. [T2:03.07]

She had siblings who had returned to study and achieved success, which encouraged her to attempt teaching. Hence, returning to study was a personal desire to achieve and prove to herself that she had the ability to obtain a degree:

Perhaps my motivational factor was wanting to prove to myself that I could achieve and also my experience with kids again. I related assignments to either having seen it done in a classroom before or knowing phases of development and sort of linking that to appropriate lessons. I am not an overly confident person but it is just that desire to achieve. [T2:03.38]

In addition, she had been involved in her children's education by helping out regularly at their school. This experience had given her some insight into the teaching profession. Barb was also motivated to teach because she wanted to make a difference to students who were disadvantaged by their lower socioeconomic status. She believed these students were more in need of education:

I feel I work well with kids that are a bit disadvantaged. I can see what other kids don't have. I wouldn't try and make up and try and be a mother as a teacher but I guess I'm just compassionate and understanding. There are all different walks of life and those six hours in your class, for some of those kids, is the best thing of their day. [T1:19.08]

She wrote the following quote on her survey, which also supports her social justice and life-long learning appeal to teaching 'Provide a supportive and safe environment where children can discover through learning about themselves and the world around them'. Her summary of the appealing aspects of teaching appeared to be of a personal nature. She genuinely enjoyed being with students and the prospect of passing on a love of learning and forming partnerships in learning together were appealing to her.

Barb described herself as above average at school and was therefore expecting to do reasonably well at university. This was confirmed in her distinction status on her university transcript. She attributed her ability to being conscientious. She listed her personal strengths as being compassionate and highly organised. Barb also described

herself as focussed on goal setting and having a positive attitude to learning. Her academic strengths were in English and she felt she had good research and writing skills. Other academic strengths included problem solving, searching for valid research material and meeting deadlines. She elaborated on problem solving as autonomous knowledge building:

I have to problem solve, I have to get the information my own way otherwise I don't get it. So I have to set it out even though I can see sometimes logically how someone else may have done it. I have to set it out myself. [T1:01.57]

Personal challenges included public speaking and performance or drama type activities. Academically, she was challenged by comprehension of some texts and algebra. She felt comprehension of texts was often complicated by jargon and lexically dense texts. She used a thesaurus as a strategy to overcome this, but acknowledged this also interrupted her processing.

Barb described her personal qualities suited to teaching as compassion for diverse cultures and characteristics; experience with her own children's development; and her personal planning and organisation skills. She described effective teachers as flexible, compassionate, knowledgeable, and being able to work in a team. She anticipated her biggest challenge in teaching would be resolving or dealing with conflict, in particular parents. She attributed this to her experiences in classrooms as a parent helper and her personal dislike for conflict.

Barb approached learning to teach with an eclectic, but cautious and often contrasting understanding of epistemology and epistemological beliefs. Sometimes she viewed knowledge as an accumulation of discrete or specific facts that were used to support her thinking or develop a position. However, other times she believed in forming her own ideas by analysing the information. She discerned facts as certain knowledge, whereas interpretations were more personal feelings and beliefs that

influenced the nature of the knowledge. In this regard, she viewed the structure of knowledge as dependent or conditional on the purpose for using the information.

In terms of the stability of knowledge, she claimed knowledge was sometimes tentative and other times it was stable and fixed. She implied knowledge might be negotiable and perhaps open to personal beliefs:

It comes down to your own personal learning style too. Or the way you possibly learn it. When I went to school it was all rote learning and sometimes you 'don't get it'. The way of learning it I suppose is the way I interpret that. [T1:05.38]

Barb believed knowledge could come from both authorities and empirical research. In terms of ability, Barb proposed that sometimes it was fixed and other times it was improvable; as such, ability was conditional. She indicated factors such as self-esteem (in particular subject areas), socioeconomic situations, learning styles, motivation and effort influenced ability. She believed 'you learn to be a learner'. Barb took the view that learning was incrementally acquired. She reinforced the idea that learners were diverse and as such, they learn in different ways and at different speeds. She also felt that learning took time and effort on behalf of the learner. Barb believed there was a sense of first wave learning and upon revisiting materials, a different interpretation often prevailed:

Everyone learns differently and at different rates. Sometimes you've gotta go back, because you won't comprehend it the first time. You might go through and highlight key points and then focus on those key points to interpret or comprehend it better. [T1:09.29]

4.5.2 Contextual aspects.

Barb was completing a degree course that qualified her to teach in primary schools. Prior to commencing her degree, she completed a UPC, which she believed was a thorough and useful preparation for mature-aged students and those who had not studied for a while. She commenced the UPC to decide if she could handle the studying from both an academic and workload point of view. She had some reservations

because she had not completed a National Certificate of Education Achievement

(NCEA is the equivalent Year 12 TEE in Australia) and was concerned about the impact on her family:

I had done a UPC course before commencing studying and the whole purpose of that was I left school before completing the final exam and I wasn't sure about the academic bit and I wanted to know if I could handle study with kids and that helped with referencing and academic writing. [T2:01.27]

Based on her secondary school experience, she was not expecting to fail any units and she believed that her ability and conscientious nature would carry her through. Conversations with her siblings confirmed her expectation that she would need to work hard:

I mean I am not up in the top per cent but I am just above average which I knew I was at school anyway. I didn't think I'd fail a unit, which I haven't. I'm just sort of one of the conscientious students that just plods along. I guess having had my sister and brother go through uni as mature age students as well, I didn't think it was all gonna be fun partying. You know how young people all leave everything to the last minute? I knew you know it's not going to be easy. You just have to keep plodding along with everything. [T2:05.00]

She had no particular expectation of the university experience except that she was expecting to be an independent learner. She was surprised by the responses of younger pre-service teachers straight from school, as she felt they were not independent learners. She was not surprised by the number of mature age students but noticed an organisational and ethical difference in them as opposed to the secondary school graduates. From her experience at the UPC, she was expecting lectures followed by tutorials and was surprised when she had one unit in her first year that was in a seminar format:

In the beginning years we definitely had lectures and tutes. The first seminar I thought was really quite weird because I had done a prep course and that was always a lectures and tutes so when I've had a seminar, I found that quite strange at first but ... and now I've got a few units like that. I don't know, it just felt different being in a smaller group. [T2:06.00]

Barb's recollection of her university experience centred around assignments, units that linked theory to practice and practicum. She recalled a number of 'good' assignments that had characteristics or combinations of characteristics, such as being real teaching issues, having relevant teaching application, planning and preparation for teaching, applying frameworks to investigations, and group work. Real teaching issues were identified as learning key content knowledge, teacher/student communication and student anxiety. Barb learnt about KLA knowledge, such as recycling. She also learnt about teacher/student communication and how important it was to listen to students and question them in order to elaborate their understanding and expand their language. Barb learnt about the impact of didactic teaching styles on students' subject area anxiety:

I think the lecturer helped as well because she addressed key learning area anxiety and why we had anxiety and linked it back to how we were taught and I know I was taught by rote. She showed us how you can bring literature into KLA, the type of attributes available to help children learn KLA. [T2:10.15]

Barb also recalled learning about subject and concept integration, community school research and discipline methods. Barb felt planning and preparation type assignments were practically useful and reusable. In particular, she learnt about a process for lesson planning that involved brainstorming ideas on a 'rich' topic. This was followed by developing the scope and sequence. Next, she learnt to integrate other KLAs and finally, planning or making resources for teaching. She also learnt that she could apply teaching frameworks or models to other KLAs or to teaching:

The planning has been so beneficial. I have probably got about three years' worth of ideas as a whole planner that you could breakdown. It was called a learning pathway and we had to create a big brainstorm of a theme. Ours was time and then from that we had to create a learning pathway which was so beneficial. We broke our time down to memories and integrated throughout all the learning areas even though it was supposed to be KLA based you could see all the integration and I know I will pick that up and use it. But the actual original mind map had endless ideas that would make up enough work for a year. [T2:15.22]

Barb recalled content knowledge about learning theories to do with cognition, physical and language development, and practical games designed to improve classroom participation and cooperation:

That has probably been one of the most beneficial units I have done because it introduced all the psychology and the phases of development and cognitive development and I actually found that unit really effective. The text I still use now which was a KLA book. It was when we sort of started becoming aware of SEPH² [games] activities as well. The assignment was a group assignment, we had to come up with a learning experience for children that they were actively involved in. We had to link it [the lesson] to a theory. Then we had to do a rationale about the way children learn. Sort of bringing in the theorists. [T2:08.46]

In terms of less favourable contextual aspects, Barb hinted at some implicit disparity between university theory and practice to school practices. She readily had access to teachers through her voluntary work, so she was aware of this disparity. She mentioned that guest speakers were particularly good at providing more realistic teaching perspectives and providing working examples/experiences:

I think guest speakers are relevant and they are in that field, they have experience and expertise and they put things into perspective. You hear a lot of rumours at uni but when you get a guest speaker who really knows their stuff then you are put straight. [T2:13.06].

Her most common criticism was activities, assignments and units that she believed were irrelevant to teaching and/or where the purpose was not explicitly defined. Irrelevant units were most often described as generic units that were fragmented and it was not clear to her where they fitted into her course or teaching.

Barb completed one summer school experience and a few compacted units. She enjoyed the summer school unit at the time because it was practical. However, upon reflection, she did not believe she retained much from it. She also hinted that some

² SEPH stands for social, emotional, physical health activities and games.

content knowledge was better learnt in a realistic classroom context rather than university:

I am sort of feeling that some of the information I'll have to go back and read through. I don't know if you retain as much in the summer school unit. I know you're not going to know everything about kids with special needs until you've got that sort of a child in your class. I don't know how much I actually retained. I know you have to include them and there's support and resources available. I guess if you're confronted with a child you'd research, you'd get in contact with their parents and support services. [T2:14.08]

In addition, prior to her last semester in second year, Barb experienced a kind of 'meltdown' where she wasn't sure if she would complete her studies:

It was a stage I went through and I thought 'can I really do this?' It was before mid-semester break last year and then we had a big trip away and that was when I was making my mind up whether to keep at it or not. I don't really know why I went through that, I just...whether it was just a pressure thing, I don't know? I do feel really confident and positive about becoming a teacher now. [T3:15.13]

In summing up her first two years of university, Barb reported it went very quickly, but she learnt how children learn, about teaching documents and the value of integration. The main difference between the first and second year was the move from individual lesson plans to forward planning documents. She felt the timing of this change particularly suited her development as a teacher:

I don't think I would have handled those, but I am glad they haven't been left to third year either because I know in our KLA planning assignment, we were in with a lot of third years and at first you feel a bit inadequate, you don't want to offer your advice or opinions, but then you just go along with it and the timing was right for me to do those sorts of assignments. [T2:25.41]

Barb described her final two years of study as 'more pressured' with greater workloads. She was unsure if this was self-imposed or university imposed:

There is a lot more pressure this year. I don't know whether as you go further through you are expected to do more or you have higher expectations but I think definitely this semester's been the biggest workload I have ever experienced, even though I'm only doing the three units and prac. I guess with prac though we still have got that unit attached to it so in hindsight it is four. [T3:16.05]

Similarly to her first two years, she identified useful units as those in which rich teaching resources were developed, usually through an assignment:

The assignment was a portfolio which I have set up and I know I can pick up and take and use it in the classroom. We did a portfolio for that one as well but this one was done in the phases of development so there was a KLA based activity and we had to show integration into other learning areas. So mine is actually quite a rich teaching resource as a result. [T3:01.30]

Her ability to plan learning experiences had become more flexible and she felt she was able to generalise more and/or adapt lessons to suit various phases of child development:

I am getting lots of practical advice and again our assignment is a planning one so I think you put that little bit more in to an assignment like that because you know one day you will probably use it. Some of the assignment I'm going to integrate into the prac that I am on now because it is the same age group. [T3; 08.29]

She appreciated experiences that were more practical activities in schools and with students. She learnt about administering and interpreting the results of diagnostic tests completed by a student. This resulted in meaningful research on the strategies and tasks that would extend the student:

That was diagnosing a particular child. The assignment was quite big. I got a lot out of that. We were interpreting her test and then we also had to further our own knowledge so go and do a bit of research on how to interpret those tests. And you had to then come up with strategies and how you would implement some of those strategies in your classroom just to get her more confident as a KLA but it was just good because I mean, KLA is such a big thing and it was just practical. Really practical advice or strategies or examples. [T3:04.22]

Interestingly, she witnessed two incidents or experiences where there was university and school disparity. In the first incident, she was working with a KLA specialist mentor teacher who mentioned three problem solving techniques that students could use. Barb had not heard of the strategies and hence felt a sense of inadequate preparation from her university experience. The second incident involved visits to a

school to teach a student with specific needs in a one-to-one situation. The disparity came in the form of the practices being promoted by the university to meet the student's needs were not being implemented in school practices. Barb was highly critical of the school because she felt the school was not addressing the student's needs:

It was good going into a school and seeing a XYZ student, but I didn't feel that that student was really included in the curriculum. So it was sort of conflicting with what we were learning [at university]. So trying to do an assignment where you've got a child that was really at year one level but in a year seven class. There was a conflict between what we were learning [at university] and what actually happens in the schools and classrooms. [T3:06.14]

While Barb did not believe her understanding about teaching has changed between first and second years, she did believe she had a deeper understanding of the roles in teaching and what she had learnt in her units had been applied on practicum:

Probably a lot more underlining roles that you think you know all about. I think once you go back on prac everything goes back into perspective and you can see the benefits of having had some of your units because you get to use that knowledge or think now that's why we did that. There's some connections being made now because you hear people say 'Oh, I could do this degree in two years' or 'I didn't learn anything'. And I think 'how can you say that?' Ok some units you might not but yeah, in general. [T3:16.50]

Barb believed practicum was very important and there should be more practicum experiences; however, she did not describe or elaborate on these experiences when asked about them:

Practicum should be longer and maybe more. I know it's hard getting placements and I do find distributed days challenging, especially this year we have a chunk of five weeks of two days a week. But I mean pracs are so valuable, they really are. I mean, I am lucky I have always had a teacher I've jelled with so. [T3:22.02]

Barb's practicum experiences involved all phases of development and a variety of contexts. She recalled her early practicum experiences were not as useful as later practicum, largely because the mentor teacher believed Barb's role was to observe:

Ours wasn't a rural prac, it was one day distributed prac and I didn't get a lot of experience because the teacher viewed the first year prac as only observation

and the only lesson I got to do was my maths assignment. So I felt like an apprentice ... or a photocopy lady! [T2:12.05]

Most of her practicum had a university component involving specific instruction in classroom management and diverse learners. Barb felt the university component was excellent preparation and pre-service teachers received a great deal of information about classroom management strategies. In particular, she recalled learning about preventative classroom management strategies like 'low key responses'. Additionally, she recalled learning how to build up a class profile (situational analysis) to inform her teaching and differentiate instruction:

WPL was great. It was good having a lot of theory backed up. That was the classroom management and we had to create a philosophy on classroom management after looking at different theories. We just got a lot of practical advice. It definitely set us up for prac. [T2:21.28]

4.5.3 Professional aspects.

Barb did not have any preconceived ideas or understanding about teaching, however, she drew on her experiences as a parent and as a parent helper in her children's school. She believed teaching involved a lot of patience and that teachers needed to be passionate about their job. Barb preferred the early childhood phase of development because she was passionate about this age group and she was inspired by the work of early childhood teachers; in particular, how they coped with the diverse cultural and economic backgrounds of their students:

If anything, I would go back and specialise in early childhood because I feel passionate about early childhood education and having suitable qualifications. I mean they [the teachers] do such an amazing job. Particularly with how diverse our culture is and socioeconomic areas. [T3:20.44]

Barb agreed with the view that teaching was facilitating learning through active learner engagement. She concluded that the teacher's role was to scaffold learning

based on student's prior beliefs and by modelling, giving some guided practice until the students could eventually complete the task on their own:

That whole constructivist thing. As a teacher you need to scaffold and facilitate learning. I agree that how much you know does depend on the teacher. [T1:08.00]

She believed this was achieved by giving some of the responsibility to students and that students needed to accept responsibility for learning. She did not see learning as a passive process:

I don't think it should be teacher-directed. Just to make children become lifelong learners they have to learn how to learn and if a teacher is there telling them how to do it or by rote learning or structuring everything, they don't have that opportunity to even explore learning styles, multiple intelligences and things like that. [T1:13.19]

She indicated other variables, such as moods, motivation, peer pressure and/or home issues, influenced what students learnt and that these may not be within the control of either teachers or the learners.

In terms of learning to teach, Barb believed this was predominantly by trial and error, teacher needs-based concerns and subsequent action, and some observing and imitating of others teaching. She also believed you had to have an aptitude or disposition for teaching, passion and enjoy working with students. Barb indicated that the university experience had a marginal influence on learning to teach:

Because I think you have to have that sort of 'nature'. I don't think it is something you can just wake up one day and think I'm going to be a teacher. You have to like kids and be passionate about learning. Not everyone is born to be a teacher. [T1:18.37]

She described herself as not overly confident, but quietly confident about her teaching knowledge and ability. She rated herself as tending to be confident about her KLA knowledge. She saw English/literacy as the foundation for learning and believed it

was integrated into all KLAs. However, she believed her content knowledge came from her secondary school experiences and her love of reading:

I was very good at literacy like English at high school but I don't know ... I have always loved books, I have loved reading. It is just an area that is incorporated so much into life and obviously at school you can incorporate it into anything. You have to. It is the foundation. [T1:23.52]

She mentioned being disadvantaged by not completing her NCEA because she felt she lacked content knowledge. However, as a result she valued education and was well aware of its impact on life.

Possibly, not going any higher in my schooling. Because you touch on some content that others have done in their schooling. So it was like 'Oh ...' So that a little bit. But not having completed TEE, or whatever you call it here. [T1:28.40]

She also mentioned that she had an aptitude for mathematics in primary school, but was teased for this and as result she had developed a dislike of maths, particularly algebra. In her portfolio, she demonstrated understanding about the measurement strand of maths, by planning a sequence of learning experiences that consolidated and extended students' understanding about time. In addition, she made strong links between the mandatory and state system documentation for mathematics.

She described pedagogy as 'the way you teach' and tended to be confident about her pedagogy. She attributed her knowledge of pedagogy to her own parenting skills and helping out at her children's school:

I think having had experience with kids and being in the school on parent help, so you have a bit of knowledge about how a classroom runs. [T2:01.15].

Her parenting skills come from having three children between six and thirteen years of age and witnessing their physical, cognitive, language and social development. She was quietly confident that she knew and understood the range of child development as a result of having three children. In addition, she had been active and regularly involved as a parent helper at her children's school. This experience also allowed her to

see the range of learners at particular levels and how teachers coped with the range of abilities. She also had ongoing and regular opportunities to observe teachers in action as well as being in consultation and dialogue with teachers. She alluded to having a 'teaching antenna' that was alert to and sensitive about what the teacher did. She maintained a file on teaching strategies/resources that she had collected since she commenced her coursework and helping at school.

In her portfolio, she demonstrated understanding about using activities for smooth lesson transitions, use of online materials, strategies for activating prior knowledge and concluding activities. This portfolio also demonstrated her ability to plan for diverse needs. For example, she used 'five steps to programme for an IEP student', the multiple intelligences, and initiated a support group to strengthen students' basic facts. Other management of student behaviour strategies appeared as implementation of 'low key responses', critical preparation to ensure smooth running of lesson, and use of Smartboard (IT):

You know like going in and helping as a parent as well. It's almost like you're observing all the time and just taking little bits and sort of like putting it all together and making it fit to you. [T3:17.55]

Barb also tended to feel confident in her knowledge of learners. She felt she had a good rapport with her students. She again attributed this knowledge of learners to her three children's development. She also believed she was able to work out students' dynamics and use this to match learning styles, students' needs and interests:

I tend to be confident. I just think I can make things relevant and practical and consider everything because I do factor in a lot of things before I take a lesson. Like I analyse the class and I make sure you know if kids needed visual aid ... or you know, just your ability grouping of kids. [T1:25.09]

Barb tended to feel confident about her professional relationships with other teachers. Her experiences helping teachers meant she was already having dialogue with teachers and thus had already had positive affirmation with in-service teachers. She

remained a little cautious about relationships with parents as she described herself as non-confrontational. She contributed to school life by helping as a parent, assisting with grading students, writing newsletters to parents and the management and allocation of parent roles in whole class activities.

Originally, Barb was undecided about her professional ethics because she was not sure what they were. However, with further clarification, she described ethics as being related to her code of conduct and the external expectations about her behaviour as a teacher. She changed her rating to tending to be confident. In addition, her portfolio showed evidence of post-lesson reflections. In these reflections, she demonstrated an awareness of the diverse needs of students, the lesson pace and progress, her students' content knowledge and student engagement. She had also attended professional development in the form of a workshop and a conference. This artefact also demonstrated her understanding of systemic and national documents used by Western Australian teachers and understanding of systemic policy regarding excursions.

Barb felt least confident about assessment and monitoring as she rated herself as usually not confident. She attributed the rating to not having seen or done very much assessment on practicum. In particular, she felt out of her depth with formal assessments but she was readily able to assess her own lessons for achievement of planned or desired student outcomes:

I haven't done any, apart from assessing your own lessons, I haven't seen any formal assessment and the whole reporting thing. I haven't had any exposure to it on prac. So it is something I am hoping to get some experience on prac because just now going from levelling to the As, it is formal. I feel confident in looking at my learning outcomes and seeing if they have been met. I feel confident doing that but it's the actual formal reporting. I sat in on a school meeting where they did learning collaboration so when they were going to allocate grades so I guess that's a process you would hope you had within the school. [T1:25.34]

Despite her lack of confidence in this area, Barb's portfolio showed an understanding of gathering data to produce a literacy profile for two new students in her practicum school. This involved the collation of work samples for the portfolio and participation in year one collaborative levelling of students' work at a staff meeting. Finally, she had also had formal discussions with a school psychologist on an IEP to assist with a behaviourally challenged student, participated in a parent interview to discuss the same IEP and she had also reported back to parents.

Barb was expecting and willing to go semi-rural for a teaching position. This would mean splitting her family up but she did not want to do relief teaching. Additionally, she felt after her efforts over the past four years she wanted to put her skills and knowledge into practice immediately. She hinted that she might pursue further studies in early childhood, but not 'for a while'.

4.5.4 Summary of aspects that influenced Barb's induction into teaching.

Barb entered her course quietly confident about teaching, which was based on her parenting experiences and her involvement in her children's education. At the beginning of her course, she felt she had a good understanding of what was involved in teaching, which was essentially about dispositional aspects and what she had experienced as a parent helper. She was self-motivated, committed, passionate about teaching, flexible and compassionate.

Barb was the practical and empirical pre-service teacher. She learnt to teach by applying content knowledge to her life experiences. Her experiences at university and on practicum involved autonomous knowledge building and inquiry approaches to learning, which were usually through assignments and some collaborative problem solving. The assignments directed her learning by providing the obligatory time to sort through, elaborate and generalise on the concepts/content being suggested. The

collaborative problem solving provided the opportunity for social interaction involving justification and rationalisation.

At the conclusion of her course, she maintained a quietly confident disposition for teaching. She attributed much of her knowledge and skills to her motivation, previous schooling, dispositions, and being a parent and parent helper. Hence for Barb, the personal and contextual aspects had laid the foundations from which her understandings of the professional aspects were emerging. Barb's university experience triggered a shift in her thinking about what teachers do, a performance orientation, to a more sophisticated understanding about the orchestration of events in a teaching episode and their impact on students.

In terms of what she needs now, Barb felt she needed teaching experience to consolidate her understanding about assessment and its role in informing teaching. She also felt she needed to learn to use IT.

4.6 Case Study Six: Jacqui

Jacqui was a female pre-service teacher in her final year of a Bachelor of Education course at the same regional campus. She was under 25 years of age, single and living at home with her parents. Her parents were of British origin and she was a first generation Australian. Her father was a tradesman and her mother had a professional degree.

4.6.1 Personal aspects.

Jacqui completed 13 years of schooling (including pre-primary) in the 1990s and early 2000s. She also completed a year 12 certificate and entered university shortly after completing this. She made the decision to teach while in year 11. She knew she wanted to do something with children and was contemplating either teaching or child psychology. She decided on teaching because it was more suited to her disposition. This was affirmed when she completed an early childhood course in year 11. Jacqui believed the early childhood experience gave her an insight into teachers' work and also reaffirmed her confidence and self-efficacy for teaching:

I was in year 11 and I just couldn't really decide. I either wanted to be a child psychologist or a teacher because I just wanted to work with kids. So then I did an early childhood unit in year 11. We had to go out to PSs [primary schools] and just spend one day a week with them and I had a pre-primary class and I loved it and I thought I'll do this. [T2:01.41]

Jacqui also recalled a favourite teacher in her own life that had a significant influence on her and whom she credits for her entry to university. Jacqui was also attracted to teaching by a sense of moral and civic responsibility; she regarded teaching as important to society:

Because a good teacher can make a difference to students' lives and help them enjoy learning and I want to be one of those people. I remember a really good teacher I had and how much that impacted on me and how that made me more successful and to be able to go to uni and I want to be able to give that opportunity to students as well. And also because you spend so much time at school it should be a place that you enjoy coming to and I love kids as well. [T1:31.30]

There was also some evidence that Jacqui was more focussed on being a popular teacher rather than educative approach to teaching:

I remember my favourite teacher and I want to be a teacher that kids want to be in your class. I remember there was always the teacher that we said 'oh I hope I get him or her for next year. [T1:33.00]

Finally, Jacqui wanted to empower students. She described a sense of achievement when a child finally understood something. Additionally, she liked to inspire and encourage students to want to participate and learn.

Jacqui described her personal qualities suited to teaching as being organised; planning; enthusiasm for teaching; patient; and having a passion to teach. She particularly enjoyed the creative side of teaching that involved planning and organising exciting and stimulating learning experiences. She was passionate about working with younger children:

I like children's individuality as well because once you get sort past year 4 and 5, they want to be like everybody else and that kind of starts to go away. But younger ones get so excited about small things and they'll get so into it. [T1:32–35.00]

She described effective teachers as being hard working and having qualities such as patience, understanding, and a passion for children and teaching. Her anticipated challenges in teaching were about behaviour management. In particular, she felt she had covered the strategies at university and had not had any problems on practicum, but she was still anxious about behaviour management because of the individual and diverse student backgrounds:

I haven't really had any major problems with behaviour management on prac but it is just something that I am always worried that I mightn't be able to do it properly. I think that might be why I prefer younger students. I mean I haven't had an official prac with older kids yet but I am quite concerned about behaviour management with older kids because they won't take me seriously and being a

young person and not being very tall. Or not be taken seriously by parents as well. [T1:37.33]

Jacqui described herself as being slightly above average in terms of her schooling. In her university studies she was a credit student. She described her personal strengths as kindness, generosity, and friendliness. Her academic strengths included determination, and a hardworking and competitive nature. Jacqui's challenges included being bossy, spelling and coping with stress.

Jacqui approached learning to teach with marginally sophisticated epistemological beliefs, holding a subjective view. In terms of the structure of knowledge, Jacqui tended to view knowledge as integrated networks of ideas and concepts and that these were influenced by personal learning styles and connections with the learner's experiences:

I think different circumstances like some cultural beliefs will be interpreted differently. It's interpreted but it comes from your experiences as well as the teacher facilitating it. Personally I retain more from a story rather than a text book because you can put it into a setting and then it kind of means more. That is just how I remember things. [T1.07.49]

Jacqui was inclined to believe that studying involved looking for facts and that this was dependent on the purpose for knowing something, such as exams. She described the purpose of exams as the recall and memorising of factual information.

Jacqui tended to believe knowledge was tentative and changing rather than fixed. She gave the example of her changed views of teaching since her first year, indicating that with further investigation and inquiry, knowledge developed and different perspectives were considered:

I was thinking it can be changed later on down the track. Like you can think something now like what I thought in my first year of teaching and after I actually did prac, I had different ideas. I think it can change. [T1:08.57]

She also claimed that some KLA content might be certain and stable, such as mathematics, while other areas were less easy to define, such as philosophy. Jacqui believed knowledge came from empirically researched sources. She stated empirical research included information from both authority or experts and personal experiences, but she also alluded to the learner actively and independently constructing meaning:

I think it is both. I think it does get passed down by experts but I also think that people learn a lot more through their experiences as well ... because sometimes working though it yourself you learn. You learn better than if someone just tells you something because you retain it better because you can remember how you came to that conclusion. [T1:11.31]

Additionally, she suggested that while she had learnt knowledge from her university experiences, this knowledge needed the practical component and even the making of mistakes to cement understandings:

I think I learnt a lot from my pracs because you learn so much at uni but it doesn't really make a huge amount of sense until you go on prac and do it. Like I find that once I do prac everything I have learnt throughout the year just kind of makes sense to me and I understand it better. I suppose you learn more through doing and making mistakes as well. [T1:13.31]

Jacqui felt ability was improvable, but sometimes she took the view that ability was fixed. In her secondary school experience, she described herself as 'good' at English and SOSE, but she found maths and spelling particularly difficult. She also believed other learner factors, such as motivation and aptitude, could influence learning. Additionally, she felt some contextual factors, such as parenting styles and/or an inspiring or motivating teacher, could also influence learning:

I guess because children all have the capacity to learn it is just the teacher and whether or not they find what that child needs and brings it out of them. So I suppose everyone has the ability to learn and it is just whether or not it's brought out in the child. But the learner has to work at it. [T1:20.08]

Jacqui identified learning as being individual and idiosyncratic by nature. She believed the speed of learning was governed by learner variables, such as familiarity

with content, and contextual variables, such as critical discussion and interactions that could influence interpretations:

I think you learn at your own pace because I know in year one and two I was really behind but then in year three I had a really good teacher and then it just all worked from there. So everyone develops at different speed and paces.
[T1:14.01]

4.6.2 Contextual aspects.

Jacqui was completing a degree that qualified her to teach in the primary school. She was expecting a similar learning environment and routines to her secondary experience and thus she was expecting a somewhat didactic teaching and learning model. She found calling lecturers by their first name daunting and perceived them as authority figures.

