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LEARNING TO SEE, SEEING TO LEARN:

THE LEARNING JOURNEY OF
THREE PRE-SERVICE TEACHERS
IN A VIDEO CLUB SETTING

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B.Comm; Dip. Ed. (Secondary Education)

A thesis presented for the award of the degree of Doctor of Philosophy

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USE OF THESIS

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

ABSTRACT

This study sought to develop a deeper understanding of the phenomenon of professional growth in pre-service teachers during their final practicum. The research was situated in a primary school and involved three pre-service teachers with widely differing backgrounds who brought differing experiences to the practicum. The study identified personal and contextual variables that affected the pre-service teachers' professional growth and explored how professional discourse within a learning community of peers, informed by multiple perspectives on teaching practice that were facilitated by video, influenced professional growth.

This qualitative research project used a broad phenomenological approach in that the methods used were designed to illuminate the process of a pre-service teacher becoming a teacher. Data were gathered over a six month period using semi-structured pre and post interviews, direct observations, video recordings of lessons, audio recordings of video discussion meetings, student questionnaires, and written feedback and reflections. Triangulated data from multiple sources were collated for each case, then open coded and grouped into themes. Cross-case analysis identified patterns in the emerging themes across all three cases, forming the basis for the discussion.

This study found that pre-service teachers' beliefs about the roles of teachers and learners influenced their approach to teaching during their final practicum; their approach to the use of feedback for their own learning; and, their response to pressure during their practicum. Pre-service teacher motivation and capacity to interpret and act on mentor feedback was shaped by the mentoring relationship, which in turn was influenced by mentors' beliefs about their own role, and their expectations of pre-service teacher capabilities upon arrival. The inclusion of video in a purposeful, reflective process enabled pre-service teachers to relive their experiences and to recall the affective factors that influenced their thoughts and actions as they were brought back into the moment of noticing, reasoning and acting. This decreased pre-service teachers' reliance on mentor feedback and gave them an opportunity to triangulate evidence about their practice and interpret that evidence in a way that continually refined their understanding of teaching and learning. Importantly, this study found that pre-service teachers' capacity to adapt practice, and to grow as a teacher, is filtered through an affective lens.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

(i)   incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;

(ii) contain any material previously published or written by another person except where due reference is made in the text; or

(iii) contain any defamatory material.

I also grant permission for the Library at Edith Cowan University to make duplicate copies of my thesis as required.

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Chapter 1: Introduction

Context

A recent Grattan Institute Report, entitled *Investing in our Teachers, Investing in our Economy* (Jensen, 2010), found that improving teacher effectiveness is the single most profound economic transformation open to Australian governments. Investment in teacher education can increase the academic performance of students, reduce the need for remedial programs and mitigate the negative social and economic consequences of educational under-achievement. In order to improve teacher effectiveness the Grattan Institute Report recommends a focus on improving the quality of teachers' initial education and training, and a further focus on continuing professional development. This project focuses on teachers' initial education, exploring the phenomenon of beginning teachers learning to 'see' in the classroom, to notice the myriad of incidents and interactions (Mason, 2009), so that their growing awareness of student responses to their practice is able to influence the professional development of that practice. A key element of the project is the use of video in facilitating the process of 'seeing', and also the influence of 'seeing' through the eyes of others, and of 'seeing' the practice of others by engaging in the act of peer evaluation.

One of the challenges for teacher education is determining the appropriate mix of theory and practice so that teachers are able to draw on the work of others (theoretical frameworks, practical strategies and techniques) to develop pedagogical knowledge which informs their choice of strategies in daily professional practice. An added complication is that, unlike other professions, all pre-service teachers have once been students themselves, and thus begin their journey with beliefs and values about good teaching based on prior experiences (Griffin, 2003). These prior experiences were found to be highly influential by Munro (1993), whose ethnographic study focussed on identifying those influences which most affected the dispositions and behaviour of teacher trainees during the period of training. He found that beginning teachers modelled their teaching on that of their associates and on memories of their own schooling, and that the influence of educational theory became less credible and useful in a school-based situation. Andy Hargreaves (1994) notes that, by only dealing with issues of knowledge and skill in trying to make teachers more effective, we fail to consider the influence of the more elusive personal, moral, cultural and political dimensions of teaching. These affect a teacher's professional identity, as well as the

purpose which drives their teaching practice, and can either support or subvert their efforts to improve the quality of their practice.