Jacqui was very conscious of the impact of activities from a student perspective and this sensitivity prevailed throughout her course. Her concerns were based on her personal feelings and experiences of various activities as both a past student (primary school) and how she felt about doing certain strategies at university. These concerns affected the strategies she chose to use and her lesson planning. She would not choose activities that made students feel uncomfortable, awkward or embarrassed. She aspired to be a teacher that students ‘wanted to be in her class’ and she strove to design enjoyable, exciting lessons that motivated students to participate. She was critical of lecturers’ and mentor teachers’ strategies and teaching styles and selectively decided if she would use their strategies based on how it made her feel. She was quick to judge her lecturers/teachers according to their dedication to students and passion for subject matter/teaching level and these dispositions became more important as she progressed through her course and practicum.

In Jacqui’s reflections about her learning to teach experiences at university, she recalled positive experiences involved practical assignments, collaborative discussions,

developing ecological knowledge, learning about teaching documents, developing her philosophy statements and journaling (reflections).

For Jacqui, assignments dominated her discussion of her learning to teach experiences. In particular, she preferred practical assignments that involved working with 'real' students and where she could trial strategies or activities and reflect on students' responses. In a tabloid activity, Jacqui was able to repeat her task four times. She reflected on student diversity and she was able to improve the orchestration of the task each time she repeated it:

I liked that one because the assignment was a tabloid day. You had to make up an activity and then small groups of kids rotated through and it was really good because you got to do it four times you were really able to reflect on things because you got to make changes each time. It was a real experience because I did not know the group of kids. [T2:21.41]

Other assignments with practical components involved projects. Jacqui reported that these assignments/projects were useful because they demonstrated the process of design, make and appraise and she was involved in the process from a student perspective. She also believed students would enjoy doing the same types of projects. However, she did not connect the experience to specific teaching of the KLA:

We built a vegetable garden at the school. I wrote a letter to a hardware store and they donated everything as well as designed the garden. The only problem was getting everyone organised. That was really stressful. The other thing with that unit was there was very little about what actually happens in schools and there wasn't anything that showed what you would actually teach with different year levels. [T2:37.13]

A third element to do with practical assignments involved planning and preparing sequences of learning experiences. Jacqui particularly liked the creative side of writing lesson plans and learning sequences because they were highly relevant to students and she could use them on practicum and in future teaching. She also spent a great deal of time planning and researching creative and different ideas for lessons.

Jacqui described learning to teach through opportunities to engage in collaborative learning contexts at university. The collaborative activities included debates, games and problem solving. Jacqui remembers much more from this type of learning because she was engaged at the emotional, cognitive and social levels. Some concepts were challenging which also meant she wanted to work harder and spend more time attempting to understand the issues:

There were lots of opinions and the lecturer would throw out a question and wait for everyone to consider it. I think I remember things better that way because I learn better through conversations and things. They stick in my mind better than something that I have read. I think that was probably one of my favourite units because it was challenging and I studied a lot harder for that one because there were a lot of new things. I mean when you already get something you don't tend to work as hard as if you don't get it I think that was good as well. [T2:06.50]

Jacqui felt she was given many opportunities to develop ecological knowledge. Ecological knowledge typically involved examination and analysis of resources, materials and/ or strategies. Jacqui particularly commented on activities/strategies where the teacher educator modelled procedures and the pre-service teachers carried out the activities as students. This was usually followed by a 'debriefing' session where rationales, skills and knowledge were made explicit to her, but also she had to switch her thinking from student to teacher:

Basically we spend the whole tutes doing activities. We got to take notes and things on everything. But the whole tutes would be doing activities and then the lecture was reinforcement. Sort of did the activity and then like de-briefed on it and it was good to see and use the resources. Because like some of us remember this [from school] and other stuff was really cool and I wish I had this when I was doing prac [T2:16.42—multiple intelligences quiz]

Jacqui recalled learning about and using documents and reference materials that in-service teachers used. Jacqui felt it was important to have the time to learn about how the documents were designed, the history/rationale behind them and how they could be used to inform teaching and address students' level of understanding.

Jacqui identified the development of a personal teaching philosophy as a significant activity that contributed to learning to teach. There were several versions of her philosophy statement; sometimes these were general such as behaviour management and other times they involved KLA philosophy. However, Jacqui remembered being given the theories and theorists and then being asked to generate her own philosophical belief with reasoned evidence. For Jacqui, this was quite a profound task because she identified changes in her rationale from the first year to the third year. She reasoned the transformation was from omniscient authority sources (theorist and referenced) in her first philosophy statements to relative empirically researched evidence and personal theory construction in subsequent drafts:

That was behavioural management philosophy for the assignment. At the time it was really good but they said we'd change it over time and when I wrote it I was quite impressed. Then for another unit I read through it again and I thought 'why was I happy about that'. It is a bit useless. But I had time to play with it and I adjusted it. It just shows how much you have changed. Initially, I was just talking about all the theories when really it is it wasn't much about my own opinion because I wrote that before I had done one prac. [T2:33.13]

Finally, Jacqui identified the practice of reflecting in journals as significant in terms of learning to teach. Reflection was seen as time to critically respond to an idea being put forward as well as reflect on a lesson undertaken in practicum. However, Jacqui felt the quality of her reflections were subject to feelings and moods. Towards the later part of her course, she also felt reflections were over used:

A lot of the assignments were all reflection based. I had a unit where we have to reflect on our reflections and I think that is a bit of overkill. Then with the pracs you are reflecting on your lessons you're reflecting every day. I find that very valuable. The other day I went back through and read my prac journal from last semester and on a bad day I was a bit dramatic. So it's just how much you are feeling at the time. [T2:45.28]

Less favourable influences on learning to teach were also articulated. In terms of negative assignments Jacqui claimed group work was problematic. In particular, she

preferred not to do group projects because of work load issues. Jacqui experienced group assignments where other members 'did not pull their weight', which meant she did most of the work.

A second criticism was generic units that were not necessarily related to the education programme. The main criticisms were irrelevant content and/or simplistic content. Jacqui felt instruction was not differentiated and as such, she had to labour through things she already knew or was skilled in.

To a lesser degree, Jacqui preferred in-class essays to exams, short answer evaluations and multiple choice. She disliked multiple choice exams because the choices distracted her and she disliked short answer questions because she felt you needed to have precise answers. She identified the in-class essay as a preference because it was an opportunity to present a position and develop the argument empirically.

In summarising and reflecting on her first two years at university, Jacqui believed it was a positive and constructive experience. In particular, she made links between her own prior student knowledge and experiences in teaching, learning and theories. She came to understand the explicit rationale behind why teachers do things in certain ways. She identified a change to a more sophisticated understanding about teaching:

You don't realise you've done so much till you look back. Like so many units, activities, the text books and the theorists and assignments on the theorists. Because they are things you don't really think about consciously doing but knowing that that is an actual theory then you can kind of adapt to it more and see what it actually does. [T2:42.01]

As with her first two years, the last two years had 'good' assignments, which again had relevant teaching applications, planning and preparation for learning experiences and development of ecological knowledge. She noted that planning

assignments required rationales and as such, she had to explain her decisions about the lesson's structure.

New experiences in the second two years were the development of portfolios, choice in assignments, compacted units, assessment assignments and noticing lecturers' enthusiasm for their subject. A new type of assignment was the portfolio. Jacqui thought portfolios were highly relevant, practical and useful teaching resources. Additionally, portfolios were engaging to set up because they identified the important elements of the topic or subject:

We made a portfolio which was really good because we did four different topics within the unit and we did one for all the different year levels so there was something you could do at whatever year level you had but I think having a portfolio with all of that positives and negatives and resources and everything in there is going to be really handy when I am teaching. [T3:05.00]

A new experience for Jacqui was compacted units. The compaction was considered positive because it was quick and easy to sustain a rigorous routine over a short period of time:

I liked it because it was just over and done with. I really knew the readings and things had to be done that night so I really liked the routine. I really liked the assignment because the portfolios was something that is very relevant to what we are going to have to do [for a job] and it didn't really feel like a big assignment. [T3:12.14]

Jacqui identified assignments that involved assessment, which had not been covered in her first two years. She learnt about the assessment tests and implementation. She learnt to diagnose a student's strengths and challenges from the analysis of the results:

We will have to look at those sorts of things when we are teaching and most of the units don't show you that kind of assignment. Normally it is all planning and stuff but that is really important to understand. We hadn't done much with assessment. It was pretty much all just planning. [T3:11.30]

Also apparent in her third and fourth years were her evaluation of lecturers. She noted lecturers who were enthusiastic about their learning areas and ones that she could see as real teachers, which had a significant role model impact on her.

Jacqui identified the main differences between her last two years and her first two years was the ability to draw on practical experiences when thinking through and engaging with the information and ideas being presented:

In my second year first semester I was actually doing a fourth year unit. I found them really interesting because I could see a difference between sitting there then and seeing the fourth years. They just brought a lot more practical experience though their prac and they knew so much about the schools and things like that. [T3:28.45]

The fourth year units appeared more relevant and directly related to teaching than perhaps the other years. She enjoyed lectures and tutorials that were practically orientated to teaching. She alluded to enjoying stories or lecturers' real life experiences in classes and or how they go about doing things. Jacqui believed the university experience was competitive and this provided a motive for studying:

I think uni is competitive but it makes you work harder. I suppose it is extreme motivation but I guess more so with the group of people that you tend to associate with so that is why I always try to associate with the people that do work harder because they kind of encourage you to work harder. [T3:22.54]

However, she did not believe marks and grades necessarily reflect teaching ability, instead she alleged it boosts your confidence to teach:

I think as much as it is good to do well in your marks, it doesn't necessarily reflect how good a teacher you are. Like some people can get really high marks but then practically not be that good. But it is nice to have your high marks, whenever I get a really high mark for a unit I feel more reaffirmed with myself that I can be a teacher. [T2:42.36]

Jacqui maintained that exams were stressful, which affected her ability to recall. Thus, she did not believe exams give a true indication of what she knows. She indicated

assignments allowed for deeper processing of knowledge and therefore were more likely to stay with you than studying for recall:

I prefer assignments because I have got time to leave it and come back to work on it because I tend to start really early whereas in exams the conditions don't necessarily get people showing exactly what they know because you don't give them much time to call on that knowledge. Whereas with the assignment, when you have researched it, you kind of you remember what someone said and I think you spend more time on a specific aspect in an assignment whereas with an exam you like spending three or four weeks learning a lot. [T3:23.50]

She believed she had changed in terms of her understanding of teaching.

Initially, she was perhaps a little over confident about teaching but as time passed and she gained more experience in classrooms and schools, she gained more specific knowledge about planning learning experiences. This gave her a greater sense of responsibility and accountability:

I am an adult now. I think when I first started uni I was thinking I get all this stuff and I know what I am talking about, but then every year I can't believe I ever thought I knew everything last year. I suppose the prac and the more children that you are with and all the different people and school environment. But also I think I am more mature than I was when I started uni. Also the work I was doing before uni was not so responsible. But then going through pracs there are a lot of people that are depending on you so it makes you more responsible and more organised and plan better and I would like to think that I am getting on top of things earlier since I have gone through uni. [T3:27.21]

Interestingly, while Jacqui felt the practicum experiences were the most significant in learning to teach, she also liked the university component that was attached to most of her practicums. She felt the focus on classroom management, lesson planning and later inclusivity focussed her strategic awareness. Additionally, she learnt how to do a situational analysis and build up her class profile to inform her teaching:

I liked the idea of having that university contact time because you were more aware of what you were supposed to do on prac whereas with my first year prac you kind of were given a booklet and then you went on prac and you just had to do your ten lessons or whatever it was. So I liked that. [T2:32.20]

Jacqui believed the days leading into the practicum blocks were especially useful for getting to know students but the block practicum should be longer:

I think they are so valuable but I think distributed days are useful to get to know the kids before you start but I think we need more block [time] than distributed because you are still not there for a huge portion of the time. [T3:35.17]

Jacqui was expecting to learn a lot more from the sustained final practicum experience. She preferred the early childhood phase of development because of their individuality, imagination, spontaneity, and their responsiveness to learning.

4.6.3 Professional aspects.

Jacqui had an eclectic view of teaching as sometimes being traditionally teacher-centred, while other times it was about facilitating learning. She indicated teaching was about understanding students' needs and meeting those needs. She also alluded to the learner being the driving force behind the teacher's decisions about what will take place. Therefore, teachers would need to be sensitive and flexible to change according to students' needs and interests:

I think the teacher has an important role because if the student is not interested then that can be related to the teacher not finding what that student needs. I think in some cases but not in all cases it can be the parents or the family situation. [T1:24.09]

In terms of the role of learners, she concluded that there was a reciprocal relationship between teaching and learning; however, in a given learning experience she felt learners had to have a degree of motivation:

I still think that the teacher has to facilitate or keep them interested. If they come up with one thing and the teacher goes with it, it depends on the teacher. They are both as important as each other. But the student has to be willing to take on what you've been told and then interpret it and learn it yourself. Telling a student or someone something isn't going to make them learn it. They have to want to actively engage. [T1:22.29]

Jacqui believed she had learnt to teach by trial and error with some influences from the university experience and students' behaviours and outcomes. She believed

that in observing others teach, she learnt what not to do because she positioned herself as the student on the receiving end of what she was witnessing. She was not convinced either way that teaching was an intuitive and instinctive skill. However, she felt some teachers were really good teachers, but you could also be a good teacher by being motivated and working hard to become a good teacher:

I tend to pick up things I don't want to do more than I pick up the things that I do want to do. Like last year, I had a year one class and my mentor teacher was a really good teacher and she'd been teaching for a really long time but I thought some of the things that she did with the little kids was horrible. I suppose I think a lot from what I remember when I was at school and how I felt and because I was quite emotional and shy. I think I don't want to do the things that put kids on the spot when I am teaching. [T1:27.41]

In terms of teaching dimensions, Jacqui was most confident about pedagogy and professional relationships. She understood pedagogy to be the different ways of teaching and the different strategies used to teach a topic or skill. She was usually confident in this dimension:

That is the different ways of teaching and strategies. I probably put too much pressure on myself on prac because every single lesson I do I want it to be something that my mentor teacher has not seen before so I was there for ages. My mentor teacher would just give me a week with timeslots and outcomes that she wanted for me to meet and I would just spend ages trying to find something different for everything. [T1:42.08]

When talking about her pedagogy she made reference to her practicum experiences and she stated that while her university experiences (assignment and classes) were helpful in developing her pedagogical knowledge, these did not develop fully until she trialled them on practicum. Her philosophy statement acknowledged that she would need to use a variety of classroom management strategies dependent on individuals within the class as well as classroom dynamics. The issue of diversity and inclusivity also affected her ability to facilitate learning. She described a lesson that showed a definite pre-planned framework, whereby she used an innovative introductory

activity designed primarily to capture interest or arouse curiosity. This was followed by opportunities to work in collaboration with other students in mixed ability groups. The collaborative activities included responsibility for task completion by the whole group with an accountability measure incorporated, which saw one student report back to the whole class. The activities themselves were diverse in that they catered for learning styles identified as oral to written; visual to oral; and cognitive to visual type activities. Finally, the whole group reconvened for a concluding and feedback activity.

Jacqui was usually confident about her professional relationships. She attributed her level of confidence and skills to her employment as a retail manager and having to deal with both staff and customers. In addition, her relationships with her parents and other family and friends meant she has strong social skills:

I am probably very overly friendly person. I talk to anyone really. I was manager for a while and dealing with all the other people outside of the shop and then also the people that were working for me. [T1:46.10]

She described herself as a person who made and maintained friendships easily. Her philosophy statement again acknowledged that at this point in time she had limited experience with professional partnerships. However, she viewed the development of partnerships with key stakeholders as important. In particular, she described parent and teacher partnerships as interviews, information nights, newsletters as well as parent helpers.

Jacqui tended to be confident about her understanding of professional ethics. She had an idealist view of her role as a teacher to be inclusive and fair:

To be the facilitator and to work as hard as I can to make sure that every student has equal opportunity and understands and gets a fair go. I suppose the morning programme like coming to school and being engaged. [T1:50.10]

She was well aware of the need to reflect critically on her teaching and had commenced a reflective journal while on teaching experiences. Typically, she

considered areas and actions that would have improved the lesson and how this was influencing her evolving approach to teaching. In particular, she was constantly revisiting and adjusting her classroom management philosophy statement, which was first written in her second year of teacher education course.

Jacqui was undecided about her general KLA knowledge. She felt confident about literacy and society and environment, but not so confident about maths or spelling. This had not changed throughout her course:

Probably literacy because I love all the games and things that we did and I love literacy myself and so I think you can do a lot with that subject and also with like S&E [Society and Environment]. But with maths, it is not my strongest point I have to work really hard with maths to be able to teach it well. But my main fear is spelling. I always get scared I'll write a word on the board that is not correct. [T1:39.40]

She attributed her literacy knowledge to her university coursework and her personal love of the learning area. Her SOSE subject knowledge came from her secondary school experiences and these experiences were successful. She was readily able to research any topics she was unfamiliar with. Her main concerns were making lessons interesting for students:

Literacy I learnt here at uni. And S&E, that was my favourite subject at school. I have done an S&E unit but I think with S&E you can go and research that yourself and then like make interesting lessons out of it. But the other thing that I worry about as well is making it interesting because it takes so long to plan. [T1:40.50]

Jacqui was also undecided about her knowledge of learners. She was apprehensive about older learners because she was concerned about her own KLA knowledge, not being able to connect with them and the potential for personality clashes which might affect behaviour.

Her philosophy statement also acknowledged that the number of students in a class meant there would be multiple personalities and as such, students would need to

be treated as individuals. She further qualified student diversity in terms of needs, ideas and levels of independence. She described one way of achieving this was through the use of multiple intelligences in the planning of activities.

Jacqui was least confident about monitoring and assessing and she confirmed this in her philosophy statement. She attributed this lack of confidence to inexperience and lack of instruction:

I haven't really done a lot of assessing. On my on my last prac my mentor told me to just start doing it and I hadn't really been taught so I kind of just made checklists and things to make sure each child was doing the things but I also worried that because I feel sorry for someone I am worried that I'll be too easy on people. So that kind of worries me but at the same time I have never really had any experience in it so I can't really decide. [T1:48.37]

Her philosophy statement acknowledged the curriculum framework criteria for assessment and evaluation. She believed feedback should be timely, constructive and relevant. She also implied that assessment should be planned along a time frame so that multiple pieces of evidence could be gathered. She believed positive and supportive experiences at school lead to improved feeling about school and improved motivation to achieve outcomes. She used a small range of assessment strategies such as marking keys, checklists, and a rating system for keeping class records as well as anecdotal comments. However, she was unfamiliar with reporting to parents. She believed this dimension would be built up and developed with practice in the field and advice from mentor teachers.

Jacqui believed she would remain in teaching for a long time and her preference was in the early years. She believed she would pursue further studies and specialise in literacy:

Hopefully teaching somewhere local and hopefully with younger children. Then hopefully start my masters. But then I would like to do that one day and I used to think I want to do special needs but now I am thinking probably something to do with the literacy area. [T3:30.00]

4.6.4 Summary of aspects that influenced Jacqui's induction into teaching.

Jacqui was a nurturing and creative pre-service teacher. She entered her coursework relatively confident about both her academic and teaching abilities, which were largely the result of her own positive school experiences and her upbringing. On reflection, she conceded she was perhaps overly confident about teaching in her early years at university. She believed she had the disposition to teach in terms of her strengths and in her skills suited to teaching. Her description of effective teachers was quite simplistic and idealistic. Initially, she identified more with the student perspective than the teacher perspective and also tended to judge and evaluate information and experiences from this point of view. She also maintained her sensitivity to students' feelings, in particular not liking to upset students and her desired to be 'liked' by the students.

Jacqui's pedagogical understandings changed. While she claimed to have learnt the theory at university, this was not fully comprehended until practicum. She noted changes to her classroom management strategies and in her philosophy statement, which moved from theoretical research in her second year to empirical research in her last draft. She was also expecting more changes with growing experiences. She had consolidated a lesson planning framework that was driven by her motive to have creative and engaging lessons. To this end she spent a great deal of time researching ideas for teaching.

She also acknowledged learning about literacy and integration from her university experience. Jacqui described gaining an insight into the rationales behind methods of teaching, teaching documents and the scope and sequence of topics/skills. These were usually and most effectively learnt collaboratively with modelling, debriefing and debate with other pre-service teachers.

Her success at practicum affirmed the suitability of her personal qualities to teaching and her relationships with her learners. It is not explicitly evident that her epistemological beliefs changed during her university time. However, she did come into her course directly from secondary school and had some naive perspectives. First, she saw her lecturers as omniscient authority figures. She thought university would be similar to secondary school and was expecting to be told what to do and when to do it. Second, her decision to teach was a little idealistic, in that she wanted to teach because she loved younger children. She was very conscious about how teachers made students feel and her desire to be a 'popular' teacher.

These understandings translated into a teaching style that was eclectic and dependent on the topic or concept. She believed that sometimes the teacher would need to be the primary knower who disseminated the facts and other times they inspired curiosity and encouraged practical application prior to explanations and elaborations. Jacqui talked about 'managing' learning experiences and she was very strategic and concerned with lessons being purposeful but interesting in their engagement of the learner. Hence, she believed she had learnt to teach from trial and error and autonomous research of interesting delivery techniques and activities.

For Jacqui, the learning to teach experience was largely a combination of personal and professional aspects with some influences from the context of university but more particularly practicum. It was very important for Jacqui to be a popular teacher. Therefore, learning about the professional side of teaching was important. In terms of what else she needs, Jacqui was most concerned about her lack of experience and instruction in assessing students and as such, felt she would need collegial support or professional development to rectify this. She was concerned about some KLA content, but expected to relearn what she needed in order to teach. There

was also some apprehension about teaching older students, hence she had a preference for the early childhood phase of development.

4.7 Case Study Seven: Leah

Leah was a female pre-service teacher in her final year of a Bachelor of Education degree at the same regional campus. She was less than 25 years of age, single and living at home with her parents. She was born in Australia and had lived on a farm for most of her life. Her father had a trade but he had been a farmer all his working life. Her mother was in paid domestic duties.

4.7.1 Personal aspects.

She completed 12 years of schooling in rural Western Australia and was successful in her TEE. Following her secondary schooling, she took a 'gap year' and completed a diploma in remedial massage at TAFE. During this time she also taught swimming classes and eventually managed the swim school. During her studies, Leah worked part-time over 20 hours per week as a coach.

The decision to teach had always been in the back of Leah's mind but the catalyst was the encouragement from parents of students in her swimming classes. She was attracted to teaching because she wanted to make 'a difference to someone's life'. The aspects that appealed to her were enjoyment of working with children and teaching them new ideas:

It has always been in the back of my mind. I have been doing swimming teaching ever since leaving school and just working with the kids there and that kind of pushed me and the parents kind of pushed me to do teaching. And I love working with kids and teaching them new things so it was just branch off from there. [T1:02.30]

Leah described her ability as slightly above average at school. She mainly excelled when she enjoyed the subject. She usually liked to do things properly and well; however, she conceded that this did not always go to plan. This was validated in her academic transcript, where she had an average low credit rating but with fluctuations in grades from distinctions and passes within the same semester. She described her personal strengths as being open minded, friendly, willing and dedicated. Her academic

strengths included being organised, a team worker, thorough and reliable. She described herself as well grounded, very practical and attributed this to her rural upbringing and life experiences. She identified her learning styles as 'learning from doing'. She believed these experiences had influenced her teaching because she tends to use more practical and manipulative activities in her classroom:

It has made me a more hands-on, a more practical person. I have always learnt better doing, manipulating and so I like to use that more in the classroom. It has probably made me a more grounded person because I have had a lot of life experiences. I have lived in the rural settings, moved to the city and going back to rural. I kind of know how to adapt and be flexible. [T1:02.00]

Leah's personal challenges included talking too much and over committing. Her academic challenges were described as being easily distracted, over committing and easily stressed.

The personal qualities Leah believed she had that were suited to teaching were interpersonal and organisational skills, and being open minded to diverse people and ideas. She described effective teaching skills as having good interpersonal skills, being a quick thinker, organised, flexible, having a positive attitude towards teaching, and having empathy. Her greatest anticipated challenges in teaching were described as talking too much and taking things personally.

Leah approached learning to teach with usually sophisticated epistemological beliefs. In terms of the structure of knowledge, Leah believed knowledge was an integrated network of concepts and ideas. She believed a person knew something when they were able to apply it independently to different contexts/ situations. Leah also believed knowledge was tentative and evolving rather than fixed.

Leah described the source of knowledge as being empirically researched and internally constructed. In line with her learning style, Leah was more inclined to believe that knowledge came from empirical research based on observation, experimentation

and/or experience. She believed knowledge was socially and culturally constructed and shared because the source could be anyone or thing that was observed, tried out, experienced and reflected on. Hence, she indicated that knowledge came from research based on purpose/motive, practical evidence and with connections to the learner's prior knowledge. However, there were also some situations in which she saw the source of knowledge as coming from an expert or authority:

Oh, it can be anyone. Could be teachers, could be fellow students, it could be an expert, so you can get it from everywhere. Everyone knows something and has some sort of knowledge to contribute. [T1:03.30]

Leah also strongly believed ability was improvable but took time. She indicated that other variables influence ability, in particular, learner variables such as background knowledge and culture. Additionally, she believed being more familiar with ideas made it easier and required less effort and time. In contrast, newly introduced concepts required more effort and time. Additionally, she believed ability was improvable if the learner was actively engaged and motivated but it could also be influenced by how concepts and knowledge were delivered:

It depends on your background knowledge and your understanding about how it was delivered to you. If you have a fairly good background knowledge then it is easy. The concepts are easier to grasp. When you have no background knowledge then you have to try and relate it to something else and try and make the connections and so it depends on that. Ability is one of the factors. [T1:04.00]

4.7.2 Contextual aspects.

Leah commenced her degree in a metropolitan university for six months prior to transferring to her regional campus. Leah found returning to study quite difficult and this was compounded by being in a mid-year intake. She found studying difficult because social networks were already established and the new mid-year students were a minority group. However, the smaller campus meant it did not take long for her to get to know the lecturers and other pre-service teachers:

I like it down here because it is smaller. You actually got to know your lecturers and you had the same people in your class. It is more friendly down here and you are not just another person on the role to the lecturer. You are actually a person. [T2:04.18]

In terms of Leah's expectation of university, she was expecting successful course completion and to learn more about teaching. She had no particular expectation from the university other than she expected they would provide unit outlines to guide study and resources.

Leah's recollection of significant learning to teach experiences seemed to revolve around 'good' assignments, activities and experiences in lectures and tutorials. Good assignments were the most commonly described experience for Leah and this was further classified as assignments involving real education issues, relevant teaching application, planning and preparation, and presentations to peers.

Through assignments that focussed on real educational issues Leah learnt that it was important to address key issues about teaching and living in rural contexts. Her understanding of teaching in rural contexts was that it was also important to be involved in the local community as well as the school. While Leah felt she had a good understanding of rural issues because of her background, she felt it would be important to know how to research a regional town so that she could plan what she would need to take, in terms of resources. Another valuable characteristic about assignments was doing a presentation using Power Point. She had a small and intimate tutorial group and this provided an opportunity to 'teach' her peers but also an opportunity to build her public speaking confidence.

Similar to Leah's learning style, she learnt more from assignments and activities that had practical construction components or involved investigations with small groups of children. In one such assignment Leah liked how the elements of the topic were explicitly demonstrated. This was followed by an examination of a lesson plan to

identify the content elements. Finally, she had to design a lesson incorporating the elements. In addition, she had to reflect on the procedure, the materials, and make possible modifications. Leah felt the assignment combined theory (the elements) with the practical by using teaching documents and planning a lesson using the elements. This task was considered unique because it was Leah's first experience and exposure to the KLA that was both new to the curriculum and new to Leah.

Other types of planning assignments involved working in groups and working on projects. Leah had to work with other pre-service teachers to design a community project. The assignment also had a practical component, but she experienced the project from the perspective of a student. Leah learnt about the importance of reflecting in terms of active community involvement, and how to assess students:

We went to a childcare centre, and we did a little secret garden for them which they loved. We did a presentation about how it fits into active citizenship and presented that to the class. It actually got us to be active citizens so we were actually doing it and then we got the kids to demonstrate active citizenship, so it was good to see both perspectives like you out there doing it but then you are also reflecting on it by saying how you use act citizenship and how to level ourselves. [T2:15.34]

Similarly, there were assignments that required her to work in groups to research a KLA topic and produce a forward planning document. This experience was valued by Leah because she learnt about topic development, specific lesson planning and lesson implementation. Additionally, she had to provide an information pamphlet to summarise and present to other pre-service teachers. While Leah felt the assignment was huge, she had learnt a great deal about her topic and gained an invaluable resource by sharing pamphlets:

We had to do a six-week planner, and present a lesson. We were given topics and then we had to write a six-week forward plan, a lesson plan and a report. We had to present it in class and tell about the resources we found and what was suitable for kids and then we had to present the lesson to the class and the class actually had to do it. So yeah, it was a huge assignment and I learnt heaps because it pulled everything together. [T2:27.23]

Finally, significant assignments were those having direct relevance to teaching.

Leah had to conduct an oral language activity and transcribe the experience for the purpose of analysing her language as a teacher. This was a significant and surprising experience for her as she realised the idiosyncratic nature of her own language and spontaneous personal communication.

Another positive university experience was when Leah developed ecological knowledge through explorations of materials and resources, activities, strategies and practical lesson development and planning. These in-class explorations were directly relevant to teaching and highly valued. The explorations lead to explanation from lecturers and the introduction of jargon/terminology. This was usually followed by elaborations in the form of adapting and integration with different KLAs. Finally, there was usually a reflection and evaluation of the product, activity or lesson. These experiences often involved collaboration with other pre-service teachers:

There were lots to learn. I liked the practical side of it where we got to make up lessons. We were given blocks and he said what can you do with those blocks. But you had to be very quick and on the ball because he only gave you five minutes to write the mini lesson plan, which I struggled with. It took me a couple of weeks to get my head around that because that was the first time I really had to think about the key learning area. And because I had not taught any classes up until that stage. But I liked the prac side of it was good. [T2:23.26]

In some units, Leah was challenged to break down tasks into sub-skills and teaching components. The challenge came from the realisation that she took for granted the steps involved in certain tasks and she had not thought about the tasks in such detail:

That was good because she taught us how to teach kids the basic things like how you are supposed to stand when you are catching a ball. I hadn't really thought about it in that much detail before. And we had to break down skills then we had to show correct stance, and then the correct arm movements so we basically went back to scratch. [T2:25.40]

Other activities involved learning games. This was done in a collaborative way and Leah had joint responsibility for planning and delivering aspects of a whole lesson

to her peers. She collected all the ideas and made them into a booklet, which she has added to over the four years. In this regard, the collective grouping of ideas and strategies were generalised and integrated across the curriculum and were considered an invaluable resource. In addition, there was the opportunity to experience the activities/strategies from the perspective of a student and then debrief on technical aspects of the tasks:

We also did different activities during the day and we actually made up a daily fitness workbook. It was circuits or rope or warm ups, cool downs, stretches, different sections. And I have been using that on all my pracs and I have been adding to it as well so that was very valuable. We all had a section, we had ropes or warm ups, and then we actually conducted the daily fitness. We had like different stations that we set up before class and then we showed everyone what to do and then everyone got to do it. We suggested modifications or something. So they gave you feedback on how the lesson went. [T2:29.01]

In contrast, she also appreciated units where content was reviewed and/or re-learnt. This was particularly useful in improving her academic writing skills because she had not studied for a year prior to entry into university. Participating in 'catch up' units improved her confidence and sharpened her penmanship.

Leah described her mid-year entry as a significant experience as her learning to teach pathway was slightly different and out of sequence to other pre-service teachers. In this regard, she often found herself in classes with more experienced pre-service teachers. A positive of this experience was the older pre-service teachers were more familiar with teaching documents and they recalled and shared what they had found difficult. She indicated that sometimes lecturers were not aware of the inexperience or lack of instruction in areas such as 'levels'. In this particular experience, she was exposed to teaching documents, their purpose and conception much earlier in her course. Leah felt this was an advantage because it was a preview of what was to come and when the instruction did come, it was second-hand and she was able to pay more

attention and extend her understanding. However, it was also very daunting to be thrown in at the deep end:

So I remember there was only three pre-service teachers who were first years in that class and that was really daunting. And [third years] they all had a pretty good knowledge. So [lecturer] he paired us up with a third year and they got to explain it and they explained it in more simple terms so we could understand. So we got a fairly good look at the levelling system early, which kind of helped in a way but that was fairly daunting going into that class. I was very scared. [T2:10.41]

She experienced summer and winter school units. These units were compacted from a semester's workload to one week on a full-time basis. While she liked the idea of being immersed and getting through her units quickly, these units were considered hard work and there was a great deal of content to get through.

In terms of positive university experiences in her first two years, she listed learning theory, development of ecological knowledge through explorations, collaborative planning and preparation tasks, reviewing and relearning of content, being with more experienced pre-service teachers and being immersed in contracted units. Generally, she learnt the theories by being given examples and explanations. In addition, Leah was required to do independent reading and studying of content as it reinforced the information transmitted in lectures. She felt the building up of knowledge and language bases were essential in the beginning of her course, whereas the last few years were more discussion and debate. She claimed the first two years were about learning the content of core units and elements of the KLAs, so that by third year she was in a position to have an educated opinion or perspective to debate and interact with other pre-service teachers. In addition, Leah felt more comfortable in her second two years as connections and links were emerging:

But as you go on I find that you have more class discussion and more class involvement because in the start there were a lot of people feeding you all the info and you needed curriculum framework etc. But as you go along we are

discussing things more in classes now. We are talking about things and debating about things, which we didn't really do in the first year. [T2:05.50]

Some other university experiences were not as positive. These included dysfunctional units, assignments/assessments, teaching styles, being with more experienced pre-service teachers and feeling overwhelmed. Dysfunctional units involved time consuming assignments, no access to the text book and changes to lecturers. Time consuming assignments generally involved portfolio type assessment. These were characterised by ongoing compilation over the whole semester and Leah found these hard to sustain. There was also a lack of clarity about the difference between lesson plans and daily work pads that caused Leah some angst.

Leah also found some teaching styles a little frustrating. One experience involved a lecturer taking the pre-service teachers through experiments in the same way as students might be taught. Leah felt this wasted a lot of time because the pre-service teachers could do experiments with a lot less instruction and detail. She found she was often waiting around although she appreciated the teacher's knowledge of his subject:

The tutor was a year four teacher. He did experiments with us that he did with the kids and sometimes he didn't really put it into the right context because he would treat us how he would treat a year four class, which kind of made us step back and say well hang on we are adults. I found that a bit downgrading because we could have learnt a lot more. But he knew his stuff and he was good. [T2:19.00]

There were also some experiences that left Leah feeling overwhelmed. These were generally experiences where she was unfamiliar and struggling to make sense of the experiences and content. One experience involved working with levels and outcomes with pre-service teachers who were more experienced (third-year pre-service teachers). However, Leah thought this was an advantage at the end of the unit.

In her third and fourth years, Leah described similar experiences to her first two years in that significant experiences included assignments and university class

experiences. However, she was more critical of her units than she had been in her first two years. For example, she described a 'good' assignment as a portfolio because it was a comprehensive resource file for actual teaching and she would readily use it again. In contrast, the compilation was very time consuming and reflections had to be sustained each week and over the semester.

One final assignment involved the assessment of a child. Leah thought this was an important assignment because she had little exposure to assessment. Additionally, she valued the practical analysis of the test results of a child. However, she felt actually administering the test would have been more educational and would have assisted in the interpretation of the results:

It was hard because you look back at all the tests and everything but there were so many things that you could have picked on as well. And were those tests just randomly made up because some of the tests were not reliable because not everything was filled in. You get more out of it [assessing a real child]. [T3:04.00]

In terms of university experiences in class, the development of ecological knowledge was more prevalent in her third and fourth years. Again the practical activities, debriefing about the technical side of the task and potential modifications were highly valued, as were the discussions and debates:

I like the activities we did in class as a whole group. We actually got put into the situation and we got to reflect. I like doing debriefs because you get to hear other people's point of view and sometimes you can't put words to it but other people can and you feel the same way. [T3:02.30]

Leah also mentioned that more units seemed to be in seminar format with smaller but more frequent mini lecture components. This facilitated group discussion and debate but also developed a safe climate for risk taking and thinking in alternative ways and without judgement.

In another unit she was critical of too many activities. She would have preferred to do less with greater detail and analysis. Leah felt she had not retained as many of the strategies as she might have, had they spent more time on them. She hints at deeper understanding by being given more time:

We looked through a lot of activities so it might have been better to like pick a couple and go into more detail. I know we discussed it in class but it was very rushed. So even though we have it all written down we got to touch on heaps but I don't feel that many of them sunk in. [T3:02.00]

In terms of changes between first two years and the second two years, Leah believed the first years were theoretically orientated as they concentrated on theories about child development in various areas. The second two years seemed to be more about pedagogy and specific content and appropriate strategies. She indicated this was appropriate in terms of design, because she felt she needed to know about students and their needs before applying teaching strategies to them. She also alluded to the need for teaching strategies to be suited to her personal teaching style, which was not apparent or as well developed in her first two years:

In first year it was all about child development and how they develop. But later on it was all about certain content areas and finding activities that suit you as a teacher. I reckon you need to know where the students are at, to be able to cater for them. The second two years I think we were learning to apply that in the classroom and we are doing more forward planners, daily work pad things and practical documents? We are doing more things that we can use. Because we know all about the curriculum and the development stages so now we are doing specific things that we will be able to use later. [T3:09.00]

She also identified two changes to her mindset since first year. First, she believed she was more confident and willing to try new things. She had become more reflective and analytical about her teaching and was hence more readily able to take risks because she knew how to self-evaluate and modify to improve the learning experience. She had a more positive attitude to accept that things can and will go wrong:

I want to try more new things and be more creative and I am more willing to experiment and have a go at things and if it doesn't work. Because before if something didn't work I would go 'oh, my god, I am never doing that again'. But now if it doesn't work I go 'ok, well why didn't that work? What if I changed this and tweaked that and then go back and see if it works'. And I can go 'ah. haha.' So it is all about modifying. [T3:11.00]

Second, she acknowledged a traditional teacher-centred approach to teaching in her first year. However, now she acknowledged a greater understanding of the orchestration of teaching and the need to vary strategies and approaches, and facilitate learning by involving students in the process:

When I first started I was more teacher-directed. But now I know that you need to have a variety and the students need to be able to construct their own learning as well so it is more about having that balance. Rather than before I thought you taught them something and they did it. Now I think you gotta be the facilitator. You can't be in front of the classroom like directing everything. They need to try and figure it out by themselves and you have got to give them that opportunity too. [T3:14.00]

Most of Leah's practicum experiences had a university component, which meant meetings with a university lecturer and other pre-service teachers to talk about management of student behaviour and learning engagement. Leah thought this was an excellent idea for debriefing about her observations and talking through any concerns. The debriefing allowed pre-service teachers to share experiences with an independent university lecturer and share possible solutions and ideas to address each other's problems. This opportunity made clear links between schools and university and cemented her understandings about management of students:

I had issues with one little boy and I just thought that I was the only person having an issue. Until I got back to uni and found that other pre-service teachers were having a bad time with either one or two kids and I was like 'Oh thank God it is not just me' because I started taking it a little bit personally. If I do have any issues I will just stick to my behaviour management plan and as long as I stick to that and be firm and consistent then he will come around. Once he knew that I was serious and that I could give him detention, he was fine. I got a lot of support from my teacher and from the whole class at university and now I know how to handle that situation. So I learnt a lot from that. [T1:36.13]

4.7.3 Professional aspects.

In terms of Leah's understanding about teaching and learning, she believed teaching was facilitating the learning experience. She believed the teacher maintained some control as they planned and implemented the learning experience, but they were also conscious of their learners and how students were responding to the experience. Leah believed the role of the learner was to be active and engaged in learning and she emphasised that the key to learning was 'acquiring' knowledge and understanding in order to apply and use it in practical life experiences. She qualified this as a process of building from what the learner knew and in this way the learner was also active and the learning was internally constructed. In this regard, she saw teaching and learning as reciprocal in that teachers and learners influenced each other's actions and decisions.

Leah believed she learnt to teach by trial and error, with the university experience and students' behaviours and outcomes as secondary influences. She learns from practical, hands-on approaches that are both realistic and functional. In describing how she had learnt to teach, she reaffirmed her learning style. She described being immersed in theory at university and then making the connections and reflecting while on the practicum experiences and with the consequence of students' behaviour and outcomes. In this regard, she described her learning to teach experience as based on information from her university studies about theories and trial and reflective evaluation. Leah believed it was up to the pre-service teachers to make the theory to practicum connections:

You learn to teach by learning about the theories and the practical. Like to be immersed in everything, uni and prac. Because sometimes you learn more at prac or you learn all the theory part at uni but then you put it all into practice and that is when you actually go 'oh, ok, this is how this fits in and that is why we did that or this is how that can be used. [T1:05.00]

Leah was usually confident about her pedagogy and professional relationships and these were her highest level of confidence. She attributed her pedagogical skills to a

combination of university units, her experiences on practicum and in teaching swimming. In her university experiences, she talked about classroom management, learning and teaching and child development:

The biggest thing that stood out for me was we watched a documentary on classroom management and the author went through implementing behaviour management strategies like the low key responses. [T1:30.31]

In addition, her coursework taught her about various models for forward planning and integration. This was experienced in a few KLAs where she investigated various elements of key learning areas and how the scope and sequence became more sophisticated from early childhood to early adolescence. She also recalled many teaching strategies. She felt the pedagogy for some KLAs was best learnt in the actual classroom with actual students and immediate feedback. In terms of her experiences teaching swimming, she believed she learnt about the structure of a lesson and about giving instructions. She concluded that the art of giving instructions was to keep it basic and simple.

In terms of Leah's professional relationships, she described herself as well grounded and as such, she rarely had issues with people in general. She attributed her outgoing personality to her varied life experiences and settings. In terms of her professional relationships, this knowledge was reaffirmed from her practicum experiences, university classes and teaching swimming. Her experiences in the swimming school meant she was liaising with parents on a regular basis about progress and behaviour of her students and this helped her confidence.

Leah tended to be confident about KLA knowledge. She had a preference for English and believed she had gained most of her English background knowledge from both university and practicum experiences. In less familiar learning areas, Leah was inclined to gain knowledge from relearning and having to teach a concept:

I learnt more maths strategies and how to teach lessons and more maths clues on prac. I can actually see when you are working mathematically, these are the processes they use. I learnt the concepts of the maths by the way to teach it? Because at school we learnt all about like adding, subtracting, the functions of maths but I didn't realise until prac how to explain that to the kids, which is what I thought we needed to learn at university. [T1:06.30]

She indicated a number of first experiences in terms of KLAs. She had never experienced active citizenship, nor technology and enterprise. Both subjects involved class and assignment work whereby Leah was given practical experiences from the point of view of a student with reflection based on what was done.

Leah was unsure about her knowledge of learners. She attributed this to her lack of teaching experiences. She indicated that some units gave her the theoretical understanding of phases of development and the sorts of behaviours and skills to expect at those levels, but she felt she lacked real, practical experience. She also indicated it was crucial to know about her learners in terms of their knowledge and skills when planning learning experiences. Leah was concerned with background experiences such as home situation, cognitive abilities and content/topic knowledge. While Leah acknowledged learner factors as an influence on what was learnt, she conceded that teachers could also inspire and challenge learners in their delivery of content and their enthusiasm for teaching.

Leah was not very confident about assessing and monitoring students. She attributed this to a lack of instruction at university and lack of experience on practicum. She indicated some early experience with levelling students in one of her university units. In this regard, she believed she had a good understanding but not practice of levelling. She also acknowledged this understanding came from her university coursework.

Leah was least confident about professional ethical practice and she rated this as usually not confident. She mentioned one unit in her education studies whereby she

realised her lack of understanding about professional ethics and the various organisations, systems and policies that were in place. There was evidence that she was somewhat oblivious to what she did not know but was developing a growing sensitivity as she needed the information:

We had a lot of guest speakers. It was good talking to the man from the department to find out what we actually have to do at the end of our course or before we had our ATP, and our WACOT registrations. So it was all real practical information that we needed to know. It was very full on but it was very worthwhile because before that unit I have no idea. Am I supposed to register? But now I feel so much better about finishing my ATP—what I am supposed to do before I got out on ATP and what I have to get organised for. [T3:05.00]

She saw herself involved in teaching in the classroom for the next 10 years, possibly in a rural community. She did not anticipate further study at university.

4.7.4 Summary of aspects that influenced Leah's induction into teaching.

Leah's approach to teaching seemed to reiterate her preferred learning style. Her learning style was hands-on and practical, with significant engagement between the content and real life. She believed learning must be socially and culturally deconstructed and reconstructed in order to be meaningful and she must be able to apply the new knowledge to other situations and contexts. In this regard, Leah was an example of a practical and pragmatic pre-service teacher.

Leah believed the first two years of her coursework involved theories, while the latter two years were more about pedagogy. She concluded that units in the first two years presented background knowledge, content and theories to do with children's development and effective teaching and learning theories. In particular, Leah described her coursework in the first two years as transmission delivery and autonomous assignments.

Leah learnt to teach by directed study, autonomous learning and application of knowledge to the practicum. Directed study was provided by the university experience

in that the unit content and assignments signalled what was important to know.

Autonomous learning involved time to absorb information, deconstruct, and reconstruct knowledge based on personal experiences and assignments. The application came from practicum or micro-teaching opportunities where she trialled and practiced her knowledge and skills, and where she reflected and evaluated her experiences and practices. She cited the practicum experiences as the places where she consolidated her understanding about teaching and learning.

Leah found that with increased confidence, she was more willing to try new things in her latter two years. She was more reflective, analytical, creative and willing to experiment. In addition, she reported moving from being teacher-directed teacher in the first two years to a facilitator of learning in the latter two years. By her second/third year of study, her awareness of learning styles and theories about motivating learners were activated and she was integrating those theories with her own learning situations. Her practical, hands-on approach to learning meant she had to 'play' with information and relate it to her own experiences.

Leah's personal aspects seem to have been the greatest influence on her learning. However, she also noted learning some professional aspects such as pedagogy and some content area knowledge. She attributes some professional knowledge to her university experience, but felt this was developed further by practica.

From this point in time, Leah was ready for more practical classroom experiences to consolidate her understanding of learners. She acknowledged her need to understand more about assessment and monitoring which would likely come in the form of professional development or collegial support from within the school. Finally, she acknowledged that she would need to relearn a lot of the KLA content, in order to teach it, but she was confident of being able to research this.

4.8 Summary of findings

The case studies serve to describe the learning to teach experience in the form of a narrative framework that emerged from the literature review. The narrative framework involved organizing raw data into the personal, contextual and professional aspects (Appendix IV). Personal aspects included demographic information, background prior to university, dispositions and epistemological beliefs. Contextual aspects included, expectations of coursework, recall of significant or insignificant learning to teach experiences, difference between the first and the last two years, and recall of practicum experiences. Professional aspects involved pre-service teachers rating their teaching skills and knowledge according to the KLA content knowledge, pedagogy, knowledge of learners, professional relationships, assessment and monitoring and professional ethics, which the literature review identified as professional aspects. In the summary of each case study I attempted to describe the extent to which the personal, contextual and professional aspects contributed to and influenced learning to teach. For all pre-service teachers the personal aspects had a consistent influence on their learning about teaching. For one pre-service teacher the personal aspects had dominated their influence on learning to teach with the contextual and professional aspects exerting a minor influence which resulted in a relatively unchanged view about teaching and learning. For several other cases the personal aspects integrated with either the professional or contextual aspects to influence learning to teach which resulted in some changes to their thinking about teaching and learning. However, several cases activated and integrated all three aspects fairly equally which resulted in quite remarkable changes to their thinking about teaching and learning. The next chapter examines the extent to which the pre-service teachers' experiences were similar and common and the extent to which they were different for the pre-service teachers.

Chapter 5: Cross-Case Analysis

I undertook this research to investigate how a sample of pre-service teachers reported on learning to teach and, in particular, to what extent they attributed their personal, contextual and professional aspects as influencing their learning to teach. In this chapter I report my analytical comparison of the seven case studies emphasising similarities and differences. From this comparison of the seven cases I have identified 15 key elements that I have further conceptualised into three overarching themes. In this chapter I discuss the three themes with regard to: a description; relevant elements; range of responses; where data is found in the cases studies; and a conclusion. I conclude the chapter by summarising the extent to which the elements within the themes of personal, contextual and professional aspects were deemed to influence learning to teach for this cohort of pre-service teachers.

The analytical comparison involved gathering evidence about the degree to which the themes and elements applied across the individual case studies (Neuman, 2011). Hence, the cross-case analysis involved frequencies of events and interpretations. Because this is qualitative analysis, frequencies were recorded using the following terms: *all* meaning all seven case studies showed evidence of the elements; *most* meaning between five and six pre-service teachers; *over half* meaning four pre-service teachers; *less than half* meaning three pre-service teachers; *several* or *some* means two pre-service teachers, and individual cases were named as showing evidence of the findings.

The first theme, *influences of a personal nature*, involves self-efficacy in the form of elements to do with each pre-service teachers' decision to teach, readiness to pursue teaching as a career, influences from their past life that led them into teaching, their perceived natural skills suited to teaching, and their concept of learning and approaches (expectations) to learning to teach. The second theme, *influences from the*

context, is concerned with contextual elements such as campus-based and practicum-based experiences (and their sub-groups of experiences). The third theme, *influences of a professional nature* involved elements and influences to do with their conception of teaching and learning and the degree to which the pre-service teachers believed they had developed the knowledge and skills of the six teaching dimensions. It also encompasses their evolving confidence as a teacher and it represents the teacher they had become as a result of the influences of self, others and the context.

Table 5.1 summarises the three themes. It identifies each theme and provides a qualifying description. This is followed by the introduction of the key elements that emerged from the reduction of data.

Table 5.1

Themes of the Study

Themes	Influences of a personal nature	Influences from the context	Influences of a professional nature
Description	Reflections on beliefs and values, personality and contributions to teaching	Reflections on learning to teach in the pre-service teacher education programme	Reflections on having a teacher identity
Key elements	Self-efficacy (Decision to teach, readiness and life experiences, skills suited to teaching, concept of learning, approach to learning to teach-expectation.	Campus-based experiences-features and impact. Practicum-based experiences, features and impact.	Concept of teaching and learning. Self-efficacy of six teaching dimensions. Concerns going into teaching.

5.1 Influences of a Personal Nature

The category of *influences of a personal nature* reflects my assumption that the pre-service teachers in my study came into teaching having some preconceived perception of their ability to teach. The set of influences was generated from the pre-service teachers' personal attributes that influenced their role as a learner and as a

teacher. It is assumed that these *influences of a personal nature* are responsible for their choice of career, sustaining their motivation and approach to their studies and teaching, and these characteristics are what they fall back on when other understandings and knowledge escapes them. This theme has six elements that contribute to a perception and confident vision of themselves as a teacher. Table 5.2 summarises the key elements. It describes the range of responses and where evidence of each element was found in the case studies.

Table 5.2

Influences of a Personal Nature

Key elements	Range of responses	Case study Evidence
Decision to teach	Altruism to convenience Multiple reasons	Personal aspects: Decision to teach
Readiness to commit	Career switcher to first career	Decision to teach
Life experiences	Parent- coach- manager	Decision to teach
Temperament for teaching	Dispositions and skills	Personal aspects: Life experiences, Dispositions, skills suited to teaching
Conception of learning	Ranges from: Dualistic and naïve to relative constructivist and sophisticated, Metacognitive study strategies	Personal aspects: Epistemological beliefs
Approach to learning to teach	Ranges from Intuitive to transmissive	Expectations and approach to university

5.1.1 The decision to teach.

The decision to teach represents the pre-service teachers' first perception of their concept of teaching. Before they decided to enrol in a teaching degree, the pre-service teachers had to evaluate what they knew about teaching and consider their suitability for the profession. In my study, only one pre-service teacher, Jacqui, made the decision to teach whilst still at school, which is a contrary finding to the Commonwealth of

Australia report in 2014. Most of the pre-service teachers made the decision to teach 10-15 years after they had finished their education, however several pre-service teachers reported a long held desire to teach. All the pre-service teachers in my study reported multiple reasons for wanting to teach. However, the most common reason given was to make a difference to students and this altruistic reason remained constant throughout their pre-service teacher education. The altruistic reason was also interpreted as having a student-centred focus because all the pre-service teachers identified with particular groups of students for whom they had empathy and could relate to their needs. The pre-service teachers' ability to relate to and identify with students' needs was usually based on their personal experiences and their desire to empower their students.

Another influence on their decision to teach was prior experiences with children or students. Over half of the pre-service teachers were parents and they reported having had successful relationships with children, in terms of knowing and experiencing universal likes/dislikes, behaviour, the development of the child and how to motivate children. Similarly, the non-parent pre-service teachers claimed to have had positive experiences with children, often in the roles such as childcare, coaching or as a teacher assistant. So, all seven of the pre-service teachers reported having had positive experiences and relationships with children, in varying forms, that contributed to their level of confidence about being able to teach.

Other reasons for choosing teaching included a long held 'dream' to teach, as was the case for Lulu and Barb, whereas Leah had teaching 'in the back of her mind' and Jacqui 'knew' she would be involved with children. Annie, Lulu and Jacqui chose teaching because they had experienced significant teachers in their primary school years as being inspirational, creative, and having personal and positive academic impact on them. Annie and Dallas reported having negative secondary school experiences that inspired them to be 'better' teachers.

Lara and Barb made explicit their desire to engender a love for learning as a reason to teach, while Annie, Lulu, Dallas, Lara, Barb and Jacqui's decision to teach was to motivate students to want to reach their potential by being intrinsically motivated to want to learn as a life skill. Lara was encouraged by stories from a teaching friend, whereas Barb was a parent helper in her children's classes. Leah received encouragement from others about her suitability for teaching. For Annie and Dallas, teaching was also a lifestyle choice because it was or would be conducive to child rearing.

One reason for teaching that was not evident in the literature, but present in my study, was the empowerment factor. The empowerment factor was described as the time when a teacher helped a student learn something significant. Annie, Lara and Jacqui referred to this as the 'ahaaa' factor or 'when the penny drops'. It refers to the moment when the student moved from not understanding to understanding or being able to apply the understanding to complete a task. For Lulu, Dallas, Barb and Leah, empowerment was more about believing in your students and encouraging them to take risks.

Hence, the pre-service teachers in my study had various considered reasons for wanting to teach and saw teaching as having multiple purposes. These purposes were centred on students and their achievement of both affective and academic outcomes. These purposes corresponded with previous research findings (Adoniou, 2013; Alexander, 2008; Guarino et al., 2006; Rinke et al., 2014; Walkington, 2005; Watt & Richardson, 2008).

5.1.2 Readiness to commit.

The decision to teach was also timely. Four of the pre-service teachers were career switchers and as such, they were goal-orientated, focussed and highly motivated to achieve a qualification. For Lulu and Lara, there was an additional obligation to their

families to do well because of their families' commitment or sacrifice that enabled them to pursue teaching.

The remaining three pre-service teachers were embarking on their first career. First career teachers are thought to have motives for teaching that are based on their earlier educational experiences (Watt & Richardson, 2008). This was the case for Jacqui, but not for Dallas and Leah. Both Dallas and Leah had 'gap' years (employment for two years after completing secondary school) with involvement in full-time employment with children. They had travelled the world and satisfied their desire to 'freelance' before committing to their first career. Dallas was particularly focussed on fast tracking her studies. Jacqui saw starting a career as the next step after completing secondary school. All pre-service teachers in my study reported being ready to commit to their learning to teach tenure and were highly self-motivated.

5.1.3 Life experiences and education.

Most of the pre-service teachers commented on their maturity, which was attributed to age but not confined to the older pre-service teachers. Rather, age was portrayed as having a mature outlook on life and having a variety of life experiences transferable to teaching. The pre-service teachers reported having experienced broad life experiences, a variety of employment and leadership roles that required sound interpersonal skills, and also common sense, critical thinking skills, awareness of diverse points of view and problem solving skills.

With the exception of Leah and Jacqui, the pre-service teachers' past educational experiences had been unsuccessful in terms of their year 12 examination (TEE) or being limited by leaving school at year 10. However the setback neither deterred them from making the decision to teach, nor was it an indicator of their success at university. Instead, it provided the motivation and impetus for making a difference to their students' lives. All of the pre-service teachers were determined to succeed and they had

achieved higher levels both personally and academically (based on their grade point average and course completion), than in their secondary educational experiences. Four of the pre-service teachers had gained distinction and high distinction status at the tertiary level, whereas the remaining younger pre-service teachers achieved credit status. This would indicate that for five of the seven pre-service teachers academic success was more about having personal motivation and commitment to the task of learning to teach.

5.1.4 Temperament for teaching.

In this study, all the pre-service teachers reported having some natural and intuitive qualities and traits that they believed were suited to teaching, hence they were relatively confident about becoming ‘good teachers’. Self-efficacy and their perceptions of a ‘good’ teacher was the product of their previous education, employment, life experiences, positive experiences with children and personal qualities. All of the pre-service teachers reported having a high level of interpersonal skills which they thought were highly desirable for teaching. Teaching was perceived to be about communicating and developing positive relationships with diverse students, parents and professionals. Their confidence as a communicator was attributed to the fact that they were ‘personable, easy-going’ people, who tended to ‘get on with most people’. In addition to having qualities such as strong interpersonal skills and self-motivation, all the pre-service teachers in my study claimed to be organised and compassionate. Being an organised person meant being thorough, reliable and systematic about time management, meeting deadlines and study, while also remaining flexible about things such as employment and family.

All the pre-service teachers described themselves as having an empathetic, nurturing or compassionate disposition. However, individually this ranged from more general reasons for caring, such as wanting to inspire students to want to learn, to more

specific reasons such as having empathy for particular groups of students with diverse needs. The pre-service teachers identified interpersonal and organisational skills and a compassionate nature as skills they had that were suited to teaching.

5.1.5 Concepts of learning.

Being adult learners, all the pre-service teachers were cognitively aware of how they learned and they had a range of strategies for learning. However, their epistemological beliefs and their metacognitive descriptions of their personal learning styles were quite different. Their concept of how they learn influences their study strategies, the degree to which they critically appraise information and their persistence to gain deep understanding.