Teachers learn from experience. This learning is most effective when it develops insights into what works, and how and why various strategies generate positive engagement with learning, as revealed by improved student learning outcomes. David Tripp (1993) recommends that teachers create critical learning episode files which describe their experiences. These descriptions are intended to go beyond simple cause and effect to probe the hidden beliefs and values that influence professional decisions on a daily basis. The act of reflecting can help teachers to 'see', a precondition for reflection, analysis, and the development of insights and pedagogical reasoning. An essential component of this research is a particular model of reflective practice (using video and multiple perspectives) that seeks to go beyond the visible to uncover the elusive hidden influences on teaching practice.

In considering the desired outcomes of education, the Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) asks whether students have the capacity to continue learning throughout life. If teachers are to develop a capacity for self-directed learning in students, it would appear essential that they should demonstrate these skills themselves. A *Literature Review on Teacher Education in the Twenty First Century*, conducted by the Scottish Government (Menter, Hulme, Elliot & Lewin, 2010), notes that continuing professional development appears to be most effective when it is "site-based, fits with school culture and ethos, addresses particular needs of teachers, is peer-led, collaborative and sustained" (p. 26).

New teaching, new learning published by The Australian Council of Deans of Education (ACDE, 2004), clearly identifies the importance of reflective practice in teacher education. The report supports a model of teacher education based on inquiry into educational practice which would involve greater collaborative learning between students, teachers and academics (ACDE, 2004). Cherednichenko and Kruger (2001, 2002) also propose that the divide between theory and practice could be overcome if an inquiry pedagogy were to be adopted for partnership based teacher education.

The new *Australian National Professional Standards for Teachers* (AITSL, 2011) recognise that graduate teachers must have the knowledge, skills, values and attitudes to plan for and manage successful learning, both for themselves and for their students. Teachers in the future will be expected to regularly evaluate their professional knowledge and

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practice to guide their professional learning; to seek feedback to improve their practice; and, to use educational research in working with colleagues to improve individual and community learning. The document describes teaching activity as being drawn from three domains: professional knowledge; professional practice; and, professional engagement. In particular, professional engagement is of interest here as it describes the practice of continually reflecting on, evaluating and improving professional knowledge and practice. The Standards document further states that teachers should engage in professional learning both individually and collegially to support and enhance their knowledge and practice. Engagement in a community of practice is a valuable component of teacher professional development. This research offers a means by which pre-service teachers can be inducted into these ways of working.

The ACDE (2004) report identifies the vital role of time for discussion in achieving the goals of collaborative and flexible learning. All of the models of teacher education implemented in Australia today recognise the critical role of a supervisor or mentor in guiding such discussion. The role of mentor encompasses many functions from coach, guide and counsellor to information provider, collaborator and role model. Carrying out the role of mentor effectively can be very time-consuming, and the lack of time has been identified as a major constraint to effective mentoring. Booth (1995) and Geen and Harris (2002) report that mentors often lack the time to give the degree of support considered desirable.

The contextual factors described above suggest a need to focus on the effectiveness of pre-service teacher education, as well as continuing professional development, and to improve alignment with educational demands of the 21st century. This research investigated a way in which that may be achieved during pre-service teaching practice, without further impact on the time of mentors. The strategies employed during the teaching practicum applied principles of adult learning that encouraged self-directed, independent learning. The ability to be a self-directed, independent learner is an essential pre-requisite for effective continuing professional education and lifelong learning.

Problem

Pre-service teachers have difficulty understanding and defining the quality of their own practice in relation to standards. They do not know how to identify the key areas for

improvement in their own professional practice, or how to effect such improvement (Frykholm, 1996).

Time constraints on mentor teachers make it difficult for them to engage in regular, lengthy discussions with pre-service teachers. They may unintentionally reduce the pre-service teacher's ownership of their learning by quickly identifying areas for improvement of practice and ways in which that practice can be improved. This can increase pre-service teachers' reliance on others for the improvement of their own practice, and reduce their need (and desire) to make their own decisions. It is in making professional decisions that pre-service teachers will develop their own informed professional judgement, an important predictor of successful lifelong learning.

One of the tasks of teachers in the 21st century is to develop a capacity for self-directed learning in their students (Boud, 2012). Yet most pre-service teachers are the product of an education system which promoted reliance on others for the evaluation of their academic and teaching performance. Many are not yet competent or confident judges of their own performance in relation to standards and are, therefore, hesitant about directing and taking ownership of their own learning.