Overall, the seven pre-service teachers represented the full range of epistemological beliefs from cautiously dualistic (Barb), to having a commitment to relativism (Lulu) and hence were quite idiosyncratic (Perry, 1968). However, more were subjective (Jacqui and Dallas) or relativists (Annie, Lara and Leah), which considering they were at the end of their coursework, was consistent with previous studies (Brownlee et al., 2011; Walker et al., 2011). According to Walker et al. pre-service teachers with dualistic and objective beliefs viewed learning with a limited analysis and absorbed knowledge from experts or external sources, with the intent to reproduce. Barb fitted this profile. According to Walker et al. someone with subjective views about learning describe the process as involving some internal engagement with topics or concepts with the intention of being able to reproduce or apply the knowledge. Both Jacqui and Dallas fitted this category. Pre-service teachers, who were developing relativist views about learning, engage in evaluation and critical analysis of the information with the intention of making sense and having a simple understanding of the text or task (Walker et al., 2011). Leah fitted this profile, with the addition of being able to apply her new knowledge or understanding. Pre-service teachers who were

committed to a relativist view of knowledge believed it was evolving and context dependent, open to critical analysis and they were aware of a number of perspectives, including theory. They took an active role in their learning and learnt from multiple sources, including collaboration with others. Annie, Lulu and Lara fitted this profile.

However, my study also found that sometimes these pre-service teachers could hold contradictory beliefs due to conditions or contextual differences that prompted an alternative stance. For example, Jacqui reported she preferred to be told information by experts and she preferred to learn rather than discover. Conversely, she recognised that she learnt best when she worked through things herself because by processing the information herself she retained more.

There were also some inconsistencies between the epistemological beliefs of career switchers and first career pre-service teachers. Two of the younger pre-service teachers, Dallas and Jacqui, tended to have more subjective epistemological beliefs, where ideas and information were critically appraised and based on practical knowledge/experience. Both described knowing as being able to retain or recall information and as such, sources were usually experts or authority figures. In contrast, the older pre-service teachers, Annie, Lulu and Lara, were far more sophisticated relativists who learnt through a process that sought multiple perspectives in order to gain deep meaning. For Lulu and Annie learning involved immersion and for Lara it involved seeing the big picture and breaking down the components. All three were persistent and tenacious about wanting to clearly understand and grasp topics or concepts.

In contrast, career switcher Barb displayed dualistic (naive) epistemological beliefs, which may be attributed to her limited school experience. She sometimes believed she did not have the academic grounding from upper secondary subjects that her fellow pre-service teachers had, and as such she valued education and experts as

authorities. Leah, as a first career pre-service teacher, had relativist and more sophisticated epistemological beliefs, which may be attributed to her initial enrolment in the education course, taking a 'gap' year in which she taught swimming lessons, and her placement in various learning environments that furthered her understanding of herself and how she learns. She felt she learnt from applying her knowledge in practical applications.

When course topics or subjects were new, most of the pre-service teachers recognised feeling like a novice because concepts and the language of teaching were new to them. When experiencing this novice feeling, more of the pre-service teachers reported using deliberate meaning making strategies such as concept maps and matrixes. Most of the pre-service teachers felt it was important to know or assign an explicit purpose for knowing something such as how it related to teaching. Indeed, when the relevance to teaching or learning was not obvious, motivation waned. They were all metacognitive and understood their personal learning styles. They were all expecting learning to be an autonomous experience in which they would be active and responsible participants in the co-construction of knowledge, but they valued collaboration with other pre-service teachers. Several pre-service teachers mentioned explicitly setting goals for themselves. For Annie, the goals were often derived from the unit outcomes, but additionally she set high standards for herself. Lulu also set goals that involved a strict study schedule.

While their epistemological beliefs were not established at the commencement of their courses, six of the pre-service teachers did report that their current approach to studying and learning had changed since their secondary school experiences. They reported being more focussed, critical, analytical and motivated to put in time and effort in their current studies compared to their previous educational experiences.

5.1.6 Approaches to learning to teach.

The seven pre-service teachers also had expectations about how they were going to learn to teach. Expectations ranged from not knowing very much about teaching to being quite confident. These expectations influenced the pre-service teachers' approaches to learning to teach. Annie and Lulu both approached the course recognising that they did not know very much about teaching. Therefore, they were expecting to learn new content and practices. Both these pre-service teachers were expecting to learn essential background knowledge for teaching by coming to university and actively participating in classes, engaging with the content, working on assignments and readings to gain a deeper understanding of learning, teaching, pedagogy and knowledge of learners. For these two pre-service teachers, the emphasis was on 'deep' levels of understanding and intrinsic rewards.

Alternatively, Dallas believed she would learn more about teaching from actual teaching during practicum experiences. Further, her perception of the course was that she would be able to fast track her completion because she believed that the course was relatively easy. She was expecting a transmission learning approach that involved lectures and tutorials. However, she was expecting to work hard and 'get good marks' and she was surprised at how she had become 'a stickler for doing things properly' [T1:26.34].

Lara, Barb, Jacqui and Leah fell somewhere between the two approaches described above. Lara felt obligated to her family to do well and thus approached learning to teach conscientiously and willing to give '110 per cent and nothing less' [T2:06.20]. Barb wanted to prove she could achieve, but she had no particular expectation, except she was not expecting the campus component to be easy. Barb approached learning to teach expecting to work hard. Both were expecting a campus-

based programme where they would attend lectures and tutorials, complete assignments and examinations in order to build their knowledge about teaching.

Jacqui approached learning to teach in a similar manner to her secondary school experience. Hence, she was expecting to learn the course material as directed by the lecturers. She respected her lecturers and mentor teachers' experiences. She especially liked hearing 'teachers' stories' and was also expecting to 'get good marks'. Leah's approach to learning to teach was somewhat nonchalant. She was expecting to pass, learn more about teaching and to put this into play during practicum experiences. Hence, all the pre-service teachers were expecting a transmission learning experience, and most felt the university component was an important prerequisite for teaching.

There was a general consensus and expectation from all the pre-service teachers that they would learn to teach by trial and error and by actual teaching. The practicum experiences were highly valued which corresponds with previous research (Allen et al., 2013). All the pre-service teachers envisaged that the practicum experience would provide them with experiences to call on when planning lessons, making decisions about teaching and managing students. As a group, the pre-service teachers did not agree about learning to teach from observing others teach, and learning to teach as a commonsense and natural activity.

5.1.7 Summary from influences of a personal nature.

The analysis of *influences of a personal nature* implies that most of the seven pre-service teachers entered their courses possessing a variety of life skills and experiences to contribute to teaching, significant experiences of an educational nature and proven successful relationships with students or children. They had a range of epistemological beliefs which influenced their approach to learning and their approach to learning to teach. They had strong interpersonal skills, were motivated, compassionate, organised and had multiple reasons for wanting to teach that were

predominantly student focussed. These pre-service teachers believed their personal traits would be conducive to teaching and they saw themselves as having the potential to be ‘good’ teachers. Hence, these pre-service teachers, like others reported in the literature, had positive self-efficacy for teaching based on a combination of actual performance (life experiences), such as being a parent, coach, teacher assistant; vicarious experiences from past teachers, either positively or negatively; persuasion, such as encouragement from others; and physiological indicators (emotions), such as feeling passionate about teaching, students/children and learning (Bandura, 1986; Chong, 2011; Pendergast et al., 2011; Schunk & Pajares, 2004).

The impact of the formative experiences of the pre-service teachers in my study contends that positive personalities and self-efficacy influenced their approach to their studies and coursework. The pre-service teachers in my study were expecting to work hard, take personal responsibility for learning, be independent learners and were committed to learning to teach. Additionally, they believed they had some knowledge, experiences and skills that were suited to teaching that enabled them to contribute to students’ lives in positive ways that would ‘make a difference’. Indeed, this positive predisposition was what gave Annie resilience when she failed her practicum. It helped Barb and Lulu to bounce back after considering ‘dropping out’ in their second year. Thus, it would appear that a ‘healthy’ predisposition to teach may contribute to the resilience and persistence needed for predictable times of adversity and pressure. However, this confident disposition also worked in a less positive way for Dallas because she was less open to learning about teaching from the campus-based component.

My study proposes that positive self-efficacy, in the form of personal qualities and dispositions are important to identify because it represents the ‘raw material’ or default function that will be activated when pre-service teachers are presented and

challenged with concepts or ideas that are different to their own. Sheridan (2013) asserts that unless preconceived ideas are identified and challenged, pre-service teachers will be pragmatic to change and may retain narrow belief systems. This impresses that teacher educators need to understand the formative experiences of their pre-service teachers in the form of understandings and conceptions of teaching and learning.

5.2 Influences from the Contexts

The pre-service teachers were asked about their campus (university) and school-based experiences. The key elements present in this theme tend to indicate responses that range along a continuum. Table 5.3 summarises the key elements associated with the influences from the contexts. This is followed by the range of responses and where evidence of each element was found in the case studies.

Table 5.3

Influences from the Contexts

Key elements	Range of responses	Case study Evidence
Campus-based		Contextual aspects
Same but different campus experiences	Shallow to deep; confronting-irrelevant	Description of significant /insignificant experiences
Transmission versus constructivism campus experiences	Role play to emerging teacher identity	
Collaboration versus cohort campus experiences	Socio-cultural experience	
Assignments in the campus experience	Assessment of learning	
Fragmentation versus cohesion of course work	Curriculum	
Practicum-based-		Contextual aspects
Variation	Variation	Descriptions of practicum
Egocentric versus student-centred	Look and sound like a teacher to think and act like a teacher	Artefacts: Lesson planning Philosophy statements

5.2.1 Same but different campus experiences.

While the campus-based experiences were similar in terms of content and activities, the pre-service teachers gained different insights within their units and this was quite idiosyncratic. For example, when the four pre-service teachers who were enrolled in the primary to middle school degree course were asked to describe memorable aspects of their units of study, they reported different interpretations of learning within similar units. In one particular unit, Annie was critical of the unit for professing to be constructivist, when she regarded it as very didactic with transmission of information. In contrast, Lulu experienced the same unit and was so inspired by the delivery of the unit that she adopted aspects of the delivery style in her own teaching style. Lulu reasoned that knowing the explicit purpose and outcomes for each lesson made learning outcomes transparent and she felt this would work for her students. In Lara's account of the same unit she acknowledged the lecturer's passion for his subject matter and the different ways of explaining the concepts. Dallas felt the unit was irrelevant to teaching because the concepts were too difficult and not relevant to teaching primary school students.

The same individual differences were seen in the primary pre-service teachers. Thus, pre-service teachers could be receiving similar information or undertaking similar activities but their interpretation of the experience differed due to their varying viewpoints. For example, in one unit Jacqui described the assignment as stressful and time consuming and said she did not learn anything from it about how to teach the KLA. In contrast, Barb reported enjoyment in working on practical forward planners and said she learnt how to integrate a number of KLAs. Leah acknowledged experiencing an activity from a student's perspective, learning how to level students by levelling herself and being reflective.

A similar discrepancy appeared in the pre-service teachers' descriptions of compacted units offered at summer and winter school. Of the six pre-service teachers who experienced summer/winter school, two younger pre-service teachers, Dallas and Jacqui, liked the compactness of the unit because it was 'over and done with'. However, Dallas felt the unit was more cohesive in this structure, whereas Jacqui found it easier to sustain a rigorous study schedule over the shorter timeframe. Annie and Lara felt the summer/winter school experience did not provide deep learning and what was learnt was not retained. Lara and Leah reported there were other personal reasons or conditions for taking summer/winter school units. One condition mentioned by both Lara and Leah was that the compacted structure was only suited to some units, and in particular units where the content was easier or where they were more familiar with the content/subject. Lara said the compacted structure suited family life because of the short time frame and the greater ease of organising home life.

Finally, Annie and Lara found the content of one unit confronting and challenging, while Lulu and Dallas dismissed the same content as irrelevant. Hence, in this study, pre-service teachers could be in the same classrooms, experiencing similar content and activities but receiving different messages, priorities and understandings. The pre-service teachers appeared to view their experience through personal filters in operation during their campus experiences. Vygotsky's (1978) theoretical interpretation of the experience I described above proposed social situations of development whereby the environment is the source of development. In these social situations or environments, the ideal (and ultimate) form is recognised and it interacts with the learner's rudimentary form in order to further develop their knowledge and understanding. Vygotsky proposed that the presence of the ideal form guides the learner's development because they actively engage with the knowledge or activity and what results is a certain form of the knowledge or activity that is owned internally by

the learner. Thus, it would seem that where and when pre-service teachers actively engage with the knowledge or activity, even at a rudimentary level, they take internal ownership of some parts of that knowledge to develop greater understandings.

5.2.2 Transmission versus constructivism campus experiences.

Most of the pre-service teachers described their campus-based experience as one of transmission delivery; however they also experienced and learnt about constructivism. The pre-service teachers were expecting to be guided by the lecturers, the unit outlines and assignments. Indeed, assignments were the most often cited significant feature of their coursework. However, with the exception of Dallas, most pre-service teachers also described their learning as a constructive process with a developmental trajectory over the four years. Most of the pre-service teachers felt the first two years were important for learning the theory and rhetoric of teaching while the last two years were more practical and collaborative.

For most of the pre-service teachers in this study, the first two years were considered an important time for them to develop background knowledge and confidence in order to be 'seen' as credible in the classroom on practicum. The important aspects of the pre-service teachers' learning in their first two years were immersion in theories. Most of the pre-service teachers reported being able to make the theory and practice links based on their campus-based experiences. Additionally, most of the pre-service teachers reported enhancing their theoretical understandings with campus-based practical components, such as use of 'real' student examples (case study analysis), micro-teaching experiences, and problem based learning through exploring real classroom issues and dilemmas.

Another effective approach to learning theory reported by most of the pre-service teachers was the deconstruction and critical self-appraisal of teaching practices, followed by an analysis of an alternative theoretical understanding or perspective.

Several research studies also found that when pre-service teachers' preconceived ideas are analysed and challenged by a feasible alternative model they experience a conceptual change (Bronkhorst et al., 2014; Hammerness et al., 2012; Rinke et al., 2014). This change is further reinforced when it was applied to a practical situation.

Initially, Dallas, Jacqui, Lara, Leah and Barb felt less confident to question or voice an opinion about topics in their first few years of university classes; however, Annie and Lulu felt compelled to question and seek clarity. While this implies that in their first two years the pre-service teachers preferred a didactic and transmission learning experience, they also expected to take personal responsibility for learning, engage with information, problem solve, apply themselves and be self-motivated and independent.

In contrast, during the latter part of their coursework, over half of the pre-service teachers reported being more confident about voicing an opinion, seeking clarification, trying new things and they were more analytical and reflective about their practice. This more active learning style was attributed to having more practical experiences to call on when analysing, researching, and planning for learning experiences. They began to have some confidence in their understanding and they integrated their ideas about teaching with the empirical experiences of teaching, resulting in the emergence of what Morrison (2013) refers to as tangible frames of reference. In the latter part of their courses, the pre-service teachers sought to establish positive classroom learning environments and they were more confident about judging the worthiness of activities to extend students. Additionally, the pre-service teachers were more concerned with students' engagement and completion of the learning task.

In the latter part of their coursework Annie and Lulu started to analyse the strategies and practices of their lecturers. Jacqui and Leah explicitly reported their philosophy statements about how students learn had changed from being theoretical and

clinical to more personally owned and empirically developed. Over half of the pre-service teachers mentioned their understanding about teaching and learning had developed since their initial beliefs.

The pre-service teachers in my study were able to clearly identify learning practices and styles that they did not like. For Annie, Lulu, Dallas, Jacqui and Leah these included didactic practices that emphasised recall, such as examinations, and there was also criticism of teaching practices or delivery techniques that were considered passive. Dallas regarded the lectures as contradictory to the 'best' practices being advocated by the campus-based approach. These practices were criticised for having a lack of 'deep understanding', 'one answer' and demanding a regurgitation of facts that were not sustained over time.

Finally, all the pre-service teachers identified units that they regarded as irrelevant to teaching. As indicated earlier, there was variability between pre-service teachers and there did not seem to be any pattern or trend. Some witnessed irrelevant units in their first year, others encountered them in the third year. Some described units as irrelevant for themselves, but could see that these units might be useful for other pre-service teachers. Irrelevant units apparently influenced pre-service teachers' motivation and engagement and they reported more superficial surface level understanding of the unit or concept, lower grades and often could not recall anything meaningful from the unit.

5.2.3 Collaborative learning versus cohort campus experiences.

All of the pre-service teachers in my study noted that their acquisition of knowledge was greatly enhanced by interacting with other pre-service teachers during discussions and seminar sessions. They specifically noted the benefits of cooperative and collaborative learning strategies and critically reflecting with others. Their participation in cooperative learning strategies allowed the pre-service teachers to

witness the benefits of working with others. They all felt they would use collaborative learning strategies in their teaching as a result of experiencing these strategies on campus. Collaborative learning was identified as improving understanding either through debate, having to come to a group consensus, taking on specific roles within the group, listening to the ideas of others and determining different perspectives, bias and insights. The pre-service teachers also acknowledged that collaborative learning strategies promoted a classroom culture and ethos that encouraged risk taking in learning and an environment conducive to learning.

Additionally, Annie, Dallas, Lara and Leah felt the small size of the pre-service teacher cohort helped develop friendships early because they were often in the same classes each semester. The regional campus atmosphere was considered more friendly and social compared to other university experiences that Annie, Jacqui and Leah had witnessed. Lulu reported ‘bonding’ with other pre-service teachers and having a common cause as they approached the conclusion of their courses, whereas initially she felt the pre-service teachers were too competitive.

Annie, Lulu and Barb also noted a difference between the younger pre-service teachers and themselves. Annie felt her life experiences and attitude to learning were different from younger pre-service teachers and she was not impressed with their work ethics and professionalism. Barb was critical of younger pre-service teachers for not being independent learners and being disorganised in terms of deadlines.

5.2.4 Assignments in the campus experience.

All of the pre-service teachers reported that completion of assignments contributed to learning to teach. Most of the pre-service teachers described ‘doing assignments’ as a type of problem solving, whereby they had to research sources of ideas relevant to the topic in order to build up their own knowledge and to connect ideas or build arguments. In many cases assignments involved reflection and critical appraisal

and as such, the pre-service teachers reported having to actively engage with the content. Additionally, most pre-service teachers reported gaining insights from assignments. Over half of the pre-service teachers reported the need to have a 'deep' understanding of the concepts and ideas under investigation and this was more often the case when there was some choice in the topic, year level and style of presentation.

Most of the pre-service teachers described assignments as effective when they were highly practical and directly applicable to teaching and applied during the practicum. Other assignments regarded as worthwhile involved compiling portfolios, resource files, philosophy statements and investigating educational issues or curriculum documents.

All of the pre-service teachers reported assignments that were not well received. For most of the pre-service teachers, exams were disliked because they reported this as regurgitation and recall of facts rather than having time for deep learning and processing of information. They also reported a dislike for assignments that they could not readily apply or see the relevance to teaching. More often the pre-service teachers did not like assignments in generic units or units outside of the education program because of the lack of relevance to teaching. Pre-service teachers deemed some assignments to be unrealistic to apply to a class of thirty or overly complicated methods of teaching. Several pre-service teachers reported assignments that did not align with school practices.

Pre-service teachers participated in various group assignments, which several pre-service teachers reported as less successful in the first year than in the second and subsequent years. Most pre-service teachers valued group assignments because they were cooperative and pre-service teachers enjoyed working as a team. However, several pre-service teachers reported that group assignments were problematic because of the time required to accomplish the task and if other members did not 'pull their weight'.

5.2.5 Fragmentation versus cohesion in course design.

The pre-service teachers' descriptions of campus-based experiences also highlighted fragmentation and cohesion of coursework. Fragmentation resulted in perceptions of irrelevancy, superficiality and short-term understanding, often to pass the exam and a degree of frustration in terms of time wasting. Fragmentation was most often noted when the pre-service teachers were required to complete generic units taught by lecturers outside of the education programme. Fragmentation of coursework and within units was cited as an influence on the pre-service teachers' attitude towards the subject and motivation to study.

Several pre-service teachers noted strong course cohesion. Lara identified the development of a KLA over three units. She acknowledged the KLA elements of teaching were reinforced and repeated with slight modifications over three units. Other evidence of course cohesion noted by most of the pre-service teachers was the annual themes which included motivating for learning, management of behaviour and inclusive teaching. In particular all pre-service teachers identified the themes of student diversity and the need for inclusive teaching practices, which was emphasised in their third year. The inclusive theory and practice was emphasised across three to four units, hence, similar concepts were applied to different curriculum areas. Additionally, most pre-service teachers noted that when the practicum had a university component, this helped link practicum to university curriculum. Finally, most pre-service teachers noted congruence in theoretical concepts between different units in terms of constructivism as a theoretical orientation to teaching, the teacher's role in facilitating learning, and in the consistent methods of lesson planning and learning pathway frameworks.

5.2.6 Practicum-based experiences.

Generally, the practicum involved a variety of experiences across year levels and types of schools (rural, independent, religious). The pre-service teachers in the primary

to middle school degree had to undertake a practicum in each phase of child development, whereas the primary degree pre-service teachers did a different year level for each practicum. The practicum experiences ranged from 24 to 26 weeks in total, with primary to middle years having the longer practicum experiences. The practicum was the time and place where preferences for teaching particular year levels were formed, with Annie and Lulu preferring secondary school, Barb, Jacqui and Leah opting for early childhood, and Dallas for special needs children.

All the pre-service teachers valued the practicum experience as the most significant place for learning to teach, which corresponded with previous studies (Allen, 2009; Graham, 2006; Grootenhoer, 2006). The practicum was credited with being the activity for trialling and evaluating all aspects of the teacher's role. All of the pre-service teachers noted an increased awareness of diverse learners and abilities and learning how to manage student behaviour. For Lara, Barb, Jacqui and Leah, the practicum was where they explicitly linked the theory to practice.

Lulu, Dallas and Lara reported receiving guidance, feedback and advice from their mentor teachers and from their experience within a school culture and ethos. For Lulu, the practicum experiences were particularly anxious times when she felt very nervous about 'looking the part' of a teacher. Both Lulu and Dallas described early practicum experiences as occasions when it was important to 'look and sound' like a teacher. While Lulu strove to emulate her mentor teachers' routines and classroom management, she lacked confidence and was unsure of her own teaching style. Annie recalled not understanding the mentor teacher's classroom management system and thus she was unable to use it. Alternatively, Jacqui sought lesson experiences that her mentor teacher did not use. For Jacqui, each practicum experience confirmed she had made the right choice of profession. Annie was the only pre-service teacher to experience a failed

practicum and she attributed this to a technicality, which she learnt to control in subsequent practicum.

Although practicum experiences varied considerably, most pre-service teachers felt they needed more and longer practicum experiences and most pre-service teachers felt that the school experiences were most effective when they were supported by a university unit of study. The university component was valued because it enabled pre-service teachers' to learn particular skills or components of teaching and it offered a neutral debriefing time to discuss any issues.

5.2.7 Summary of influences from contexts.

For most of the pre-service teachers in this study, there was a 'role' play stage of being a teacher during the beginning of their coursework. Learning to teach in the first two years of the course were characterised by pre-service teachers needing to learn the theory and rhetoric about teaching through a combination of directed and transmission learning experiences while being metacognitive and autonomous about their own learning. The impact of coursework caused some tension between their beliefs and conception of teaching, their experiences of learning about teaching and their emerging concept of being a teacher. During this formative period Annie, Lulu and Lara had quite profound experiences that influenced their approach to teaching. The campus experience was not as profound for Barb, Jacqui and Leah, but it was nevertheless considered important and valuable. However, for Dallas, the campus experience was a necessary interlude, with minimal impact, particularly in the first two years, on her understanding of teaching and her approach to teaching.

Most of the pre-service teachers identified aspects of their learning that could be applied or adapted to their teaching. The pre-service teachers in my study had developed, in varying degrees, a metacognitive awareness of learning styles and teaching approaches that could be assimilated into their teaching style. In their final

years of study, they reported being more reflective, analytical and critical of their experiences at both university and on practicum. In addition, they were more willing and able to generate personal understandings and theories about learning and teaching practices based on empirical and eclectic sources. Friesen and Besley (2013) suggested that:

as pre-service teachers are introduced to the beliefs, values, social norms and role characteristics of the teaching profession in their early coursework and later professional practice, there is likely to be significant associations between their identification as a student and as a teacher. (p. 25)

Calderhead and Sharrock (1997) described the transition from teaching as an audience perspective and performance orientation in the first two years shifting to a critical and explanatory orientation by the end of their coursework.

5.3 Influences of a Professional Nature

The third theme to emerge from my study was the pre-service teachers' evolving sense of teacher identity. This identity emerged as the pre-service teachers reflected on what they had learnt about teaching and what they had come to value. They reported having moved from a disposition to teach to having a pedagogical view of teaching. They moved from wanting to 'look and sound' like a teacher to having a sense of teacher identity and an emerging teaching style and personal philosophy.

Essentially, teacher identity is characterised by accommodation and assimilation of concepts, theories, beliefs and values about teaching. Their teacher identity included a 'work in progress' philosophy about teaching. This philosophy underpinned the teacher they had become, reflecting their understandings about teachers' roles; students' roles as learners; the theoretical beliefs that influenced their approaches to planning, implementing and evaluating learning/teaching experiences. Arguably, the philosophy also enabled self-reflection on their professional strengths and developmental needs at this early stage of their careers. Table 5.4 summarises the key elements about influences

of a professional nature. This is followed by the range of responses and where evidence was found in the case studies.

Table 5.4

Influences of a professional nature

Key elements	Range of responses	Case study evidence
Teacher and Student roles	Facilitation- reciprocal Active engagement Increased responsibility	Personal aspect :Effective teacher description, teacher and student roles
Theoretical beliefs	Constructivism Metacognition Developmental learning Differentiated learning-inclusivity	Professional aspects: Teaching philosophy artefact Planning beliefs and practices Implementation beliefs and practices Evaluation beliefs and practices
Self-efficacy about the 6 dimensions of teacher's work	Dimensions of teaching KLA, pedagogy, knowledge of learners, professional relationships, assessment and monitoring, professional ethics	Professional aspects: Self-efficacy rating and elaboration Personal aspects: Strengths and challenges

Pre-service teachers described effective teachers as having good interpersonal skills, empathy, a positive attitude to teaching, and being organised and flexible. Fewer than half the pre-service teachers mentioned being knowledgeable or having strong KLA knowledge, an understanding of how students learn and pedagogy as being important. Most of the pre-service teachers were keen to promote lifelong learning for both their students and themselves but they did not list this as a quality of effective teachers (Hammerness et al.,2012). All of the pre-service teachers were optimistic about their role as a teacher.

5.3.1 Teachers' and learners' roles and theoretical beliefs.

The pre-service teachers in my study talked often about the constructivist teaching style, whereby the teacher's role was to scaffold and facilitate learning. Jacqui

and Dallas were the only pre-service teachers to assert that sometimes teaching needed to be didactic and teacher-directed. Leah, however, declared that her conception of teaching had changed from transmissive to constructivist since commencing her course, whereas, Annie, Lara and Barb claimed to have gained a deeper understanding of teaching since commencing the course.

The pre-service teachers also expressed that the teaching and learning relationship was reciprocal by nature, with partnership between the teacher and the students. All the pre-service teachers described the teachers' roles as being to inspire, engage, challenge, evoke curiosity and be enthusiastic and passionate about the content, subject or teaching in general. They described the learner's role as being actively engaged and receptive to information. All of the pre-service teachers recognised that students learn in different ways and at different rates, and that teaching was planned and guided by the teacher, with learners activating and making connections to their own experiences and knowledge. Most noticeably, the pre-service teachers in my study recognised that their students would be diverse learners needing differentiated instruction and inclusive practices in order to achieve learning outcomes. The pre-service teachers in my study commonly espoused multiple intelligences and collaborative learning as theoretical approaches to teaching diverse learners.

5.3.2 Self-efficacy about the six dimensions of teachers' work.

In this section I report on the pre-service teachers' self-efficacy ratings of the six professional dimensions of teaching identified in the literature. In doing so, I indicate which dimensions the pre-service teachers were most and least confident about by the end of their course. The six dimensions extrapolated from the review of literature were described as KLA content knowledge, knowledge of learners, pedagogy, professional relationships, assessment and monitoring and professional ethical understandings. The

pre-service teachers rated themselves from one to seven on a Likert scale that ranged from *not at all confident* to *highly confident*.

The most confident dimension for all the pre-service teachers was in professional relationships. The next most confident dimensions for five of the pre-service teachers were pedagogy and professional ethics. This was followed to a lesser degree of confidence (by four pre-service teachers) about knowledge of learners and KLA content knowledge. The least confident dimension was assessment and monitoring, with over half of the pre-service teachers reporting not being confident and one being undecided. According to the overall survey ratings of their professional dimensions, the most confident pre-service teacher was Dallas and the least confident pre-service teachers were Leah and Barb.

5.3.2.1 Professional relationships.

All the pre-service teachers in my study reported being confident about their ability to deal with professional relationships. Professional relationships were recognised by the pre-service teachers as the need to build positive professional relationships with their stakeholders. This involved effective communication skills such as verbal, non-verbal and written communication, fostering inquiry, collaborative decision making and supportive classroom interactions. The pre-service teachers in my study attributed their confidence in this dimension to their personal aspects rather than university or practicum experiences. Six pre-service teachers attributed their confidence in professional relationships to their personality and employment history. Dallas and Jacqui mentioned family relationships and upbringing as the source of their interpersonal skills. The level of confidence in this dimension is not surprising because it aligns with the key findings in *influences of a personal nature*. Hence, the pre-service teachers considered this dimension of teaching to be a natural quality that was not attributed to university or practicum.

Over half the pre-service teachers were concerned about relationships with parents of future students. Lara and Barb were most concerned about confrontation with parents, whereas Annie was concerned with differing values and being careful not to pre-judge parents. Lulu was not expecting any problems with parents due to her approach to view any issues as problems to solve together with parents and she was keen to develop positive relationships with parents.

5.3.2.2 Pedagogical content knowledge.

Annie, Lara, Barb, Jacqui and Leah reported being confident in their pedagogical skills and this was attributed to being involved with children in the form of having coaching experiences, employment as a teacher's assistant and parenting. Six pre-service teachers indicated they understood pedagogy to mean ways and styles of teaching and knowledge of teaching strategies. Leah talked about pedagogy as personal practical knowledge (what you know about teaching). Four pre-service teachers agreed that learning to orchestrate teaching took time and experience and would be an ongoing process. Dallas' lack of confidence was attributed to limited time in the classroom. Lulu's indecision about pedagogical confidence was attributed to her dependency on her mentor teachers' styles and limited practice at developing her own style.

In terms of how pedagogy was learnt, four pre-service teachers reported learning about pedagogy by being immersed in theory and making connections between theory and practicum experiences. The immersion in theory was reported to have occurred in the first two years of university for all pre-service teachers except Dallas. Typically, the pre-service teachers reported they had eclectic theoretical approaches to teaching that included combinations of constructivism, developmental learning theory, awareness of diverse learners and socio-cultural approaches to learning.

While not all of the pure elements of these theoretical bases were mentioned all of the time, the pre-service teachers in my study reported they applied a combination of

strategies associated with each approach. Interestingly, these principles were also consistent with their own personal learning approaches. Hence, to some extent, what worked for the pre-service teachers' learning was extended to their teaching approach and vice versa. Other theoretical orientations reported by pre-service teachers in my study involved integration of KLAs and inquiry-based discovery learning.

5.3.2.3 Professional ethics.

Professional ethics was a dimension that five pre-service teachers felt confident about. However, Annie and Leah reported a lack of confidence in this dimension, which they attributed to 'not knowing what they did not know'. Lulu and Lara attributed their levels of confidence to maturity and employment experiences. Dallas attributed her confidence to her upbringing about 'what was right and wrong'. Four pre-service teachers described professional ethics as involving policies or regulations. Jacqui, Dallas and Barb mentioned ethics as self-reflection and responding to lesson reflections. Lara and Barb mentioned ethics as professional development or participating in professional network organisations. Lara and Barb took professional ethics to be a code of conduct/ways of behaving professionally. However, all the pre-service teachers attributed ethical understandings to both their personal and professional aspects. I noticed that the ethical understandings in my study indicate a rather superficial conception; for example the pre-service teachers did not make connections between their noticeable interest in diverse learners and an inclusive curriculum, as a social justice issue. This finding was consistent with Boon (2011) who found pre-service teachers had simple and practical views of ethics as an ethos, to do with professional standards and/or based on religious values.

5.3.2.4 Knowledge of learners.

All of the pre-service teachers mentioned the importance of knowing their students. Lulu, Dallas, Lara, Barb and Leah acknowledged that there were external

variables that affected learning that were outside the control of either the teacher or the student. These external variables were described as the student's affective domain, socioeconomic status, and psychological and physiological states. Knowledge of learners was seen as a prerequisite to teaching them and to the teacher's planning of learning experiences.

Annie, Dallas, Lara and Barb felt confident about their knowledge of learners, whereas Lulu, Jacqui and Leah were undecided. Lara and Barb attributed their confidence to parenting, and Dallas attributed her confidence to employment as a teacher's assistant. Annie indicated her knowledge about learners came from university where she learnt about phases of development and how to assess levels of learners. The most common concern about knowledge of learners was the pre-service teachers' lack of practical teaching experiences combined with the range of student diversity that they had yet to experience.

The pre-service teachers were predominantly interested in 'getting to know their students' at the individual level, which included both affective and academic domains. Annie, Lulu, Dallas and Lara felt it was important to know about the whole child in terms of interests, skills and abilities, home life and life outside of school. Annie, Lulu and Lara reported the need to also understand the class dynamics, while Dallas, Lara and Leah mentioned the importance of understanding the influences of the socio-cultural and home backgrounds on their students. The pre-service teachers were not overly confident about knowledge of learners, but they saw it as critical to planning learning experiences that would cater for diversity and differentiate instruction. It was also considered important to develop a learning community and culture of belonging.

5.3.2.5 Key learning area content knowledge.

Lulu, Dallas, Barb and Leah reported feeling confident about their KLA content knowledge and this was attributed to enjoyment of the KLA. Lara and Jacqui were

undecided about their level of confidence and Annie was not confident. All three attributed their lack of confidence to a lack of practical teaching experiences and lack of content knowledge in the upper levels of schooling; they also alluded to the variety of learners that they had yet to experience.

The pre-service teachers reported that their KLA content knowledge came from various sources; most of the pre-service teachers acknowledged their learning of some content knowledge from university education. Annie, Dallas, Lara, Barb and Jacqui claimed most of their content knowledge came from their secondary school experiences. Five pre-service teachers claimed they learnt their content knowledge from having to teach it. Dallas, Barb and Jacqui asserted their knowledge came from being interested in the KLA and pursuing the subject on their own accord. Lulu and Dallas claimed content knowledge had come from employment experiences such as coaching, communication skills and being a teacher's assistant. Dallas claimed her content knowledge came from media and travel.

Over half the pre-service teachers reported anxiety in some KLAs, which influenced their approach to learning. Lulu and Annie reported putting in extra effort and they were rewarded with an increased understanding and respect for the subject area. For others, there was no deliberate action taken to rectify their lack of knowledge or understanding in particular KLA.

5.3.2.6 Assessment and monitoring.

Finally, the dimension of least confidence for these pre-service teachers was assessment and monitoring of student learning. Five pre-service teachers reported a lack of confidence about assessment and monitoring and this was directly attributed to a lack of experience and instruction at university. Lulu reported her lack of confidence came from her concerns about how to analyse and interpret results of an assessment task. Lara and Annie reported being confident and Lara attributed her confidence to having done

some grading on a practicum. Annie attributed her high level of confidence to having a comprehensive understanding of the phases of development, which she had gained from her campus-based experience.

5.3.3 Summary of influences of a professional nature.

The *influences of a professional nature* that were most significant to this study were the identification of the teacher's and learner's roles as a reciprocal relationship. All the pre-service teachers characterised the teacher's role as having to facilitate learning and the learner's role was to actively engage in activities and knowledge construction. Pedagogy was viewed as being informed by theoretical principles of constructivism and developmental views of teaching and learning that were largely student-centred and socio-cultural by nature. Knowledge of their learners was central to the pre-service teachers' planning and teaching, although the pre-service teachers were not as confident about their knowledge of learners due to their lack of practical experiences combined with expectations of diverse students.

Asking pre-service teachers to rate their self-efficacy for the teaching dimensions identified professional strengths and where there was a need for further professional development. By their fourth year, most of the pre-service teachers reported feeling ready to teach and at 'saturation' point in terms of knowledge about teaching. They were keen to start their careers and to consolidate their knowledge, skills and hypotheses about how to teach. They were confident about their professional relations, pedagogy and professional ethics, but were less confident about KLA knowledge and applying knowledge of learners; the latter were both attributed to the range of topics, subjects and students yet to be experienced. However, most of the pre-service teachers were optimistic that these less confident areas would be addressed when they had their own classes on the job.

They were expecting a 'new' phase of learning to teach that would be self-evaluated and self-reflective and highly influenced by the school and classroom contexts. All of the pre-service teachers took the view that professional learning will be ongoing and that early career teachers would need to be reflective.

Most pre-service teachers did not feel confident about their ability to assess and interpret students' learning, but again they felt this would be rectified with professional development and collegial support. I found the pre-service teachers' attitude to assessment and monitoring was surprising, given the current educational emphasis on national testing and accountability and its emphasis in the university coursework. All of the pre-service teachers in my study were highly aware of students being diverse learners and conscious of the need to apply inclusive teaching practices, but their apparent complacency about assessment implies that they may identify diversity by observation and judgements rather than practical and informed evidence and analysis of skills and knowledge.

At this stage, these pre-service teachers' concepts of teaching/learning were idealistically philosophical and somewhat vicarious given their limited practicum experiences. Two pre-service teachers had changed their concept of teaching from transmission at the commencement of their coursework to a more developmental and constructivist approach by the conclusion of their courses. Over half of the pre-service teachers reported a deeper understanding of teaching and learning at the conclusion of their studies. This was encouraging because it indicated that more of the pre-service teachers were open-minded and critically reflective of their beliefs and experiences. What remains to be seen is if these new conceptions of teaching and learning are sustainable once the pre-service teachers move into a school employment context. Chai, Teo and Lee (2009) found similar constructivist views in their Singaporean pre-service

teachers at the end of their course and cautioned in order to maintain this position, newly qualified teachers would need support and well-designed curriculum materials.

5.4 Conclusions from the Cross-Case Analysis

The key elements from the cross-case analysis add support to the notion that learning to teach is complex and is influenced by the person learning, the context or environment in which the learning takes place, and the nature of what has to be learnt about teaching and learning. The extent to which learning to teach was influenced by the personal, contextual and professional aspects were at the centre of this investigation.

First, the pre-service teachers had made conscious and deliberate decisions to learn to teach based on their dispositions, self-efficacy and life experiences. Their dispositions and self-efficacy were informed by their relationships with people, education, employment and positive experiences with children. Their personal characteristics and skills suited to teaching aligned, which also contributed to their self-efficacy for teaching. Hence, all the pre-service teachers were motivated, expecting to be successful and had something substantial to contribute to teaching.

Second, as adult learners, they were expecting to take control of their learning by being independent and by putting in varying degrees of commitment. They approached learning to teach with a range of epistemological beliefs, which influenced their learning strategies and these were also found to be quite unique for each pre-service teacher. Thus, each pre-service teacher viewed learning through different filters or lenses, which were influenced by their views of teachers/lecturers, modes of delivery, the topic or subject and their approach to learning. Furthermore, as a learner of teaching, there were often tensions between the roles of being a learner and teacher. Tensions appear in the variety of learning situations, such as experiences on practicum, which were often implicit and practice dominated whereas the university experience was more explicit and theory dominated. Additionally, the pre-service teacher played many roles

with a variety of people and they were subject to assessment by these people. Hence, learning to teach was found to be a varyingly socially constructed experience.

Third, the pre-service teachers had a vision of the teacher they wanted to become based on their past experiences, and learning experiences at university and on the practicum. For some pre-service teachers, this vision was very different from their initial pre-university vision. For others, the vision remained constant. Lortie (1975) described this change of vision as having ‘strong and weak socialization’ experiences in which participants varied in the degree to which they merged with the values and models being espoused by the educational communities in which they were involved. However, all of the pre-service teachers in my study felt ready to teach.

They all had a concept of their teaching style and strong ideals about how they wanted to teach and what their classroom would look like. These beliefs, associated with their vision of a teacher, were typically vicarious and idealistic. They were vicarious because, by their own conviction, they had limited practicum experiences with limited groups of students. Their beliefs were idealistic because after four years of learning about teaching and being at the learner end of teaching, they had hypotheses of teaching that were constructivist and facilitative, at least in philosophy. This was their launching point and, as such, they were expecting to test their hypotheses and further develop their philosophy of teaching, both in their early careers and beyond by having responsibility for ‘their own class’ (Crosswell & Beutel, 2013).

The cross-case analysis has highlighted the key role that the pre-service teachers played in their development as a teacher. The personal aspects were a noticeable influence in all the cases studies as learning to teach was indeed a very personal journey. The degree to which the learning contexts and professional teacher knowledge have influenced learning to teach was not as clear cut as the personal aspects. However, for several of the cases the personal aspects combined with either the professional or

contextual aspects to influence what they learnt about teaching. Finally, several cases activated and integrate all three aspects, resulting in quite remarkable changes to their thinking and understanding of teaching. Similar to the thinking of the pre-service teachers in my study; this is only the commencement of their careers and as is the case for all professionals they have much more to learn about teaching that will be context dependent. The next chapter uses these three themes to draw some conclusions about how the activation of one, some or all three aspects can influence approaches to learning to teach.

Chapter 6: Discussion and Conclusions

My study sought to investigate the phenomenon of learning to teach during the pre-service teacher education period through the ‘voices’ of seven pre-service teachers. In the past, universities and teacher education courses have been criticised for a lack of practicum, too much/little theory, transmission delivery style, fragmented coursework, university and school tensions and inconsistent and conflicting expectations from pre-service teachers. In my study, these criticisms were evident but not for all of the pre-service teachers and not all of the time. The data revealed that for some of the pre-service teachers in my study the theory was considered essential while others felt the theory was excessive. Some liked transmissive and didactic approaches, others were adamant this style did not work for them. Some witnessed fragmented coursework, others saw links or made generalisations between units. Some experienced disparity between schools and universities, others experienced congruence. Some were expecting easy course completion, others were anxious about their lack of knowledge for teaching. Hence, in this study, while pre-service teachers were exposed to similar university experiences over the four-year period, their learning to teach experience was constructed in remarkably different ways.

In the cross-case analysis I described three overarching themes of influences on learning to teach. First, I assumed that learning to teach, for my seven pre-service teachers, involved influences from the person who was learning and their personal characteristics. Second, were influences from the contexts in which the learning took place, in this case a regional campus and regional schools (practicum); and third, the influences from the types of professional knowledge and skills that had to be learnt. The extent to which one, some or all of the themes were activated during the learning to teach experience was evident in the case study summaries where I proposed that Dallas appeared to gain very little from her university experience and had not changed her

initial conception of teaching and teachers work. In contrast, Annie, Lulu and Lara gained valuable knowledge and skills from their university experience and in their understanding of the nature of teacher's work. This pointed to a number of approaches or orientations towards teaching. In my study the pre-service teachers' approaches or orientations to learning to teach influenced what was taken from their campus and practicum-based experiences and what they had learnt about their profession. This was consistent with Dutch research by Oosterheert, Vermunt, and Denessen (2002) and Opfer et al. (2011). Opfer et al. (2011) proposed that orientations were an 'integrated set of attributes, beliefs and practices as well as alignment of oneself and one's ideas to circumstances and contexts' (p. 444). In my study, orientations were defined similarly because they emphasise the extent to which personal attributes acted on what was learnt (professional knowledge and practices) in given situations and contexts (campus and practicum-based experiences).

The significance of my study, and therefore its contribution to theory, is the proposition that pre-service teachers' approaches to learning to teach were pivotal to what they learned from their teacher education experiences and to their vision of teaching. In summarising each case study, it became obvious that for some pre-service teachers their personal aspects appeared to dominate the learning to teach experience with very little influence from either the context or their professional knowledge. For other pre-service teachers there appeared partial influences from their contexts or by their engagement in the professional aspects of learning to teach. Whilst another group of the pre-service teachers seem equally influenced, in terms of engagement and endorsed personal changes, by the contexts, the professional skills they were learning and their personal aspects. The extent to which the personal, contextual and professional aspects were utilised by the seven pre-service teachers implied particular orientations to learning to teach. From my research three orientations to learning to teach were

identified. In the first orientation, called *pragmatic* orientation, the personal aspects were the single most influential impact on learning to teach. The pre-service teacher's understanding about teaching was based on previous experiences and observations of teachers or teaching, an established view about teaching that did not change or changed minimally throughout the teacher education period and confidence in their ability to teach.

The second orientation, described as having a *transitional* orientation, the personal aspects were influenced by some professional and contextual aspects and these pre-service teachers recognised that learning to teach required some engagement with professional knowledge and skills in order to review and refine their knowledge and understanding about teaching. These pre-service teachers made connections between professional aspects of teaching learnt in the university context and on practicum. They identified contextual aspects such as units of study, assignments and portfolios as significant learning episodes that developed their understanding of teaching.

In the final orientation, which I described as having an *integrated* orientation to learning to teach, the pre-service teachers utilised all three aspects (personal, contextual and professional). The *integrated* orientation assigned personal meaning to the theory and research about teaching and teachers. They saw the need for explicit learning about teaching and they recognised their own lack of specialised knowledge about teaching.

While research into learning to teach has been identified as idiosyncratic, dynamic and complex (Angus et al., 2007; Grossman et al., 2014; Morrison, 2013), my proposal of three orientations should be seen as somewhat fluid as some pre-service teachers may exhibit characteristics from more than one orientation and pre-service teachers may change their orientation towards learning/learning to teach during their course or in specific units of study where they may be more or less familiar with the content. Indeed, I am also not suggesting that these orientations, on exiting their initial

teacher education experience, will remain static. As was the case for all the pre-service teachers in my study, they were expecting to continue learning about teaching long after their coursework. However, the orientations found in my study can offer teacher educators some insight into the diversity of pre-service teachers coming into education programs to learn about teaching.

The characteristics which defined the three orientations used the elements and themes from the cross-case analysis and are described below.

6.1 Pragmatic Orientation

The first orientation found in my study was described as *pragmatic*. In this orientation, the personal aspects dominated the learning to teach experience with minimal influences from the university context or the professional skills and knowledge emphasised in the teacher education programme. Pre-service teachers with this orientation to teaching had high self-efficacy for teaching and they believed they possessed personal skills and knowledge suited to teaching and being a ‘good’ teacher. This self-evaluation was based on previous, positive personal experiences with children in the form of coaching, child care or child rearing. In my study, one pre-service teacher, Dallas, in particular aligned with the *pragmatic* orientation. The *pragmatic* pre-service teacher in my study expected to learn the most about teaching from the practicum rather than learning from theoretical and evidence based knowledge in the university context.

The pre-service teacher with a *pragmatic* orientation to learning to teach believed that teachers had personal qualities, characteristics and innate skills for teaching. The personal characteristics and innate skills suited to teaching were described as being caring and compassionate, organised, flexible, enthusiastic and self-motivated. These personal characteristics and skills were believed to be a consequence of the positive and significant adults in their lives and school experiences. Their decision to

teach was based on the belief that they could make a difference to their students because they related well to students and students liked them. Teaching was defined around relationships and communication. The combination of personal qualities and characteristics, positive role models, experiences with children and being intrinsically motivated resulted in high self-efficacy for teaching from the commencement of their coursework through to completion.

The pre-service teacher displaying a *pragmatic* orientation approached learning as subjective and based on personal and practical opinions. They believed some knowledge was fixed, at times knowledge evolved with practice and experience. Learning was viewed as knowledge reproduction or application. Pre-service teachers with a *pragmatic* orientation acknowledged learning took time and effort but learners could have an aptitude or ability for certain skills and subjects. Indeed, Dallas believed she had an aptitude for teaching.

The pre-service teacher with a *pragmatic* orientation rarely challenged her beliefs or identified her bias and she was often reluctant to review, reflect and revise ideas, strategies or understandings. The lack of a willingness to reflect and engage with new ideas or ideas different to her own meant her preconceived ideas about teaching and learning remain intact throughout their coursework. Preconceived ideas about teaching and learning were often based on her own school experiences and from a student perspective. The pre-service teacher with a *pragmatic* orientation often viewed unsuccessful learning as learner related and possibly due to low socioeconomic backgrounds or lack of ability. She may be quick to judge students' actions and behaviours and tended to hold stereotypical views of students and teachers.

The pre-service teacher displaying a *pragmatic* orientation valued the practicum experience over the university context and she was expecting to learn the most about teaching from practicum experiences and when employed as a teacher. She believed

learning to teach should be practical, on the job training with advice from experienced teachers. The pre-service teacher with a *pragmatic* orientation believed learning to teach involved trial and error of strategies with real students, followed by critical reflection and feedback on the success of the trialled strategies. Theoretical understandings and rhetoric tended to be discounted as technical jargon for what was often viewed as commonsense knowledge and practice. However, some strategies and theories were accepted if they made logical and practical sense and had been positively 'field tested'.

Pre-service teachers with a *pragmatic* orientation preferred learning through practical experiences, feedback and reflection such as experienced on practicum. She did not engage with didactic teaching styles and autonomous learning tasks provided at university were quickly forgotten unless she deemed the activity to be highly relevant to teaching. As this type of pre-service teacher had strong subjective opinions, she would need a disorientating experience followed by collaborative debate and discussions with other pre-service teachers in order to consider alternative points of view. She needed to witness the alternate approach first-hand in order to evaluate its effectiveness against her original thinking.

The pre-service teacher with a *pragmatic* orientation felt it was more important for teachers to be enthusiastic about teaching and have a strong desire to work with children. The teacher was seen as the primary knower and organiser of learning but content and skills had to be relevant and practical to students' lives. The *pragmatic* orientation saw planning for teaching as involving searching for practical and ready-made lessons designed by other teachers because these were seen as 'field tested'. The pre-service teacher, who was *pragmatically* orientated, critiqued ideas according to practical implications and implementation; and whether she believed students would engage and enjoy the activities.

At the end of the pre-service teacher education, my study found that the pre-

service teacher displaying *pragmatic* orientation was confident about professional relations, knowledge of learners and professional ethics and these dimensions had not changed since the commencement of teacher education. Understanding of a teaching episode was more teacher-centred than student-centred and as such strategies were evaluated for teaching rather than strategies for learning. The pre-service teacher with a *pragmatic* orientation attributed their content knowledge to secondary schooling and this was deemed sufficient for teaching. Pedagogical skills and strategies were based on tried and tested methods from other teachers or resourced from teacher websites. Successful student learning was more often evaluated by student engagement, enjoyment and completion of the tasks rather than goal orientated student outcomes.

Hence, in my study the pre-service teacher with a *pragmatic* orientation to learning to teach was most likely to report that her teacher education experience had minimal impact on learning to teach or her preparation for teaching. Similarly to past research, the pre-service teacher displaying a *pragmatic* orientation tended to ignore or reject views of teaching that were different to her own and she was less likely to question or explore where her beliefs had originated (van Huizen et al., 2006). It is also likely, that when encountering the inevitable ill-defined problems in their first few years of teaching, a pre-service teacher with *pragmatic* orientations will likely to revert to transmission home/school practices that she had experienced and she is likely to attribute problems in teaching to external sources, often considered to be outside of her control. The pre-service teacher with a *pragmatic* orientation in my study was very confident of her ability to teach and did not anticipate many problems in teaching.

The *pragmatic* orientation described in my study has some similar characteristics to the *closed reproductive* orientation in the study by Oosterheert et al. (2002) and the *internal and external* orientation in the study by Opfer et al. (2011): however, there was not a clear ‘match’ to their orientations. At its best, the *reproductive*

orientation was focussed on changing teaching performance by using ‘cut and dried’ practical suggestions (p. 44) and the *closed* orientation described solutions to problems as ‘happen to occur or pass by’ (p. 44) rather than a more metacognitive and self-regulatory approaches to problems. Likewise, the *internal* orientation in the study by Opfer et al. alleged teaching was modified by self-evaluation of actual performance, practical experimentation and consultation with students. *External* orientation’s characteristics included using the web, other schools’ or teachers’ ideas as a resource to improve teaching.

Similar to research carried out by Oosterheert et al. (2002) and Opfer et al. (2011) the pre-service teacher’s orientation to learning to teach dominated the process and described what they learnt about teaching. This role was described along a continuum that ranged from passive to active responsiveness to their learning environment. The pre-service teacher with a *pragmatic* orientation found in my study can be a passive learner in terms of having an established view about teaching and teacher’s work and being reluctant to actively engage with newly proposed concepts of teaching and learning in her campus-based experience. For the pre-service teacher with a *pragmatic* orientation, the campus-based experience was a means to an end in that it provided the qualification needed to teach, rather than knowledge about teaching or teaching skills. The pre-service teacher with a *pragmatic* approach to learning to teach were expecting to learn more about teaching from actually teaching in realistic school and classroom contexts with real students.

6.2 Transitional Orientation

The second orientation to learning to teach found in my study combined the influences of personal aspects with some professional or contextual aspects. This orientation to learning to teach was described as *transitional*. Pre-service teachers with *transitional orientations* believed there was some specialised professional knowledge

that pre-service teachers had to learn that was going to be new to them. These pre-service teachers also believed they had personal characteristics and skills suited to teaching based on successful experiences with children and people. While their decision to teach was also to make a difference to students, the decision was associated with their reciprocal enjoyment of the teacher/student relationship and love of learning. In this orientation, pre-service teachers were expecting to learn the 'craft' of teaching from coursework but the pre-service teacher was responsible for making the theory-to-practice links while on practicum. The pre-service teachers in my study that portrayed the *transitional* orientation were Barb, Jacqui and Leah.

The pre-service teachers with a *transitional* orientation also had high self-efficacy for teaching based on their proven positive experiences with children in roles such as parenting, coaching or work experience. However, they recognised that there was more to teaching than having dispositions suited to teaching. They recognised the need to have a repertoire of professional strategies and background knowledge about teaching and learning. Pre-service teachers with a *transitional* orientation were expecting to learn theoretical knowledge about teaching and learning early in their coursework in preparation for implementation during the practicum and in order to be seen as credible.

The *transitionally* orientated approach to learning to teach was moving towards a relativist view (Perry, 1968). They saw the need to critique and evaluate knowledge against their own knowledge and experiences and to be willing to make some compromise to their thinking. Knowledge evolved from familiarity and making sense of readings or new information. As a result of needing to make some sense of the new information, pre-service teachers with a *transitional* orientation respected the expertise and advice of both their university lecturers and mentor teachers. They expected learning to be built up over time with further application and practice and they believed

ability was improved with effort and persistence.

Pre-service teachers displaying a *transitional* orientation expected to learn to teach along a developmental trajectory over the four years. In their early years of learning to teach they did not feel confident to question and preferred guidance from lecturers and mentor teachers. They expected to engage with the theory, professionally selective curriculum, pedagogical knowledge and rhetoric in their coursework through practical discussions and debates followed by autonomous learning experiences. The pre-service teachers with a *transitional* orientation believed it was their responsibility to make the theory and practice links and this was expected to happen during practicum when lesson planning required rational and justified decision making. The preferred learning style of the *transitional* orientation was a combination of theory building, collaborative discussion, autonomous learning experiences and reflection. They valued experimentation and being creative.

Pre-service teachers demonstrating *transitional* orientations in my study were most concerned about establishing a strong student-teacher relationship and as such, students' behaviour and engagement in the activities they planned were important. They were willing to experiment and search for creative and practical ways of presenting content. They recognised their students had diverse backgrounds and as such, they valued developing a classroom learning environment conducive to students being able to take risks and have-a-go. Pre-service teacher with a *transitional* orientation attributed their content knowledge to their secondary schooling but they were expecting to do some relearning of content.

At the end of their coursework the pre-service teacher with a *transitional* orientation were confident about their professional relationships, knowledge of learners and pedagogy. They were not as confident about KLA content knowledge, however, they were confident of knowing how and where to access KLA content knowledge and

they were willing to gain deeper understanding. While this type of pre-service teacher respected student diversity, they were not confident about assessment and differentiating instruction to meet students' needs. Knowledge about assessment of students' abilities was expected to be learnt when they commenced teaching.

The pre-service teachers with a *transitional* orientation envisioned teaching as a partnership between teachers and learners, with attention to the development of a love of learning. Pre-service teachers with this orientation believed teaching involved deliberate decision making about how to best facilitate learning through the integration of 'rich' and meaningful topics and subjects. They perceived the teacher's role was to scaffold learning and break down tasks. Pre-service teachers with a *transitional* orientation enjoyed setting up classrooms that were creative and inviting; and relationships that were warm but respectful of the need to learn new skills and knowledge were paramount. Pre-service teacher with a *transitional* orientation attributed their theoretical and specialised pedagogical knowledge and skills to a combination of university and practicum experiences. They believed this knowledge and skills had prepared them for continued learning about teaching by being reflective and developing strong theory and practice links through action research type applications and conferring with colleagues.

In comparison to the research done by Oosterheert et al. (2002) and Opfer et al., (2011), the *transitional* orientation in my study showed similar characteristics to *open reproductive*, *meaning* orientation and *external* orientations. However, again there was only a partial match. The *open reproductive* pre-service teachers in the study by Oosterheert et al. relied on external regulation to change teaching practice, while *open meaning* orientated pre-service teachers were similar to my *transitional* orientation because the pre-service teachers recognised gaps in their knowledge about teaching. Similarly, the *external* orientation relied on the web, other schools' and teachers'

practices and feedback from mentors/colleagues.

6.3 Integrated Orientation

The third orientation to learning to teach evident in my study was described as *integrated*. This orientation alleged that where and when all three aspects—personal, contextual and professional—were activated, integrated and interwoven during the learning to teach experience, a robust and rigorous ‘lived’ philosophy for teaching emerged. Pre-service teachers with this orientation epitomised the ‘reflective practitioner’ in that they openly and willingly took a proactive role in their learning. Pre-service teachers with *integrated* orientations embraced the total learning to teach experience by valuing equally their personal dispositions, knowledge and experiential contributions, professional knowledge and skills and campus and school-based contexts. Hence, these pre-service teachers were more likely to reflect on and challenge their own practices and seek innovative ways to solve the ill-defined problems that they would invariably experience. The pre-service teachers with an *integrated* orientation were more likely to value their university and practicum experiences together with their desire for deep understanding and skills about teaching. In my study, Annie, Lulu and Lara demonstrated the characteristics and understandings most consistent with this orientation. Interestingly, these pre-service teachers were also career switchers.

The pre-service teachers demonstrating an *integrated* orientation believed they had something to contribute to teaching and their decision to teach was based on an altruistic perspective. These pre-service teachers were passionate about teaching, learners and making a difference to students’ lives. They were ready to commit to the learning to teach tenure and sought information from additional sources to those provided in their coursework.

The pre-service teachers displaying an *integrated* orientation in my study had sophisticated and constructivist views about learning as being actively engaged and

evaluative about information. They believed knowledge was networks of related and connected ideas that were constantly evolving and growing as one sought deep understanding. These pre-service teachers drew on life experiences to make sense of new knowledge and they sought multiple points of view and collaboration with others. They believed ability was subject to motivation, persistence, time and effort and it was seen as improvable if learners were motivated.

The pre-service teachers with an *integrated* orientation described learning to teach as the co-construction of knowledge about teaching and learning. They approached learning to teach with some uncertainty and anxiety about what they do not know and as such, they expected to see and fill gaps in their knowledge, and to be highly self-directed and intrinsically motivated. They were open to new ideas and willing to engage in being critically reflective of their past and current learning and life experiences and they were willing to consider alternative perspectives.

Pre-service teachers exhibiting an *integrated* orientation valued learning the theory and rhetoric of teaching because this knowledge informed their teaching and was considered crucial to developing a teacher identity and being seen as 'credible'. As these pre-service teachers learnt about teaching and learning they became more sensitive and metacognitive about their own learning style. The metacognitive aspects of their learning style were often reflected in their teaching style. They sought to empower their students to think about their learning and achievement of outcomes.

Pre-service teachers demonstrating an *integrated* orientated in my study believed the teacher/student relationship was reciprocal in terms of shared expectations, outcomes/goals and needs were clearly articulated and often negotiated. They valued the development of a classroom environment conducive to metacognitive and constructivist learning. They were highly dedicated and passionate about teaching in order to make a difference to their students in holistic and life changing ways. The *integrated orientated*

pre-service teachers were more likely to have experienced and reported profound and transformative understandings about teaching or teaching a particular subject that represented a mind shift. Their self-efficacy for teaching was quietly confident, but they anticipated further and ongoing learning upon employment as a teacher.

At the end of their teacher education, the pre-service teachers with an *integrated* orientation were confident about most of the professional dimensions of teaching, however they were expecting ongoing learning about teaching for many years to come. They were metacognitive and highly reflective about their own teaching and sought to improve this consistently. These pre-service teachers were aware of shortfalls in their professional dimensions and they would be eager to pursue further knowledge and skills. They would likely value professional development courses. Their understanding of the teaching episode was student-centred and as such they were more inclined to evaluate teaching strategies for student learning.

In the study by Oosterheert et al. (2002) the *open meaning* orientation was the closest to the *integrated* orientation of my study. In the *open meaning* orientation, pre-service teachers were highly self-regulative, improved their teaching by improving their understanding about teaching and learning, used an array of sources, and they were compelled to understand. Likewise Opfer et al.,s' (2011) study described a similar orientation as having a *collaborative* orientation in which teaching was improved by research, colleagues, being reflective and engaging in collaborative planning.

Similar to research by Oosterheert et al.(2002) and Opfer et al.(2011) my *integrated* orientation to teaching represented the other end of the continuum where the pre-service teacher was actively engaged in learning to teach and open to new ideas. They approached learning to teach recognising they had much to learn from both the campus and school-based experience, but, they also recognised internal sources of learning such as being metacognitive about their learning and setting meaningful goals

to seek ‘deep’ understanding about teaching. The *integrated* orientation to teaching was about students’ learning and not so much about the pre-service teacher’s teaching.

6.4 Implications for Teacher Educators, Educators and Research

Given that pre-service teachers come into teaching with an extensive ‘occupational apprenticeship’, one of the roles of teacher education is to challenge pre-service teachers’ preconceived understandings so that a more rigorous and scientific approach to teaching emerges that will directly influence students’ achievements (Calderhead & Sharrock, 1997; Hattie, 2012; Lortie, 1975; Schussler et al., 2010). The emergence of three orientations to teaching, identified in my study, has a number of implications for teacher educators; school educators (involved in the employment induction process) and professional development providers; and research. The next section outlines the implications and provides some recommendations.

6.4.1 Implications for teacher education.

For teacher educators and teacher education programs, the possibility of pre-service teachers presenting with different orientations to teaching raises a number of quandaries. First, according to the pre-service teachers in my study, learning to teach in the university context had the least influence on pre-service teachers demonstrating a *pragmatic* orientation, and the most influence on pre-service teachers displaying an *integrated* orientation. However, this does not mean that the pre-service teachers demonstrating a *pragmatic* orientation will not change nor does it imply that they will not be ‘good’ teachers but rather they may not be as open to new ideas as the pre-service teachers displaying *transitional* and *integrated* orientation. The lack of willingness to challenge their own perceptions of teaching and learning means those pre-service teachers exhibiting a *pragmatic* orientation are less aware of their own bias and dispositions, and may be reluctant to change because they did not see the need to change (Schussler et al., 2010).

Hence, the first quandary for teacher educators is concerned with the need to activate and orchestrate the personal, contextual and professional aspects for all pre-service teachers so that the initial and formal learning to teach experience is a profound one that makes a significant contribution to new understandings about the complex nature of teaching and being a teacher. As this current study and others have shown, teacher identity can be expedited or modified during the pre-service teacher education experience (Friesen & Besley, 2013). One way teacher educators could provide opportunities to combine personal, contextual and professional aspects would be to develop a community of learners (Dinsmore & Wenger, 2006; Koeppen et al., 2000; Tinto, 1998). Darling-Hammond (2006) claims communities of learners can be established by teacher educators establishing common ground, shared goals and understandings about what constitutes teachers' work and evidence of these skills and knowledge. Additionally, the development of a community of learners addresses some of the concerns identified in chapter 1 such as; theory and practice links; fragmented coursework purpose and outcomes, and pre-service teachers' conflicting and inconsistent expectations of their courses.

Common ground could be established in a number of ways. First, teacher education programs have rarely taken advantage of the background experiences that pre-service teachers bring to their university classroom, nor have they used this information to inform their tertiary teaching, differentiate instruction and evaluate learning (Feiman-Nemser, 1983; Trier, 2006; Wideen et al., 1998). Background information, such as past educational experiences, epistemological beliefs and self-efficacy, are paramount to regular teaching, but it is even more important in adult learning, where experiences may be 'rich' and able to contribute positively to learning to teach. Additionally and in contrast, past experiences and beliefs may reflect biased or stereotypical perspectives on teaching and learning that negatively affect what is learnt

about teaching (Brouwer & Korthagen, 2005; Weiner & Cohen, 2003). Therefore, it is highly recommended that teacher educators also apply strategies for activating pre-service teachers' backgrounds and assumptions so that reflection and critical analysis of the effects of holding such views can be identified (Schussler et al., 2010). As was seen with Dallas, expectations of teaching and learning to teach were heavily influenced by past experiences, both educationally and from life experiences to such an extent that they acted as filters that screened out much of the theoretical content. Hence, pre-service teachers' preconceived ideas about teaching and learning must be brought to the surface, challenged and investigated in order to identify alternative viewpoints, which in turn create disequilibrium that fosters changes in thinking and action (Chan, 2003; Kagan, 1992; Luft & Roehrig, 2007; Weiner & Cohen, 2003).

Additionally, there is growing evidence that epistemological beliefs are thought to be critical in understanding pre-service teachers' practices, predicting classroom decision making and affecting pre-service teachers' behaviours as both learners and teachers (Luft & Roehrig, 2007). Similarly to Brownlee (2004), there was evidence in my study to indicate that as the pre-service teachers learnt to teach and were learners themselves, they saw metacognitive similarities between their learning styles and their teaching styles. Determining pre-service teachers' epistemological beliefs at the beginning of the course could be implemented simply through surveys but also by having philosophical discussions about the nature of knowledge and ways of knowing pertinent to pre-service teachers as students, learning about teaching. Towards the end of their studies, this could be considered again but from the perspective of students' and teachers' expectations.

The recently established Australian National Standards for Teachers clearly and comprehensively describes teachers' work (AITSL, 2011). The document provides an opportunity to establish shared goals and vision. Unit outcomes, weekly schedules, in-

class tasks and assignments could be mapped against the AITSL framework to develop shared goals for pre-service teachers and teacher educators to work towards. The AITSL document could also be used to develop formative portfolios as evidence of developing teaching skills and knowledge over the four years. The portfolio is also a useful and authentic way to evaluate pre-service teachers as it calls for autonomous research, evidence and knowledge co-construction about teaching and learning rather than emphasising marks/grades and knowledge reproduction. The use of the portfolio could also be a document that follows the pre-service teacher through to their teacher registration and employment. This would recognise that teaching is a career-long journey and by the end of their coursework, pre-service teachers will and do have different strengths and challenges. Indeed, the recent Teacher Education Ministerial Advisory Report (2015) also endorsed the use of AITSL standards to assess pre-service teachers' skills and knowledge (Recommendation 25) and the use of portfolio as evidence of classroom readiness upon graduation (Recommendation 26, 27 and 28).

Furthermore, the establishment of evidence-based understandings about teaching will identify and emphasise the role of assessment in learning. Until pre-service teachers understand and can see personal evidence of their learning, they will be less likely to recognise evidence of learning in their students. This might account for why most of the pre-service teachers in my study did not feel confident about the assessment and monitoring dimension of teaching. Their experiences in both secondary and tertiary education were predominantly marks and grades which reinforced didactic teaching practices.

The establishment of a community of learners should be extended to the faculty. Useful strategies might be to identify a faculty's teaching principles, common or similar learning/teaching styles, unit parity, common discourse/language and assignment mapping. The shared understanding about the nature of the teacher's work, coursework

and practicum components would establish academic rigour and send more consistent messages to pre-service teachers because lecturers would be aware of links and connections between units of study. This would address the problem of course ‘fragmentation’ identified in chapter 1, and also experienced by some of the pre-service teachers in my study.

The second quandary is that if pre-service teachers are presenting with different orientations towards learning and learning to teach, how do teacher educators differentiate instruction and intervene to accommodate the variety of perspectives? Transmission delivery and exams were not favoured by most of the pre-service teachers in my study. Didactic teaching appears to be a consistent negative message in teacher education (Wideen et al., 1998), although one pre-service teacher in my study liked some aspects of the didactic approach and some pre-service teachers preferred the theoretical knowledge construction in their first few years. Preferred learning and teaching styles in my study included practical, collaborative, cooperative learning and constructivist approaches to learning. When and where teacher educators facilitated learning by providing disorientating dilemmas, cases studies and scenarios that challenged pre-service teachers, pre-service teachers reported ‘deeper’ learning and understanding. Likewise, where and when teaching strategies were modelled and experienced from the perspective of a student, pre-service teachers also reported deeper understanding and relevance.

The opportunity to complete units online is also promising for some pre-service teachers, who may believe they have prior learning experiences and may not need face-to-face contact. However, one of the disadvantages of self-assessment of prior learning is highlighted by Lortie’s (1975) observation of apprenticeship and Tambyah’s (2008) study whereby pre-service teachers relied on experiential concepts of some content knowledge and they did not think their lack of deep understanding warranted further

learning.

Additionally, the small cohort size and intimate and supportive nature of a small campus complemented the preferred learning styles suggested above. A Canadian study by Beck and Kosnik (2002b) revealed similar findings when they sought the opinions of nine pre-service teachers about the redesigned campus component of their course. In their study, pre-service teachers reported acquiring broad goals for teaching and pedagogy; specific skills; curriculum knowledge; and gaining a sense of professionalism from their studies.

Further, pre-service teachers in my study recommended increased practicum time with a university component attached to the practicum. Cavanagh and Garvey (2012) reported positive outcomes when they trialled a collaborative community learning practice. Pre-service teachers and university lecturers made 12 school visits to a host teacher's classroom over the course of an academic year. The observations, co-teaching and discussion that followed these visits resulted in pre-service teachers learning from each other; the lecturer had shared experiences to use in discussion with pre-service teachers; and positive and powerful theory to practice links were made (in mathematics). In addition, the links with industry served to strengthen school and university practices. Zeichner (2010) describes these types of experience as 'third spaces' that can transform 'the either/or theory/practice nexus to a both/also point of view' (p. 92). Adoniou's (2013) study concluded that teacher preparation was most effective when there was alignment and collaboration between universities, practicum and schools. Hence, teacher educators need to establish and sustain greater partnerships with schools and other education providers (i.e., discovery centres, museums). The TEMAG (2015) report also identified the level of integration between initial teacher education providers and schools as an issue. In particular TEMAG recommended formalised partnership agreements between schools and teacher education providers in

order to provide; integrated, structured and extended professional experiences for pre-service teachers (Recommendation 19); and high quality mentor teachers to work with universities to ensure rigorous assessment and feedback (Recommendation 23).

Finally, if learning to teach is considered a developmental process, is it realistic for teacher education programs, pre-service teachers, school educators and the wider community to expect that at the conclusion of the pre-service teacher education experience, pre-service teachers should or will be ready to orchestrate fully the dimensions of teacher's work in the ill-structured, complex and dynamic nature of today's classrooms? Clearly, in my current study, many pre-service teachers were not confident in assessment and monitoring. This is certainly an area that teacher educators would have expected pre-service teachers to have learnt from their pre-service education programme. The fact that one pre-service teacher was confident in this area implies that assessment and monitoring was evident in the coursework, but many pre-service teachers were either not ready to take on board assessment and monitoring or the 'act of teaching' or the performance side of teaching was given greater priority in terms of developmental skills. In the recent report on staffing in Australian school (Commonwealth of Australia, 2014) principals were asked about graduate teacher preparation in a number of the standards, one of which was assessment, feedback and reporting. The principals reported that only 23 per cent of primary graduates and 31 per cent of secondary graduates were well or very well prepared for this standard in their teaching. In contemporary times, the assessment and achievement of students' outcomes for learning are paramount, hence, there needs to be a greater emphasis placed on assessment and monitoring within coursework. Perhaps this could be in the form of evidence based assignments for pre-service teachers, such as portfolios and evidence-based articulation of the AITSL standards. TEMAG (2015) also calls for rigorous assurance of classroom readiness against national standards and ongoing commitment to

reaching proficiency on entry to employment (Recommendations 25- 29 and 31-33).

They propose achieving this standard should commence on entry to initial teacher education and that all stake holders, higher education providers, pre-service teachers, principals and mentor teachers, be jointly and collaboratively responsible for achieving this outcome.

The pre-service teachers in my study were exiting their initial learning to teach experience with vicarious and idealistic hypotheses about teaching, or as Darling-Hammond and Bransford describe, ‘a vision of professional practice’ (cited in Darling-Hammond, 2006, p. 304). As such, they were venturing, confidently and eagerly, to the next phase: testing their hypotheses. Similarly to Beck and Kosnik’s (2002) study, the pre-service teachers in my study had broad goals for teaching; general pedagogical skills; some specific skills and curriculum knowledge; and a sense of being a newly qualified teacher with further learning anticipated. This is where the learning to teach experiences of the pre-service teachers in my study has implications for educators and professional development providers.

6.4.2 Implications for school educators and professional development providers.

My study has shown that pre-service teachers exit their teacher education courses with different orientations to teaching, despite having had similar learning experiences. The differing orientations were largely attributed to pre-service teachers’ personal aspects, which were supported by Kagan’s study (1992). Kagan claimed that learning to teach was a personal journey that required deep internal examination. In addition, my study found the personal aspects were a consistent aspect in all orientations to teaching. This has implications for school educators (principals and teachers involved in induction) and professional development providers in a number of ways.

First, school educators need to be conscious of the importance of high quality induction and mentoring of newly qualified teachers. Induction programs should be comprehensive in familiarising newly qualified teachers with systemic and school specific policies, culture and procedures. They should also include the provision of supportive and competent teacher mentors who also recognise that learning to teach is developmental. Chai, Teo and Lee (2009) found newly qualified teachers needed a range of supportive curriculum resources and staff to sustain the constructivist learning environment the pre-service teachers sought to establish. Recently, the Department of Education in Western Australia (DEWTA, 2012) released a policy statement on induction of newly qualified teachers that was encouraging. The policy called for newly qualified teachers to be given less teaching contact time (2.5 days per term), financial assistance for teaching resources or professional development. The TEMAG (2015) report found these practices had been enacted inconsistently due to the day-to-day pressures of running diverse schools and as such they made a number of recommendations calling for more effective induction and mentoring; and recognition of ongoing professional needs to develop proficiency (Recommendation 31,32 and 33).

Second, schools and principals need to recognise that pre-service teachers will be emotionally vulnerable in their idealistic teaching philosophies and vicarious experiences with diverse students they have yet to experience. In the same way that teacher educators need to know and understand their pre-service teachers as people, educators and professional development providers need to learn about their incoming new teachers. Newly qualified teachers are not 'empty' vessels to be moulded to the system or school. As Adoniou (2013) stated, these new teachers have visions for teaching that 'impact upon the type of teacher they want to become and the kind of knowledge they require to be that teacher' (p. 54). The pre-service teachers in my study had 'ideals' about how they would teach and they were confident and eager to pursue

mostly constructivist theoretical models. If these ‘ideals’ do not align with their first place of employment, or they are discouraged from attempting to try their newly hypothesised concept of teaching, they may feel frustrated, disillusioned and (potentially) may leave teaching (Adoniou, 2013).

Brouwer and Korthagen (2005, p. 213) claimed that in their first year of teaching, newly qualified teachers’ idealistic and constructivist perspectives ‘had to go underground’ as they sought to gain more educative and instructional competence. However, their study found that where pre-service teacher education involved integrative theory and practical programs, idealistic and constructivist beliefs resurfaced after their second year of teaching. More research is needed in following up early career teacher’s development of a teaching philosophy. Thus, principals and teachers in schools with graduate teachers need to recognise that newly qualified teachers are a ‘work in progress’ and that initial employment as a teacher is not the end or the start but rather a continuation of the learning journey. Additionally, most in-service teachers indicate that it takes between two and five years before they begin to feel confident about their teaching style (Burden, 1990).

In recognising that learning to teach is a career-long journey, professional development providers and schools should also seek partnerships and alignment of their work with that of universities (Crosswell & Beutel, 2013). The role of schools and additional professional development, which should also include universities, is to support newly qualified teachers in their quest to fulfil their role as a teacher who will make a difference. My study asserts that professionally, most of the pre-service teachers were not prepared for assessing and monitoring of students and KLA content knowledge. This might well be a common trend that indicates that newly qualified teachers need further skills and knowledge.

Also in my study, pre-service teachers felt 'ready' to teach but with minimal confidence in pedagogy, knowledge of learners and content knowledge. This was in fact quite realistic because the pre-service teachers recognised that there were a diverse and dynamic range of schools, classrooms and students that they had yet to encounter. They also had quite minimal KLA knowledge, as many discipline areas such as science, humanities, technology and health received only 36 hours or one semester of study during the four-year period. Clearly, this is not sufficient time to develop a comprehensive understanding of the scope and sequence of major discipline areas across significant developmental levels. Hence, the pre-service teachers in my study presented with idealistic constructivist visions of teaching but also the recognition of diverse learners and the need to differentiate instruction. They were highly confident about their relationship with people and children in general and thus they are likely to rely on this aspect of their professional and personal development to survive their first years of teaching. While the constructivist and idealistic view of teaching is common in the literature on newly qualified teachers (Brouwer & Korthagen, 2005), the notion of diverse learners that my pre-service teachers clearly identified as important to teaching is relatively new. This may be attributed to recent legislature on inclusivity in both society and educational curriculum documents, but may also have been influenced by the 'inclusivity' theme in the pre-service teachers' second year teaching course. Hence, professional development providers or universities should look to short courses on pedagogy to differentiate instruction and provision of content area knowledge.

6.4.3 Implications for research.

Finally, my study attempted to provide a framework for investigating the phenomena of learning to teach that recognises the socio-cultural impact and the continually changing educational landscapes (Clandinin, Downey, & Huber 2009; Hastings, 2010). The research on learning to teach is extensive and ranges from

quantitative to qualitative studies. It has involved pre-service teachers through to more experienced in-service teachers and across many cultures. Friesen and Besley (2013) claimed that research on teacher identity and development is complex because of the ‘multidisciplinary nature of the literature and multiple perspectives within teaching and the teacher education field’ (p. 24). An interesting recommendation from the TEMAG (2015) report endorses “a national focus on research into teacher education, including the effectiveness of teacher preparation and the promotion of innovative practice”(p. xv). The socio-cultural perspective taken in my study was a straightforward but comprehensive approach because it took into consideration the personal characteristics of the learner (pre-service teacher), the social and cultural context in which the learning takes place (campus and school-based) and the nature of what has to be learnt (teachers’ work). The approach acknowledged that these aspects should not be separate. Rather, they should be integrated with each other (Vygotsky, 1978).

The socio-cultural framework of my study helps to satisfy the complex and dynamic nature of teaching in a relatively easy manner. The most encouraging part of the recent TEMAG (2015) report was the recognition that teacher education needs to continue to be researched. Future research could apply the socio-cultural approach to a larger group of pre-service teachers with more diverse geographical, cultural and gender characteristics. It would also be beneficial to conduct more longitudinal studies from the first year of the undergraduate programme through the first three years of teaching. Finally, it would also be interesting to note if the particular orientations identified in my study were peculiar to certain demographic groups or career switchers and school leavers.

6.5 Conclusion

My study sought to explore the phenomenon of learning to teach in the initial and formal teacher training period by asking seven pre-service teachers to describe their

experiences. The study sought the ‘voices’ of the pre-service teachers in order to gain an insider’s perspective on learning to teach. It sought to answer universal questions about who was learning to teach, what was learnt, when, where and how. Thus, the socio-cultural theory offers a relevant and useful lens through which to examine learning to teach in the current study, because it sought to understand the players (pre-service teachers, and the lecturers and mentor teachers, indirectly), the landscapes (schools and university contexts) and the tools for learning (teaching knowledge and skills). These were not considered separate but rather interacting, integrated and influencing each other. As noted in past research, conclusions from the case studies and cross-cases analysis found learning to teach was complex, dynamic and idiosyncratic (Alsup, 2006; Cattley, 2007; Pillen, Den Brok, & Beijaard, 2013).

Whilst the sample size is relatively small and the pre-service teachers did self-select, the research sought to understand learning to teach by focussing on the meanings that the experience had for seven pre-service teachers who were the participants in my study. My study was interested in what was reported from the perspective of the pre-service teachers, whoever they might be. They have a story to tell which may or may not be similar or different to the other pre-service teachers in the study or other pre-service teachers in general. The significance is that it is their story. Future research can only add to the stories and may or may not find similarities or differences. My study sought to understand learning to teach by focussing on the meanings that the experience had for seven pre-service teachers who were the participants in my study.

The degree to which the three aspects worked to influence learning to teach resulted in three orientations towards learning to teach. Common and central to all three orientations were the personal aspects. More specifically, the personal aspects involved the pre-service teachers’ self-efficacy for teaching in particular, their decision to teach, readiness to commit, life and educational experiences, dispositions, concept of learning

and expectation about learning to teach. These were found to have the greatest influence on pre-service teachers' learning. However, where the personal aspects were dominant to the exclusion of contextual and professional aspects, as described in the *pragmatic* orientation, pre-service teachers' conceptions of teaching and learning did not change or changed minimally during the initial and formal learning to teach experience. Hence, pre-service teachers presenting with a *pragmatic* orientation towards teaching were more likely to report that their coursework had a minimal impact on their understanding about teaching and learning. This was the case for one pre-service teacher in my study. In contrast, when and where all three aspects were activated and integrated, as in the *integrated* orientation, pre-service teachers reported profound learning and mindset changes that resulted in strongly held and lived visions of teaching and learning. Hence, these pre-service teachers regarded their initial and formal teacher education experience as invaluable and necessary in contributing to their identity as a teacher. Three pre-service teachers were described as representing the *integrated* orientation. Somewhere, in between these extreme orientations, was the impact of personal and professional aspects and the impact of personal and contextual aspects (the *transitional* orientation) and this orientation also claimed some impact from the university context that influenced the pre-service teachers understanding about teaching and learning.

My study found that those who stand to gain the most from their initial learning to teach experience were those pre-service teachers who engaged with self, context and professional knowledge and skills. Consequently, the paradox for teacher educators is how to make the initial learning to teach experience one in which pre-service teachers activate and engage all three aspects in order to challenge preconceived ideas about teaching and learning so that new understandings emerge about the role of the teacher and learner and its impact on students. This could be achieved by questioning pre-service teachers, identifying epistemological beliefs about knowledge and ways of

knowing, roles of teachers and learners and their self-efficacy for teaching. This is best achieved by teaching pre-service teachers to actively engage through sustained involvement with all aspects of the teacher education programme and teach pre-service teachers to critically reflect on their assumptions and their observations of teachers and learners (Cattley, 2007).

Contextual features that enhanced learning were constructivist by nature and advocate for the development of learning communities where strong relationships are established. These relationships accommodate a shared responsibility; transparent and relevant outcomes, expectations and purposes; a balance and range of learning opportunities from collaboration to autonomy; involvement in authentic research projects; and creative and critical reflection/thinking. Assessment and feedback to pre-service teachers about their research, class participation and practicum experiences should also be negotiated, authentic, evidence-based and timely. It should represent the whole development of teacher identity, not just knowledge.

Finally, the professional dimensions of learning to teach, in accordance with AITSL framework (AITSL, 2011), need to be identified on entry, monitored throughout the programme and upon exit so that individual pathways to expertise are clearly mapped with an expectation of continued professional development as pre-service teachers become in-service teachers. The development of a 'teaching portfolio' has the potential to address the fact that different pre-service teachers develop different skills and knowledge from their university experience and practicum. The pre-service teachers do have knowledge to contribute and they are expecting to continue to learn about teaching. The idealistic and vicarious 'visions of teaching' will need ongoing support from employers with recognition that not all teachers have the same skills and knowledge. The portfolio would allow employers to realistically identify strengths alongside opportunities to provide ongoing professional development.

It would seem that the preparation of teachers would be greatly enhanced if both the universities and schools took joint responsibility for the transition to work, rather than the ‘closing of one door ... and the opening of another’ mind set (Crosswell & Beutel, 2013, p. 146). Most pre-service teachers in my study were exiting their coursework eager to try out their vision of teaching in order to make a difference to the students under their charge. They will need support and encouragement as they attempt to marry the idealistic and vicarious experiences with the realistic and dynamic classroom experience of having their own class. The emphasis on students’ learning means tomorrow’s teachers need to teach in different ways and with respect for diversity and inclusivity. They need to teach for impact (Hattie, 2012). Zeichner and Conklin (2008) concluded:

Given the diversity of who comes into our teacher education programs and the settings for which they are prepared to teach, there is likely to be a variety of effective pathways into teaching and a variety of elements of effective teacher education programs (p. 285).

Teacher education will need to look more critically at who is entering teacher education programs, what they know and have to learn, where, when and how this is best learnt for each pre-service teacher. The match between the learner and the learning commands more flexibility and differentiation in teacher education programs of the future.

References

- Adoniou, M. (2013). Preparing teachers - The importance of connecting contexts in teacher education. *Australian Journal of Teacher Education*, 38(8), 47-60. doi:10.14221/ajte.2013v38n8.7
- Alexander, P. (2008). Charting the course for the teaching profession: The energising and sustaining role of motivational forces. *Learning and Instruction*, 18, 483-491. doi:10.1016/j.learninstruc.2008.06.006
- Allen, J. (2009). Valuing practice over theory: How beginning teachers re-orient their practice in the transition from university to workplace. *Teaching and Teacher Education*, 25, 647-654. Doi:10.1016/j.tate.2008.11.011
- Allen, J., Ambrosetti, A., & Turner, D. (2013). How schools and university supervising staff perceive the pre-service teacher education practicum; A comparative study. *Australian Journal of Teacher Education*, 38(4), 108-128. doi:10.14221/ajte.2013v38n4.9
- Allen, J., & Wright, S. (2014). Integrating theory and practice in pre-service teacher education practicum. *Teachers and Teaching*, 20(2), 136-151. doi:10.1080/13540602.2013.848568
- Alsop, J. (2006). *Teacher identity discourses: Negotiating personal and professional spaces*. Mahwah, N.J: Lawrence Erlbaum Associates Inc.
- Alonzo, A., & Whittaker, A. (2007). Research on pre-service teachers' learning about assessment. *Centre for Assessment and Evaluation of Student Learning*. Retrieved from <http://www.wested.org>
- Angus, M., Olney, H., & Ainley, J. (2007). *In the balance: The future of Australian primary schools*. Canberra, Australia: Australian Primary Principals' Association.
- Ary, D., Jacobs, L., Razavieh, A., & Sorenson, C. (2006). *Introduction to research in education* (7th ed.). Belmont, CA: Thomson Wadsworth.
- Association of Independent Schools of Western Australia. (1995). *Senior Teacher 2 Seminar*. Paper presented at the Senior Teacher 2 Seminar, June in Perth, Australia: Christchurch Grammar School.
- Australian Association of Mathematics Teachers (2002). Standards for excellence in teaching mathematics in Australian schools. Retrieved from <http://www.aamt.edu.au/standards>
- Australian Bureau of Statistics. (May, 2010) *Education and work. (6227.0)* Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/6227.0/>
- Australian Curriculum, Assessment and Reporting Authority. (2013a). Australian Curriculum. Retrieved from <http://www.australiancurriculum.edu.au/>
- Australian Curriculum, Assessment and Reporting Authority. (2013b). *National assessment program- Literacy and numeracy summary report*. Sydney, Australia: Australian Curriculum and Reporting Authority. Retrieved from <http://www.nap.edu.au/online-assessment/naplan-online.html>
- Australian Government. (2015). *Teacher Education Ministerial Advisory Group: Action now; Classroom ready teachers*. Canberra, Australia: Department of Education and Training.
- Australian Institute for Teaching and School Leadership. (2011). *National Professional Standards for Teachers*. Canberra, Australia: Educational Services.
- Australian Literacy Educators Association, Association of Teachers of English, Victorian Department of Education and Department of Education WA. (2002). *Standards for Teachers of English, Language and Literacy in Australia (STELLA)*. Retrieved from www.stella.org.au

- Australian Science Teachers' Association & Murdoch University. (2002). National Professional Standards for Highly Accomplished Teachers of Science. Melbourne, Australia: Australian Research Council.
- Aydeniz, M., & Kiebulut, D. (2014). Exploring challenges of assessing pre-service teachers' pedagogical content knowledge. *Asia-Pacific Journal of Teacher Education*, 42(2), 147-166. doi:10.1080/1359866x.2014890696
- Baeten, M., & Simons, M. (2014). Student teachers team teaching: Models, effects and conditions for implementation. *Teacher and Teacher Education*, 41, 92-110. doi:10.1016/j.tate.2014.03.010
- Ball, D., & McDiarmid, G. (1990). The subject matter preparation of teachers. In R. Houston (Ed.), *Handbook of research on teacher education* (pp. 437-449). N.Y: Macmillan.
- Ball, D., Thomas, M., & Phelps, G. (2008). Content knowledge for teaching. What makes it special? *Journal of Teacher Education*, 59, 389-407. Retrieved from <http://jte.sagepub.com.ezproxy.ecu.edu.au>
- Baltes, P. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23, 611-626. Retrieved from <http://www.apa.org.ezproxy.ecu.edu.au/pubs/journals/dev/index.aspx>
- Bandura, A. (1986). *Social foundations of thought and action: Social cognitive theory*. Englewood, N.J: Prentice Hall.
- Baum, A., & McMurray-Schwarz, P. (2004). Pre-service teachers beliefs about family involvement: Implications for teacher education. *Early Childhood Education Journal*, 32(1), 57-61. Retrieved from <http://link.springer.com.exproxy.ecu.edu.au/journal/10648>
- Baxter-Magolda, M. (1992). *Knowing and reasoning in college: Gender related patterns in students' intellectual development*. San Francisco, CA: Jossey Bass Publishers.
- Beare, P., Torgerson, C., Marshall, J., Tracz, S., & Chiero, R. (2012). Examination of alternative programs of teacher preparation on a single campus. *Teacher Education Quarterly*, 39(4), 55-70. Retrieved from <http://www.teqjournal.org>
- Beck, C., & Kosnik, C. (2002a). Components of a good practicum placement: Student teacher perspectives. *Teacher Education Quarterly*, 29(2), 81-122. Retrieved from <http://www.teqjournal.org>
- Beck, C., & Kosnik, C. (2002b). The importance of the university campus program in pre-service teacher education: A Canadian case study. *Journal of Teacher Education*, 53(5), 420-432. doi:10.1177/002248702237596
- Belenky, M., Clinchy, B., Goldberger, N., & Tarule, J. (1986). *Women's ways of knowing: The development of self, voice and mind*. N.Y: Basic Books.
- Bloomfield, D. (2010). Emotions and getting by: A pre-service teacher navigating professional experience. *Asia-Pacific Journal of Teacher Education*, 38(3), 221-234. doi:10.1080/1359866x.2010.494005
- Bogdan, R., & Biklen, S. (2007). *Qualitative research for education: An introduction to theories and methods*. Boston, MA: Pearson Education.
- Boon, H. (2011). Raising the bar: Ethics education for quality teachers. *Australian Journal of Teacher Education*, 36(7), 76-93. doi:10.14221/ajte.2011v36n7.2
- Bransford, J., Derry, S., Berliner, D., Hammerness, K., & Becket, K. (2005). Theories of learning and their roles in teaching. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do*. (pp. 358-389). San Francisco, CA: Jossey Bass.

- Brayko, K. (2012). Community based placement as contexts for disciplinary learning: A study of literacy teacher education outside of school. *Journal of Teacher Education*, 64(1), 47-59. doi:10.1177/0022487112458800
- Bronkhorst, L., Koster, B., Meijer, P., Woldman, N., & Vermunt, J. (2014). Exploring student teachers' resistance to teacher education pedagogies. *Teaching and Teacher Education*, 40, 73-82. doi:10.1016/j.tate.2014.02.001
- Brouwer, N., & Korthagen, F. (2005). Teacher education makes a difference? *American Educational Research Journal*, 42(1), 153-224. Retrieved from <http://are.sagepub.com.ecu.edu.au>
- Brown, A., & Day, J. (1983). Micro-rules for summarising text: The development of expertise. *Journal of Verbal Learning and Verbal Behaviour*, 22, 1-14.
- Brownlee, J. (2004). Teacher education students' epistemological beliefs: Developing a relational model of teaching. *Research in Education*, 72, 1-17. Retrieved from <http://www.manchesteruniversitypress.co.uk/cgi-bin/subscribe?showinfo=ip018>
- Brownlee, J., Boulton-Lewis, G., & Purdie, N. (2002). Core beliefs about knowing and peripheral beliefs about learning: Developing an holistic conceptualisation of epistemological beliefs. *Australian Journal of Educational & Developmental Psychology*, 2, 1-16. Retrieved from <http://www.newcastle.edu.au/journal/ajedp>
- Brownlee, J., Schraw, G., & Berthelsen, D. (2011). *Personal epistemology and teacher education*. N.Y: Routledge.
- Burden, P. (1990). Teacher development. In R. Houston (Ed.), *Handbook of research on teacher education* (pp. 311-328). N.Y: Macmillan Publishing Company.
- Burn, K., Hagger, H., Mutton, T., & Everton, T. (2003). The complex development of student-teachers' thinking. *Teacher and Teacher Education*, 9(4), 309-331. doi:10.1080/1354060032000097235
- Calderhead, J., & Sharrock, S. (1997). *Understanding teacher education*. London, U.K: The Falmer Press.
- Campbell, C., & Evans, A. (2000). Investigating pre-service teachers' classroom assessment practices during student teaching. *Journal of Educational Research*, 93(6), 350-355. Retrieved from <http://www.tandonline.com.ezproxy.ecu.edu.au/loi/vjer20#.VP83QPidx5e>
- Campbell, E. (1997). Connecting the ethics of teaching and moral education. *Journal of Teacher Education*, 48(4), 225-263. Retrieved from <http://jte.sagepub.com.ezproxy.ecu.edu.au>
- Capraro, M., Capraro, R., & Helfedt, J. (2010). Do differing types of field experiences make a difference in teacher candidates' perceived level of competence. *Teacher Education Quarterly*, 37(1), 131-147. Retrieved from <http://www.teqjournal.org>
- Carter, K. (1990). Teachers' knowledge and learning to teach. In R. Houston (Ed.), *Handbook of research of teacher education* (pp. 291-311). N.Y: Macmillan Publishing Company.
- Catholic Education Office. (1995). *Senior teacher: A fact book for principals and teachers*. July in Perth, Australia: Catholic Education Office of Western Australia.
- Catling, S. (2006). *Learning to teach geography in ten- and -a- half hours*. Paper presented at the Changes in geographical education: Past, present and future conference, Brisbane, Australia.
- Cattley, G. (2007). Emergence of professional identity for the pre-service teacher. *International Education Journal*, 8(2), 337-347. Retrieved from <http://openjournals.library.usyd.edu.au/index.php/IEJ>

- Cavanagh, M. & Garvey, T. (2012). A professional experience learning community for pre-service secondary mathematics teachers. *Australian Journal of Teacher Education*, 37(12), 57-74. Retrieved from <http://ro.ecu.edu.au/ajte>
- Chai, C., Teo, T., & Lee, C. (2009). The change in epistemological beliefs and beliefs about teaching and learning: A study among pre-service teachers. *Asia-Pacific Journal of Teacher Education*, 37(4), 351-362. doi:10.1080/13598660903250381
- Chan, K. (2001). *Validation of a measure of personal theories about teaching and learning*. Paper presented at the International Education Research Conference, December in Perth, Australia.
- Chan, K. (2003). *Pre-service teachers' epistemological beliefs and conceptions about teaching and learning: Cultural implications for research in teacher education*. Paper presented at the New Zealand Association for Research in Education/ Australian Association for Research in Education Joint Conference, November in Auckland, New Zealand.
- Chapman, A., Forster, D., & Buchanan, R. (2013). The moral imagination in pre-service teachers' ethical reasoning. *Australian Journal of Teacher Education*, 38(5), 131-143. doi:10.14221/ajte.2013v38n5.8
- Cheng, M., Chan, K., Tang, S., & Cheng, A. (2009). Pre-service teachers education students' epistemological beliefs and their conception of teaching. *Teaching and Teacher Education*, 25, 319-327. doi: 10.1016/j.tate.2008.09.018
- Cheng, M., Tang, S., & Cheng, A. (2014). Differences in pedagogical understanding among student-teachers in a four year initial teacher education programme. *Teachers and Teaching*, 20(2), 152-169. doi:10.1080/13540602.2013.848566
- Chi, M. (2009). Qualifying qualitative analyses of verbal data: A practical guide. *Journal of Learning Sciences*, 6(3), 271-315. retrieved from <http://www.tandfonline.com.ezproxy.ecu.edu.au/loi/hlms20#.VPTO9idx5E>
- Chong, S. (2011). Development of teachers' professional identities: From pre-service to their first year as a novice teacher *Journal of Education Psychology*, 8(2), 219-233. Retrieved from <http://www.wiley.com.ezproxy.ecu.edu.au/bw/journal.asp?ref=0022-0655>
- Chung, H., & van Es, E. (2014). Pre-service teachers' use of tools to systematically analyze teaching and learning. *Teacher and Teaching: Theory and practice*, 20(2113-135). doi:10.1080/13540602.2013.848567
- Clandinin, J., Downey, A., & Huber, J. (2009). Attending to changing landscapes: Shaping the interwoven identities of teachers and teacher educators. *Asia-Pacific Journal of Teacher Education*, 37(2), 141-154. Retrieved from <http://www.tandfonline.com.ecu.edu.au/toc/capjzo/VCulCck5DGg#.VCchlMkSDGg>
- Commonwealth of Australia (2014) Staff in Australian Schools 2013: Main report on the survey 2014. Canberra, Australia: Department of Education.
- Commonwealth of Australia. (2007). Top of the class; A report on the inquiry into teacher education. Canberra, Australia: House of Representatives.
- Commonwealth of Australia. (2005). National framework for values education in Australian school. Retrieved from <http://www.valueseducation.edu.au/values/default.asp?id=14515>
- Crosswell, L., & Beutel, D. (2013). A bridge over troubled waters: A snapshot of teacher graduates' perception of their on-going professional learning needs. *Asia-Pacific Journal of Teacher Education*, 41(2), 144-158. Retrieved from <http://www.tandfonline.com.ecu.edu.au/toc/capjzo/VCulCck5DGg#.VCchlMkSDGg>

- Curuso, M. (2002). Lifespan development psychology course. Retrieved from http://homepages.utoledo.edu/mcaruso/lifespan/course_conclusions.pdf
- Cutter-McKenzie, A., & Smith, R. (2003). Ecological literacy: The missing paradigm in environmental education. *Environmental Education Research*, 9(4), 498-524.
- Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, 57, 300-314. doi:10.1177/0022487105285962
- Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco, CA: Jossey Bass.
- Day, C. (2012). New lives of teachers. *Teacher Education Quarterly*, 39(1), 7-21.
- De Courcy Hinds, M. (2002). *Teaching as a clinical profession: A new challenge for education*. (pp. 1-17). N.Y: Carnegie Corporation.
- Decastro-Ambrossetti, D., & Cho, G. (2011). A look at lookism: A critical analysis of teachers' expectations based on student appearance. *Multicultural Education*, 18(2), 51-54.
- Denzin, N., & Lincoln, Y. (Eds.). (2001). *The American tradition of qualitative research*. Thousand Oaks, CA: Sage Publications.
- Department of Education, Science and Training. (2004). *Students 2003 tables: Selected higher education statistics*. Canberra, Australia: Department of Education Science and Training.
- Department of Education and Training. (2004). *Competency Framework for Teachers*. Perth, Australia: Department of Education and Training in Western Australia.
- Department of Education and Training Western Australia. (2012). *Teaching WA. Have you got what it takes?* Retrieved from <http://det.wa.edu.au/teachingwa/detcms/navigation/current-public-school-teachers-and-administrators/graduate-teachers>
- Department of Education in Western Australia. (2001). *Teacher competencies and professional standards; Discussion paper*. Perth, Australia: Department of Education in Western Australia.
- Dinsmore, J., & Wenger, K. (2006). Relationships in pre-service teacher preparation: From cohorts to communities. *Teacher Education Quarterly*, 33(1), 57-74. Retrieved from <http://www.teqjournal.org>
- Down, B., & Woollorton, S. (2004). Beginning teachers in rural -remote schools: Implications for critical teacher development. *CHANGE: Transformations in Education*, 7(1), 31-46.
- Drudy, S. (Ed.). (2013). *Gender balance/gender bias: the teaching profession and the impact of feminization*. Hoboken, N.J: Taylor and Francis.
- Drudy, S., Martin, M., Woods, M., & O'Flynn, J. (2005). *Men in the classroom; Gender imbalances in teaching*. London, UK: Routledge, Taylor and Francis Group.
- Education Review Office. (2002). *The capable teacher*. Retrieved from <http://www.ero.govt.nz/Publications/eers1998/98no2hl.htm>
- Eilam, B., & Poyas, Y. (2009). Learning to teach: Enhancing pre-service teachers' awareness of complexity of teaching-learning processes. *Teachers and Teaching*, 15, 87-107. Retrieved from <http://www.tandfonline.com.ezproxy.ecu.edu.au/toc/ctat20/current>
- Erikson, E. (1968). *Identity, youth and crisis*. N.Y: W.W.Norton.
- Eun, B. (2010). From learning to development: A sociocultural approach to instruction. *Cambridge Journal of Education*, 40(4), 401-418. Retrieved from <http://www.tandfonline.com.ezproxy.ecu.edu.au/toc/ccje20/current>
- Feiman-Nemser, S. (1983). Learning to teach. In L.Shulman & G.Sykes (Eds.), *Handbook of teaching and policy* (pp.212-233). N.Y: Longman.

- Feiman-Nemser, S., & Remillard, J. (1994). *Perspectives on learning to teach*. East Lansing, MI: Michigan State University.
- Fenwick, L., & Cooper, M. (2013). Learning about the effects of context on teaching and learning in pre-service teacher education. *Australian Journal of Teacher Education*, 38(3), 96-110. doi: 10.14221/ajte.2013v38n3.6
- Flavell, J. (1976). Metacognitive aspects of problem solving. In L. Resnick (Ed.), *The Nature of Intelligence*. Hillsdale, N.J: Lawrence Erlbaum.
- Forster, D. (2012). Codes of ethics in Australian education: Towards a national perspective. *Australian Journal of Teacher Education*, 37(9), 1-17. doi: 10.14221/ajte.2012v37n9.4
- Friesen, M., & Besley, S. (2013). Teacher identity development in the first year of teacher education: A developmental and social psychological perspective. *Teaching and Teacher Education*, 36, 23-32. doi:10.1016/j.te.2013.06.005
- Fuller, E. (2014). Shaky methods, shaky motives: A critique of the National Council of Teacher Quality's review of teacher preparation. *Journal of Teacher Education*, 65(1), 63-84. Retrieved from <http://jte.sagepub.com.ezproxy.ecu.edu.au>
- Fuller, F. (1969). Concerns of teachers: A developmental characterisation. *American Educational Research Journal*, 6(2), 207-226. Retrieved from <http:aer.sagepub.com.ezproxy.ecu.edu.au>
- Fuller, F. & Bown, O (eds). (1975). *Being a teacher*. Chicago, IL: University of Chicago Press.
- Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.
- Glickman, C., & Bey, T. (1990). Supervision. In R. Houston (Ed.), *Handbook of research on teacher education*. N.Y: Macmillan.
- Government of Australia. (2014). *Teacher education ministerial advisory group; Issues paper*. Canberra, Australia: Department of Education.
- Graham, P. (2005). Classroom-based assessment: Changing knowledge and practice through pre-service teacher education. *Teaching and Teacher Education*, 21, 607-621. doi: 10.1016/j.tate.2005.05.001
- Graham, B. (2006). Conditions for successful field experiences: Perceptions of co-operating teachers. *Teaching and Teacher Education*, 22, 1118-1129. doi:10.1016/j.tate.2006.07.007
- Grainger, P., & Adie, L. (2014). How do pre-service teacher education students move from novice to expert assessors ? *Australian Journal of Teacher Education*, 39(7), 89-105. doi:10.14221/ajte.2014v39n7.9
- Grima-Farrell, C., Long, J., Bentley-Williams, R., & Laws, C. (2014). A school system and university approach to reducing the research to theory gap in teacher education: A collaborative special education immersion project. *Australian Journal of Teacher Education*, 39(5), 89-98. doi:10.14221/ajte.2014v39n5.2
- Grootenhoer, P. (2006). The impact of school-based practicum on pre-service teachers affective development in mathematics. *Mathematics Teacher Education & Development*, 7, 18-32. Retrieved from <http:www.merga.net.au/node/42>
- Grossman, P., Hammerness, K., & McDonald, M. (2014). Redefining teaching, re-imagining teacher education. *Teachers and Teaching*, 15(2), 273-289. doi:10.1080/13540600902875340
- Guarino, C., Santibanez, L., & Daley, G. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Educational Research*, 76(2), 173-208. Retrieved from <http://rer.sagepub.com.ezproxy.ecu.edu.au>
- Guyton, E., & McIntyre, D. (1990). Student teaching and school experiences. In R. Houston (Ed.), *Handbook on research on teacher education*. N.Y: Macmillan.

- Halpern, D. (2005). *Teaching for the future: Fostering twin abilities of knowing how to learn and think critically*. CA: National Commission on Teaching and America's Future.
- Hammerness, K., Darling-Hammond, L., Bransford, J., Berliner, D., Cochran-Smith, M., McDonald, M., & Zeichner, K. (2012). How teachers learn and develop. In L. Darling-Hammond & J. Bransford (eds). *Preparing teachers for a changing world*. (pp.358-389). San Francisco, CA: Josey-Bass.
- Hastings, P. (2010). Expectation of a pre-service teacher: Implications of encountering the unexpected. *Asia-Pacific Journal of Teacher Education*, 38(3), 207-219. Retrieved from <http://www.tandfonline.com/ecu.edu.au/toc/capjzo/VCulCck5DGg#.VCchlMkSDGg>
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. London, UK: Routledge.
- Havighurst, R. (1972). *Developmental tasks and education*. N.Y: McCay.
- He, Y., Levin, B., & Li, Y. (2011). Comparing the content and sources of pedagogical beliefs in Chinese and American pre-service teachers. *Journal of Education for Teaching*, 37, 155-171. Retrieved from <http://www.tandfonline.exproxy.ecu.edu.au/toc/cjet20#VMqLUfldVPM>
- Hill, H., & Ball, D. (2009). The curious-and crucial- case for mathematical knowledge for teaching. *The Phi Delta Kappan*, 91, 68-71. Retrived from <http://www.sagepub.com.ezproxy.ecu.edu.au/journals/Journal202327>
- Hodgkinson, H. (2002). Demographics and teacher education: An overview. *Journal of Teacher Education*, 53(2), 102-106. Retrieved from <http://jte.sagepub.com.ezproxy.ecu.edu.au>
- Hodson, E., Smith, K., & Brown, T. (2012). Reassessing theory in professionally based initial teacher education. *Teachers and Teaching*, 18(2), 181-195. doi:10.1080/13540602.2012.632269
- Hofer, B. (2004). Exploring the dimensions of personal epistemology in differing classrooms: Student interpretations during the first year of college. *Contemporary Educational Psychology*, 29, 129-163. doi:10.1016/j.cedpsych.2004.01.002
- Hofer, B., & Pintrich, P. (1997). The development of epistemological theories: Beliefs about knowledge and knowing and their relation to learning. *Review of Educational Research*, 67(1), 88-140.
- Ingvarson, L., Beavis, A., & Kleinhenz, E. (2004). *Teacher education courses in Victoria: Perceptions of their effectiveness and factors affecting their impact*. Victoria, Australia: Australian Council for Educational Research.
- Interstate New Teacher Assessment and Support Consortium.(1992). *Model standards for beginning teachers licensing, assessment and development*. Washington DC: Council of Chief State School Offices.
- Jackson, P. (1990). *Life in classrooms*. N.Y: Teachers College Press.
- Jacobson, M., Jehng, C., & Maouri, C. (1996). *Culture, domain specificity and epistemological beliefs: A cross-cultural study of Taiwanese and American university students*. Paper presented at the American Educational Research Association Conference in New York.
- Jehng, J., Johnson, S., & Anderson, R. (1993). Schooling and students' epistemological beliefs about learning. *Contemporary Educational Psychology*, 18, 23-35.
- John-Steiner, V., & Mahn, H. (1996). Socio-cultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist*, 31(3/4), 191-206.

- Jordan, M. (1995). Reflections on the challenges, possibilities and perplexities of preparing pre-service teachers for culturally diverse classrooms. *Journal of Teacher Education*, 46(5), 360-374. Retrieved from <http://jte.sagepub.com.ezproxy.ecu.edu.au>
- Joseph, P. (2010). Teaching about the moral classroom: Infusing the moral imagination into teacher education. *Asia-Pacific Journal of Teacher Education*, 31(1), 7-20. doi: 10.1080/13598660301617
- Kagan, D. (1992). Professional growth among pre-service teachers and beginning teachers. *Review of Educational Research*, 62(2), 129-169.
- Kervin, L., Vialle, W., Herrington, J., & Okley, T. (2006). *Research for educators*. Melbourne, Australia: Thompson Social Science Press.
- Kildan, A., Ibret, B., Pektaş, M., Incikabi, L., & Recepoglu, E. (2013). Evaluating views of teacher trainees on teacher training process in Turkey. *Australian Journal of Teacher Education*, 38(2), 51-68. Retrieved from <http://ro.ecu.edu.au/ajte>
- Kind, V. (2014). A degree is not enough: A quantitative study of aspects of pre-service teachers' chemistry content knowledge. *International Journal of Science Education*, 36(8), 1313-1345. doi:10.1080/09500693.2013.860497
- King, P., & Kitchener, K. (1994). *Developing reflective judgement*. San Francisco, CA: Jossey-Bass Publishers.
- Knowles, M. (1980). *Modern practice of adult education: From pedagogy to andragogy*. N.Y: Adult Education Company.
- Koeppen, K., Huey, G., & Connor, K. (2000). An effective model in a restructured teacher education program. In D. Byrd & D. John (Eds.), *Research on Professional Development Schools*. Thousand Oaks, CA: Corwin Press.
- Kohlberg, L. (1981). *The philosophy of moral development*. San Francisco, CA: Harper & Row.
- Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education*, 22, 1020-1041. doi:10.1016/j.tate.2006.04.022
- Kuhn, D. (1991). *The skills of argument*. Cambridge, England: Cambridge University Press.
- Kumar, R., & Hamer, L. (2012). Pre-service teachers' attitudes and beliefs toward student diversity and proposed instructional practices: A sequential design study. *Journal of Teacher Education*, 64(2), 162-177. doi:10.1177/0022487112466899
- Lacina, J., & Collins Block, C. (2011). What matters in distinguished literacy teacher education programs. *Journal of Literacy Research*, 43(4), 329-351. doi:10.1177/1086296x11422033
- Lanier, J., & Little, J. (1986). Research on teacher education. In R. Houston (Ed.), *Handbook of research on teaching* (3rd ed.). (pp. 527-569). N.Y: McMillan Publishing Company.
- Lee, J. (2001). Interstate variations in rural student achievement and school conditions. Retrieved from <http://www.eric.ed.gov>
- Liakopoulou, M. (2012). The role of field experience in the preparation of reflective teachers. *Australian Journal of Teacher Education*, 37(6), 42-54. Retrieved from <http://ro.ecu.edu.au/ajte/vol37/iss6/4>
- Lortie, D. (1975). *School teacher: A sociological study*. Chicago, IL: University of Chicago Press.
- Louden, W., Rohl, M., Barrett-Pugh, C., Brown, C., Cairney, T., Elderfield, J., House, H., Meiers, M., Rivalland, J., & Rowe, K. (2005). *In teachers hands: Effective literacy teaching practices in early years schooling*. Mt Lawley, Australia: Edith Cowan University.

- Loughran, J., Mulhall, P., & Berry, A. (2008). Exploring pedagogical content knowledge in science education. *International Journal of Science Education*, 30(10), 1301-1320. doi:10.1080/09500690802187009
- Lowery, R., & Pace, B. (2002). Preparing suburban pre-service teachers for rural schools. *Rural Educator*, 23(2), 32-36. Retrieved from <http://www.nrea.net/index.cfm?pID=7925>
- Luft, J., & Roehrig, G. (2007). Capturing science teachers' epistemological beliefs: The development of teacher beliefs interviews. *Electronic Journal of Science Education of South Western University*, 11(2), 38-63.
- Maiden, S. (2014). Teachers 'sink or swim'. *Sunday Times*, Perth, Australia. p. 3.
- Maloney, C., & Barblett, L. (2003). *Competency framework: Phase 1: Early childhood teachers*. Perth, Australia: Edith Cowan University and Department of Education and Training, WA.
- Many, J., Howard, F., & Hoge, P. (2002). Epistemology and pre-service teacher education: How do beliefs about knowledge affect our students' experiences. *English Education*, 34(4), 302.
- Martin, F. (2005). Ethnogeography: A future for primary geography and primary geography research. *International Research in Geographical and Environmental Education*, 14(4), 364-371.
- Maslow, A. (1954). *Motivation and personality*. N.Y: Harper.
- Miles, M., & Huberman, M. (1994). *Qualitative data analysis* (2nd Ed). Thousand Oaks, CA: Sage Publications.
- Ministerial Council for Education, Employment, Training and Youth Affairs. (2003). *A national framework for professional standards for teaching*. Carlton, Australia: Curriculum Corporation.
- Ministerial Advisory Council on the Quality of Teaching. (1998). *Towards identifying professional standards for New South Wales schools*. NSW, Australia: MACQT.
- Ministry of Education Board. (2006). *General qualifications of teaching profession*. Ankara, Turkey. Retrieved from <http://oyegm.meb.gov.tr>
- McInnis, C., James, R., & Hartley, R. (2000). *Trends in the first year experience*. Melbourne, Australia: University of Melbourne.
- McKay, L., Carrington, S., & Iyer, R. (2014). Becoming an inclusive educator: Applying Deleuze & Guattari to teacher education. *Australian Journal of Teacher Education*, 39(3), 178-196. doi:10.14221/ajte.2014v39n3.10
- McKoy-Lowery, R., & Pace, B. (2002). Preparing suburban pre-service teachers for rural schools. *Rural Educator*, 23(2), 32-36.
- Morrison, C. (2013). Teacher identity in the early career phase: Trajectories that explain and influence development. *Australian Journal of Teacher Education*, 38, 91-106. doi:10.14221/ajte.2013v38n4.5
- Moulding, L., Stewart, P., & Dunmeyer, M. (2014). Pre-service teachers' sense of efficacy: Relationships to academic ability, student teaching placement characteristics and mentor support. *Teacher and Teacher Education*, 41, 60-66. doi:10.1016/j.tate.2014.03.007
- Murphy, K., Alexander, P., Greene, J., & Edwards, M. (2007). Epistemological threads in the fabric of conceptual change research. In S. Vosniadou, A. Baltes & X. Vamvakoussi (Eds). (pp. 105-122). *Reframing the conceptual change approach in learning and instruction*. Amsterdam, Netherlands: Elsevier Ltd in association with European Association of Learning and Instruction..
- National Project for Quality of Teaching and Learning. (1996). *National competency framework for beginning teaching*. Leichhardt, Australia: Australian Teaching Council.

- Neuman, W. (2011). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Boston, MA: Allyn and Bacon.
- O'Neill, S., & Stephenson, J. (2012). Exploring Australian pre-service teachers' sense of self efficacy, its sources and some possible influences. *Teacher and Teacher Education*, 28, 535-545. doi:10.1016/j.ate.2012.01.008
- Oosterheert, I., Vermunt, J., & Denessen, E. (2002). Assessing orientations to learning to teach. *British Journal of Educational Psychology*, 72, 41-64. Retrieved from [http://onlinelibrary.wiley.com.ezproxy.ecu.edu.au/journal/10.1111\(issn\)2044-8279](http://onlinelibrary.wiley.com.ezproxy.ecu.edu.au/journal/10.1111(issn)2044-8279)
- Opfer, V., Pedder, D., & Lavicza, Z. (2011). The role of teachers' orientation to learning in professional development and change: A national study of teachers in England. *Teaching and Teacher Education*, 27, 443-453. doi:10.1016/j.tate.2010.09.014
- Park, S., & Chen, Y. (2012). Mapping out the integration of the components of pedagogical content knowledge: Examples from high school biology classrooms. *Journal of Research in Science Education*, 49(7), 922-941. doi:10.1002/tea.21022
- Pendergast, D., Garvis, S., & Keogh, J. (2011). Pre-service student-teacher self-efficacy beliefs: An insight into the making of teachers. *Australian Journal of Teacher Education*, 36(12), 46-57. Retrieved from <http://ro.ecu.edu.au/ajte>
- Perry, W. (1968). *Forms of Intellectual and ethical development in the college years: A scheme*. Orlando, FL: Holt, Rinehart & Winston, Inc.
- Piaget, J. (1963). *Psychology of intelligence*. Totowa, N.J: Littlefield & Adams.
- Pillen, M., Den Brok, P., & Beijaard, D. (2013). Profiles and change in beginning teachers' professional identity tensions. *Teaching and Teacher Education*, 34, 86-97. doi:10.1016/j.tate.2013.04.003
- Punch, K. (2009) *Introduction to research methods in education*. Thousand Oaks, CA: Sage Publications.
- Ramsey, G. (2000). *Quality matters: Revitalising teaching, critical times, critical choices*. Sydney, Australia: Review of Teacher Education.
- Remesal, A. (2011). Primary and secondary teachers' conceptions of assessment: A qualitative study. *Teaching and Teacher Education*, 27, 472-482. doi:10.1016/j.tate.2010.09.017
- Renshaw, P. (1992). *The sociocultural theory of teaching and learning: Implications for curriculum in the Australian context*. Paper presented at the Twenty-Second Annual Conference of the Australian Association for Research in Education, Deakin University, November in Geelong, Australia.
- Rinke, C., Mawhinney, L., & Park, G. (2014). The apprenticeship of observation in career contexts: A topology for the role of modelling in teachers' career paths. *Teachers and Teaching*, 20(1), 92-107. doi:10.1080/13540602.2013.848517
- Roofe, C., & Miller, P. (2013). "Miss I am not being fully prepared": Student Teacher's concerns about their preparation at the training institution in Jamaica. *Australian Journal of Teacher Education*, 38(5), 1-13. doi:10.14221/ajte.2013v39n5.5
- Ryan, M., Carrington, S., Selva, G., & Healy, A. (2009). Taking a reality check: Expanding pre-service teachers' views on pedagogy and diversity. *Asia-Pacific Journal of Teacher Education*, 37(2), 155-173. doi:10.1080/13598660902804303
- Sanford, K. (2002). Teachers as products of their schooling: Distrusting gendered positions. Retrieved from <http://scholar.lib.vt.edu/ejournals/WILLA/fall02/sanford.html>
- Schommer-Atkins, M., Duell, O., & Hutter, R. (2005). Epistemological beliefs, mathematical problem solving beliefs and academic performance of middle

- school students. *The Elementary School Journal*, 105(3), 289-304. Retrieved from <http://press.uchicago.edu/ucp/journals/journal/esj.html>
- Schommer, M. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology*, 82(3), 498-504. Retrieved from <http://www.apa.org.ezproxy.ecu.edu.au/pubs/journals/edu.index.aspx>
- Schunk, D., & Pajares, F. (2004). Self-efficacy in education revisited: Empirical and applied evidence. In D. McInerney & S. Van Etten (Eds.), *Big theories revisited: Research on sociocultural influences on motivation and learning*. (pp.115-138). Greenwich, CT: Information Age Publishing, Inc.
- Schussler, D., Stocksberry, L., & Beraw, L. (2010). Understanding teacher candidate dispositions: Reflecting to build self-awareness. *Journal of Teacher Education*, 61, 350-363. doi:10.1177/0022487110371377
- Schwab, J. (1973). The practical 3: Translation into curriculum. *The School Review*, 81(4), 501-522.
- Scottish Executive. (2005). *Insight 24: Gender balance of the teaching workforce in publicly funded schools in Scotland*. Edinburgh, Scotland: Scottish Executive Education Department Teachers Division.
- Sharplin, E. (2002). Rural retreat or outback hell: Expectations of rural and remote teaching. *Issues in Educational Research*, 12(1), 49-63. Retrieved from <http://www.iier.org.au/iier.html>
- Sheridan, L. (2013). Changes in pre-service teachers' perceptions' of teacher qualities: Development from egocentric to student centric. *Australian Journal of Teacher Education*, 38(9), 55-75. doi:10.14221/ajte.2013v38n9.2
- Shulman, L. (1986a). Paradigms and research programs in the study of teaching: A contemporary perspective. In M. Wittock (Ed.), *Handbook of research on teaching* (pp.3-36). N.Y: Macmillan Publishing Company.
- Shulman, L. (1986b). Those who know: Knowledge growth in teaching. *Educational Researcher*, 15(2).
- Silverman, D. (2006). *Interpreting qualitative data* (3rd Edition). London, UK: Sage Publications.
- Sinatra, G., & Kardash, C. (2004). Teacher candidates' epistemological beliefs, dispositions and views on teaching as persuasion. *Contemporary Educational Psychology*, 29, 483-498. Retrieved from <http://www.elsevier.com/wps/find/journaldescription.cws.home/622811/description>
- Sleeter, C. (2001). Preparing teachers for culturally diverse schools. *Journal of Teacher Education*, 52(2), 94-106. doi:10.1177/0022487101052002002
- Spalding, E., Klecka, C., Lin, E., Wang, J., & Odell, S. (2011). Learning to teach: It's complicated but it's not magic. *Journal of Teacher Education*, 62(3), 3-6. doi:10.1177/0022487110384196
- Strauss, S. (2005). Teaching as a natural cognitive ability: Implications for classroom practice and teacher education. In D. Pillemer & S. White (Eds.), *Developmental Psychology and Social Change* (pp. 368-388). N.Y: Cambridge University Press.
- Stronge, J. (2007). *Qualities of effective teachers*. (2nd ed.). Alexandria, VI: Association of Supervision and Curriculum Development.
- Sumsion, J. (1999). A neophyte early childhood teacher's developing relationships with parents: An ecological perspective. *Early Childhood Research & Practice*, 1(1). Retrieved from <http://www.earlychildhoodaustralia.org.au/our-publications/research-practice-series/>

- Tambyah, M. (2008). Will they know enough?: Pre-service primary teachers knowledge base for teaching integrated social sciences. *Australian Journal of Teacher Education*, 33(6), 44-60. doi:10.14221/ajte.2008v33n6.4
- Tardif, M. (2001). *Pre-service teacher training programs: Outcomes of recent reforms and new trends towards effective professional training*. Paper presented at the 2001 Pan-Canadian Education Research Program Symposium, May in Quebec City.
- Taylor, R., & Wasicsko, M. (2000). *The disposition to teach*. Paper presented at the SKATE, November in Lexington, KE.
- Thornton, S. (2010). Educating the educator: Rethinking subject matter and methods. *Theory Into Practice*, 40(1), 72-78. doi:10.1207/s15430421tip4001_11
- Tigchelaar, A., Vermunt, J., & Brouwer, N. (2014). Patterns of development in second career teachers' conceptions of teaching and learning. *Teacher and Teacher Education*, 41, 111-120. doi:10.1016/j.tate.2014.03.008
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago, IL: University of Chicago press.
- Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *The Review of Higher Education*, 21(2), 167-177.
- Tochterman, S. (2001). *Stages of preservice development in a professional development school for teachers of students with emotional disturbance*. Retrieved from http://www.ed.wright.ed/~preick/JournalArchives/Fall-2001/article_totchermann.htm
- Teacher Registration Board of Western Australia. (2012). Teacher Registration Board of Western Australia. Retrieved from <http://www.trb.wa.govt.au>
- Trier, J. (2006). Reconceptualizing literacy through a discourse perspective by analyzing literacy events represented in films about schools. *Journal of Adolescent and Adult Literacy*, 46(6), 510-523. Retrieved from [http://onlinelibrary.wiley.com.ezproxy.ecu.edu.au/journal/10.1002/\(issn\)1936-2706](http://onlinelibrary.wiley.com.ezproxy.ecu.edu.au/journal/10.1002/(issn)1936-2706)
- Tschuannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805. Retrieved from <http://www.journals.elsevier.com/teaching-and-teacher-education>
- van Huizen, P., van Oers, B., & Wubbels, T. (2006). A Vygotskian perspective on teacher education. *Journal of Curriculum Studies*, 37(3), 267-290. doi:10.1080/10022027042000328468
- Vogel, D., Davidson, R., Shroff, R., & Qureshi, S. (2001). *Methodological issues in assessing sociocultural learning*. Paper presented at the International Conference of System Sciences, January in Hawaii, USA.
- Vygotsky, L. (1978). *Mind and society*. Cambridge: Harvard University Press.
- Wagner, T., & Imanuel-Noy, D. (2014). Are they genuinely novice teachers? Motivations and self-efficacy of those who choose teaching as a second career. *Australian Journal of Teacher Education*, 39(7), 31-57. doi:10.114221/ajte.2014v39n7.5
- Walker, S., Brownlee, J., Exley, B., Woods, A., & Whiteford, C. (2011). Personal epistemology in pre-service teachers: Belief changes throughout a teacher education course. In J. Brownlee, G. Schraw & D. Berthelsen (Eds.), *Personal epistemology and teacher education* (pp. 84-100). N.Y: Routledge.
- Walkington, J. (2005). Becoming a teacher: Encouraging development of teacher identity through reflective practice. *Asia-Pacific Journal of Teacher Education*, 33(1), 53-64. doi:10.1080/1359866052000341124

- Wallace, S. (1996). Pre-service teachers' changing attributions for elementary students success or failure in science. Retrieved from <http://www.ed.psu.edu/CI/journals/96pap42.htm>
- Walls, A., Nardi, A., von Minden, A., & Hoffman, N. (2002). The characteristics of effective and ineffective teachers. *Teacher Education Quarterly, Winter*, 39-48. Retrieved from <http://www.teqjournal.org>
- Ward, J., & McCotter, S. (2004). Reflections a a visible outcomes for pre-service teachers. *Teaching and Teacher Education, 20*, 243-257. Retrieved from <http://www.journals.elsevier.com/teaching-and-teacher-education>
- Watt, H., & Richardson, P. (2008). Motivations, perceptions, and aspirations concerning teaching as a career for different types of beginning teachers. *Learning and Instruction, 18*, 408-428. doi:10.1016/j.learninstruct,2008,06,002
- Weiner, H., & Cohen, A. (2003). *Dispositions in teacher education program: An opportunity to reform*. Paper presented at the Second Annual National Conference on Teacher Dispositions, November in East Kentucky University.
- White, S., Bloomfield, D., & Le Cornu, R. (2012). Professional experience in new times: Issues and responses to a changing landscape. *Asia-Pacific Journal of Teacher Education, 38*(3), 181-193. doi:10.1080/1359866x.2010.493297
- Wideen, M., Mayer-Smith, J., & Moon, B. (1998). A critical analysis of the research on learning to teach: Making the case for an ecological perspective on inquiry. *Review of Educational Research, 68*(2), 130-178.
- Williams, J., & Forgasz, H. (2009). The motivations of career change students in teacher education. *Asia-Pacific Journal of Teacher Education, 37*(1), 95-108. doi:10.1080/13598660802607673
- Wilson, S., Floden, R., & Ferrini-Mundy, J. (2001). *Teacher preparation research: Current knowledge, gaps and recommendations*. Washington DC: University of Washington.
- Wilson, S., Floden, R., & Ferrini-Mundy, J. (2002). Teacher preparation research: an insider's view from the outside. *Journal of Teacher Education, 53*(3), 190-205. Retrieved from <http://jte.sagepub.com.ezproxy.ecu.edu.au>
- Wylie, C. (2000). *Trends in the feminization of the teaching profession in OECD countries 1980-95*. Geneva, Switzerland: International Labour Organization.
- Yadav, A., Herron, M., & Samarapungavan, A. (2011). Personal epistemology in pre-service teacher education. In J. Brownlee, G. Schraw & D. Berthelsen (Eds.), *Personal epistemology and teacher education*. (pp. 250-40). N.Y: Routledge.
- Yin, R. (2003). *Case study research: Design and methods*. Thousand Oaks, CA: Sage Publications.
- Zammit, K., Sinclair, C., Cole, B., Singh, M., Costley, D., Brown a'Court, L., & Rushton, K. (2007). *Teaching and leading for quality Australian schools: A review of the synthesis of research based knowledge*. Sydney, Australia: Teaching Australia.
- Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college and university based teacher education. *Journal of Teacher Education, 61*, 89-99. doi:10.1177/0022487107347671
- Zeichner, K., & Conklin, H. (Eds.). (2008). *Teacher education as sites for teacher preparation* (3rd ed.). N.Y: Routledge Taylor & Francis Group and The Association of Teacher Educators.
- Zeichner, K., & Tabachnick, B. (1981). Are the effects of university teacher education "washed out" by school experience? *Journal of Teacher Education, 32*, 7-13. Retrieved from <http://jte.sagepub.com.ezproxy.ecu.edu.au>

Appendices

Appendix I

Part 1: Demographic Survey

Please tick/cross/circle the appropriate box to describe you.

1.1 My age is

Less than 25	25–30	31–35	36–40	Over 41

1.2 I am a male female student (circle one).

1.3. I am

Single	Living at home	Living away from home	Married	Other

1.4 . Ethnicity is the culture to which you mostly align. How would you describe you ethnic background?

Australian	British Scottish Irish	Afrikaans	European	Asian	New Zealander	American	Canadian	Japanese

Other country—if you want to be specific

1.5 .Father's occupation Mother's occupation

Profession—degree		Profession—degree	
Trades—certificate		Trades—certificate	
Business—manager/ office		Business—manager/ office	
Hospitality		Hospitality	
Self employed		Self employed	
Retail		Retail	
Labourer		Labourer	
Home duties		Home duties	
Other		Other	

1.6. Describe on average how many hours per week you work?

Irregularly	Less than 5hrs	6–10 hrs	11–15 hrs	15–20 hrs	Over 20 hrs

1.7 Do you participate in paid work? Describe your work title

Childcare/coaching/assistant teacher/instructor	
Trades—certificate	
Business—manager/ office	
Hospitality	
Retail	
Labourer	
Cleaning	
Other type of work—or you want to be specific	

1.8. Do you have a regular weekly recreational pursuit?

Exercise: gym/sport/training	
Recreational reading/ writing/ viewing	
Course: instruction (not university coursework)	
The arts: craft/hobbies	
Other or you want to be specific	

1.9. Describe approximately how many hours per week you pursue the recreational activity.

Less 1hr per wk	Less than 5 hrs	Less than 10 hrs	Other
-----------------	-----------------	------------------	-------

1.10. What would be your average time/hours per week socialising?

Less 1hr per wk	Less than 5 hrs per wk	Less than 10 hrs per wk	Other
-----------------	------------------------	-------------------------	-------

1.11. How many years have you spent at school (from 6 yrs. of age)?

Less than 10	10 years	12 years	Other
--------------	----------	----------	-------

1.12. What is your highest qualification?

1.13. Describe your personal and academic strengths.

Personal	Academic

1.14. Describe your personal and academic challenges.

Personal	Academic

Part 2a: Epistemological Statements According to Constructs

(adapted from Schommer, 1990 [s]; Chan 2003; Jehng, Johnson & Anderson, 1993 [j])

Constructs	Statements
Structure of knowledge	<ul style="list-style-type: none"> • Knowledge is a truth rather than an interpretation (researcher adapted) • Most words have one clear meaning (s & j) • When I study I look for specific facts (s) • Forming my own ideas is more important than learning what texts books say (j) • When I study I like to figure out my own ways of understanding things (j)
Stability of knowledge	<ul style="list-style-type: none"> • Knowledge is certain rather tentative (s) • I don't like movies or books that don't have an ending (s) • Scientists can usually get to the truth (s & j) • I prefer classes in which students are told exactly what they are supposed to learn and what they have to do (j) • Today's facts may become tomorrow's fiction (j)
Source of knowledge	<ul style="list-style-type: none"> • Knowledge is handed down from experts/ authorities rather than derived from reason (s) • People who challenge experts are usually a bit full of themselves (s & j) • How much you learn depends on the teacher (s & j) • When I encounter a problem I try to work it out myself without consulting teachers (j) • You should evaluate the accuracy of information in a textbook, even if you are not familiar with the topic (j)
Speed of learning	<ul style="list-style-type: none"> • Learning is quick or not at all (s) • You get most of the information you need from the first read of a textbook (s & j) • If you try too hard to understand a problem you end up confused (s) • Learning is a process of building up knowledge gradually (j) • Usually the first time I try a new subject I can tell how well I am going to do it (j)
Beliefs about ability	<ul style="list-style-type: none"> • Some people are born good learners, others are just stuck with limited ability (j) • If I work hard enough I usually get what I want (j) • Really smart students don't have to work hard to do well at school (s & j) • An expert is someone with a gift in some area (s & j) • Sometimes I feel that I lack the talent to do well at school (j)
Teaching and learning	<ul style="list-style-type: none"> • Teaching is directed by teacher, who tells the students what they need to know or do in a particular subject area or topic (s) • Teaching involves helping student to develop ideas and concepts • Teaching is helping students to change their conceptions (Sinatra & Kardash, 2004) • Learning is receiving and acquiring knowledge • What is learnt is dependent on the learner • If students are not successful it is usually because of the teacher or teaching
Learning to teach	<ul style="list-style-type: none"> • Teachers are born not made • University experiences such as researching for assignment, in-class activities and exam preparation helps you learn about teaching • You learn the most about teaching by watching others teach • You learn to teach by teaching—from trial and error • You learn to teach from the student's behaviour and when they achieve the outcomes

Part 2b: Epistemological Beliefs

(Chan, 2003; Jehng et al., 1993; Schommer, 1990)

Please tick in the box that describes the degree to which you agree/disagree with each statement

1. Teaching is directed by the teacher, who tells the students what they need to know or do in a particular subject area or topic.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. What is learnt is dependent on the learner.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Really smart students don't have to work hard to do well at school.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Learning is receiving and acquiring knowledge.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Forming my own ideas is more important than learning what texts books say.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. University experiences such as researching for assignment, in-class activities and exam preparation helps you learn about teaching.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. When I study I like to figure out my own ways of understanding things.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. You should evaluate the accuracy of information in a textbook, even if you are not familiar with the topic.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Scientists can usually get to the truth.

Strongly disagree						Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. You learn to teach by teaching – from trial and error.

Strongly disagree						Strongly agree

11. Knowledge is certain rather tentative.

Strongly disagree						Strongly agree

12. Learning is quick or not at all.

Strongly disagree						Strongly agree

13. Some people are born good learners, others are just stuck with limited ability.

Strongly disagree						Strongly agree

14. Teaching involves helping student to develop ideas and concepts.

Strongly disagree						Strongly agree

15. People who challenge experts are usually a bit full of themselves.

Strongly disagree						Strongly agree

16. Teaching is helping students to change their conceptions.

Strongly disagree						Strongly agree

17. If students are not successful it is usually because of the teacher or teaching.

Strongly disagree						Strongly agree

18. You learn the most about teaching by watching others teach.

Strongly disagree						Strongly agree

19. Knowledge is handed down from experts/ authorities rather than derived from reason.

Strongly disagree						Strongly agree

20. I prefer classes in which students are told exactly what they are supposed to learn and what they have to do.

Strongly disagree						Strongly agree

21. When I study I look for specific facts.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

22. Learning is a process of building up knowledge gradually.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

23. Knowledge is a truth rather than an interpretation.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

24. If you try too hard to understand a problem you end up confused.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

25. You learn to teach from the student's behaviour and when they achieve the outcomes.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

26. How much you learn depends on the teacher.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

27. You get most of the information you need from the first read of a textbook.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

28. Sometimes I feel that I lack the talent to do well at school.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

29. Most words have one clear meaning.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

30. An expert is someone with a gift in some area.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

31. I don't like movies or books that don't have an ending.

Strongly disagree

Strongly agree

--	--	--	--	--	--	--

32. Usually the first time I try a new subject I can tell how well I am going to do it.

Strongly disagree						Strongly agree

33. When I encounter a problem I try to work it out myself without consulting teachers.

Strongly disagree						Strongly agree

34. Teachers are born not made.

Strongly disagree						Strongly agree

35. If I work hard enough I usually get what I want.

Strongly disagree						Strongly agree

36. Today's facts may become tomorrow's fiction.

Strongly disagree						Strongly agree

Part 3: Dispositions

Please complete the following short answer questions.

3.15 Why did and do you want to teach?

3.16 What aspects of teaching appeal the most to you?

3.17 What personal qualities do you have that are most suited to teaching?

3.18 What qualities or characteristics do effective teachers have?

3.19 What do you anticipate will be your biggest challenges in teaching?

Part 4: Self-Appraisal Questionnaire on Dimensions of Teaching

Please indicate how confident you are about your knowledge and skills in the following areas:

4.1 Key Learning Area Knowledge – subject matter knowledge

Not at all
confident

Highly
confident

--	--	--	--	--	--	--

4.2 Pedagogy – knowledge about teaching

Not at all
confident

Highly
confident

--	--	--	--	--	--	--

4.3 Knowledge of learners (pupils)

Not at all
confident

Highly
confident

--	--	--	--	--	--	--

4.4 Professional relationships – interpersonal (people) skills

Not at all
confident

Highly
confident

--	--	--	--	--	--	--

4.5 Monitoring and assessing student progress – assessing ability and judging needs

Not at all
confident

Highly
confident

--	--	--	--	--	--	--

4.6 Professional Ethical Practice – understanding of policy, responsibilities and rights

Not at all
confident

Highly
confident

--	--	--	--	--	--	--

Appendix II: Interview Questions for Pre-service Teachers

First Interview

1. Epistemological beliefs survey

Complete the survey

What is knowledge? How do humans go about learning something?

2. Demographic Survey questions

Age; gender; relationships; ethnicity (how might this influence your teaching styles/ expectation); parents occupation; employment; recreation; socialising; study time; school history; personal, social and academic strengths and challenges.

3. Dispositions

3.1 The decision to become a teacher: When, where and what were your circumstances at the time/did anyone influence you? Why did and do you want to teach? What aspects of teaching appeal the most to you?

3.2 Personal qualities suited to teaching: what qualities do you have that are suited to teaching?

3.3 Academic qualities: What subjects do you prefer and why? What subjects challenge you? How do you describe yourself academically?

3.4 Qualities or characteristics of effective teachers: Describe an effective teacher.

3.5 Your biggest challenges in teaching: How will you learn/ overcome these challenges?

3.6 Future: Where do you see yourself in five and 10 years' time?

4. Dimensions of teaching

4.1 Key learning area knowledge: What are your key learning areas? Why did you rate yourself as? Where did /will you learn your KLA knowledge?

4.2 Pedagogy: planning, structure and managing learning experiences.

What is the role of the teacher/ learners? Why did you rate yourself as? How do you plan for learning? Reflect on a good lesson: what tasks, strategies, texts, resources, teaching and learning philosophies were applied?

4.3 Knowledge of learners: what do you know about social/ emotional; physical, cognitive, language and creative domains of your pupils?

4.4 Professional relationships: Describe your relationships with student, other teachers and role of the school.

4.5 Assessment and evaluation: assessing ability and judging needs.

4.6 Professional ethical practice: understanding about policy, responsibilities, professional development and rights.

(What do you think are the major challenges facing teachers and the profession? How will you respond to change?)

Second Interview

Review transcripts from first interview.

2.1 First impressions of university: What did you expect, what was the universities role; your role; role of peers; how was it the same / different from your expectations? What experiences at university were typical and regular?

2.2 First practicum: What did you expect, what was different, the same as your expectations? What philosophical beliefs about learning and student behaviours did the schools appear to adopt? How did you feel about this? What practices were good/bad? What did you learn about teaching, students, yourself and administration?

2.3 Most memorable learning experiences: Tell me about the experiences that stood out or made an impact (positively or negatively) on you in the first two years. Describe the experience, your understanding about your task/ role, lecturer's role/ task, what you actually did? How you felt? What conditions (individual, professional, contextual) influenced your learning and why/ how? What strategies do you recall as powerful, significant or useless?

Third Interview

Review transcripts from second interview.

3.1 University experience: Tell me about your interpretations of university now? How/did it change over the four years? What experiences at university were the most common? How did you learn to teach?

3.2 Third practicum: tell me about you impressions of your last practicum school? What did you expect, what was different, the same as your expectations? What philosophical beliefs about learning and student behaviours did the schools/ your classroom appear to adopt? How did you feel about this? What practices were good/concerned you? What did you learn about teaching, students, yourself, administration and the education system? What type of teacher are you? How did you become that type of teacher?

3.3 Significant learning experiences: Tell me about the experiences that stood out or made an impact (positively or negatively) on you in the last years of your coursework. Describe the experience, your understanding about your task/ role, lecturer's role/ task, what you actually did. What conditions contributed to your learning and why/ how? What strategies do you recall as powerful, significant or useless?

Appendix III: Case Study Expressions of Interest



Edith Cowan University

Faculty of Regional Professional Studies

Telephone: (08) 9780 7705

Facsimile: (08) 9780 7813

EMAIL: dawn.naylor@ecu.edu.au

July 2008

Dear pre-service teacher,

I am conducting research at Edith Cowan University, South West Campus towards a doctoral study entitled *Learning to teach: what do pre-service teachers report*. I write to invite you to participate in this study. The research study aims to report on the learning to teach phenomenon from the point of view of pre-service teachers. The project targets individual, professional and contextual aspects of learning to teach and the degree to which one, some or all aspects contribute to or influence what is learnt. The results of the study should identify which aspects hinder and/or enhance learning to teach. The study consists of both quantitative and qualitative research methods. This part of the study relates to the qualitative, **case study** part of the study. The **case study** involves three interviews with final year pre-service teachers over a six-week period. The first interview involves questions related to your individual background knowledge, such as your epistemological beliefs (your understanding about learning and knowledge), demographic information, your dispositions and self-efficacy (see Appendix IX for a preview of interview questions). The second and third interviews will involve questions about your understanding of teaching and the learning to teach experiences over the past four years. You will be given the topics prior to your interview, so that you are not surprised and in case you want to give examples and show any artefacts like assignments or your professional portfolio to support your answers (Appendix IX). Essentially, I am seeking to identify the extent to which you believe individual, professional and contextual aspects have influenced what you have learnt about teaching. I have attached an overview of my research proposal, which has been examined by two independent researchers and presented to a group of fellow researchers who offered constructive advice.

With your permission, I would like to audio tape the interviews and photocopy/scan any artefacts (assignments or philosophy statements) that you present as influencing learning to teach. The tapes will be transcribed and quotes will be used to write up a case study of your experiences. However, this is an option. If you are uncomfortable with taping, I can take notes. Your identity will not be revealed and a pseudonym will replace your name. The final case study will be presented to you so that any misinterpretations or personal details can be deleted or added at your request. In addition, you will be given an **electronic copy** of your case study that may/may not be useful in developing your philosophy of teaching and learning. In addition, it is your right to withdraw at any time with no expectation of a reason.

I hope you will be able to assist me in this most valuable learning experience. Should you have any concerns/questions regarding this research please do not hesitate to contact me.

Yours sincerely

Dawn Naylor
Lecturer, Language Education
Edith Cowan University
Consent Form to participate in

I _____ have read the above mentioned research proposal and any questions I have asked have been answered to my satisfaction. I agree to participate in the study commencing in June 2008.

YES NO

I understand the data collection involves audio tape recording and collection of /or photocopies of work samples. I am happy for this to occur.

YES NO

I understand my identity will be concealed by a pseudonym for the purpose of the study

YES NO

I understand I will be editing my case study and as such anything I add or remove will be accepted by the researcher.

YES NO

I understand I can withdraw at any time

YES NO

I would like an electronic copy of my final case study

YES NO

I understand the raw research data gathered for this study will be retained in a locked filing cabinet at Edith Cowan University for 7 years, after which it will be destroyed.

YES NO

I understand that case studies may be published but the use of a pseudonym will conceal my identity.

YES NO

Participant _____ date _____

Researcher _____ date _____

Appendix IV: Framework for Case Studies

1.1 Personal Aspects

- 1.1.1 Demographics: gender, age, marital status, ethnicity, socioeconomic status, school history,
- 1.1.2 Background prior to university, entry method, decision to teach, teaching appeal, activities outside of studies, perceived academic ability, university status,
- 1.1.3 Dispositions; personal and academic strengths and challenges, personal qualities suited to teaching, effective teacher
- 1.1.3 Epistemological Beliefs: structure, stability, sources, ability, speed of learning; concept of teaching and learning

1.2 Contextual Aspects

- 1.2.1 Expectations: course, university; her role, concept of teaching and learning, learning to teach (epistemological beliefs).
- 1.2.2 Significance and insignificant experiences in first two years and reflection on first two years
- 1.2.3 Significance and insignificant experiences in second two years and reflection
- 1.2.3 Difference between first and third years and critical appraisal of experience
- 1.2.4 Practicum experiences

1.3 Professional Aspects- order will be different for each PT as it is ordered from most confident to least

- 1.3.1 Key learning area knowledge: major areas; reason for choosing; rating; source; depth; disposition to teach; least preferred area
- 1.3.2 Pedagogy: defined; rating; source; practical knowledge/lesson planning; philosophy statement and ideologies; role of teachers and learners
- 1.3.3 Knowledge of learners: rating, evidence of understanding socio-emotional knowledge; cognitive and academic knowledge; interest/prior knowledge
- 1.3.4 Professional relationships: rating; source; students/ parents/other school personnel/peers
- 1.3.5 Assessment and monitoring: rating; concept of development; ability to assess; reasoning for testing; knowledge of testing types; accounting for success
- 1.3.6 Professional ethics: rating; definition; source; role of teachers

1.4. Conclusion