Teachers who cannot 'see' the factors that are influencing their professional practice will find it more difficult to implement effective changes which may lead to improvement of that practice.

Rationale

The pace of change in the 21st century suggests that success in many endeavours will be directly proportional to our ability to learn and grow. This is recognised by employers, who seek graduates with a demonstrated ability to be independent, self-managing, lifelong learners (DEST, 2002). These graduates will often be required to work in collaborative teams in order to achieve shared goals. They will need to be able to determine where they are in relation to where they want to be, and how to get there, both for themselves and for other members of their team. Such self and peer evaluation is an integral part of the process of formative assessment, the focus of this research, and is an important skill for graduated teachers.

Engagement in the process of formative assessment can occur through both self and peer assessment. Pre-service teachers find that viewing video of their teaching practice facilitates self-analysis of that practice (Snoeyink, 2010).The value of peer assessment

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has also been strongly endorsed. In a study of 43 undergraduate students, Li, Liu and Steckelberg (2010) found a significant positive correlation between the quality of peer feedback students provided for others and the quality of the students' own final projects. The finding supported a prior research claim that active engagement in reviewing the work of peers may facilitate student learning. Rust, O'Donovan and Price (2006) draw on extensive research literature to conclude that a social constructivist assessment process model could be best practice. In this study pre-service teachers were able to use video of their lessons to support self and peer assessment. Coffey (2014) notes the potential of the purposeful use of video in pre-service teacher education to support the development of critical reflection, a key element of assessment, and Sim, Allard, White, Le Cornu, Carter and Frieburg (2012) demonstrated the value of using video of pre-service teachers' lessons to stimulate discussion and clarification of expectations for pre-service teachers on practicum.

In the case of pre-service teachers, assessment is often in the hands of their mentors. The conceptualisation of mentoring in pre-service teacher education intertwines coaching and supervising, which involves both teaching and assessing specific skills required for the role of teacher (Ambrosetti, Knight & Dekkers, 2014). There is a tension between the hierarchical relationship implied in supervision (Fransson, 2010; Tillema, Smith & Leshem, 2011) and the more supportive relationship developed in mentoring which encourages professional growth through reflection (Ambrosetti & Dekkers, 2010). In the pre-service teacher education context of this study, mentors were required to assess and assign a grade on the pre-service teachers' performance during their final practicum.

An advantage of using multiple sources of data for the evaluation of practice is that the time constraint alluded to earlier in discussing the role of a mentor in teacher education is somewhat alleviated. Another advantage is the multiple perspectives obtained. Haberman (2004) observes that expert teachers are keen to gain multiple perspectives on their practice. They regard everyone in the school community as a potential source of useful information. They hear what students and adults say to them. They listen and understand.

Teachers in the future will be expected to develop a capacity for self-directed learning in students. In order to do so it would appear essential that they should demonstrate these skills themselves. The situated learning which takes place during pre-service teachers' practicum experiences offers an opportunity to enhance pre-service teachers' capacity

for self-directed learning. From a Vygotskian view these opportunities need to occur within each pre-service teacher's Zone of Proximal Development (ZPD), which may impose an additional demand on some mentors.

Activity theory, as conceptualized by Ilyenkov (1977), suggests that the driving force of change and development in activity systems is an internal contradiction (Engeström, 1987, 2001; Roth, 2012; Roth & Tobin, 2002). Guidance from mentors and/or other members of a professional learning community, operating within pre-service teachers' Zone of Proximal Development (ZPD), can help pre-service teachers to resolve these contradictions. In line with activity theory, this recognises that mentor and pre-service teacher are operating in a holistic social setting where no single factor can be isolated from all others. Another key Vygotskian concept, that of *perezhivanie* (an emotional experience arising from an event, situation or environment), reminds us of the need to attend to mentoring in the ZPD in a sensitive and positive manner (Vygotsky, 1994).

As future members of a teaching profession that will need to be continually evolving and improving to keep pace with the educational demands of their students, and of society, pre-service teachers also need to learn to be effective contributors to a learning community. If pre-service teachers are to learn to 'see' in order to understand and define the quality of their own practice, then the role of professional colleagues expands to include assisting the pre-service teacher to develop informed professional judgement. By obtaining multiple perspectives on their practice, and by offering their own perspective on the practice of others, pre-service teachers may see the various aspects of their practice more clearly in relation to defined standards of quality. Thus a professional learning community would be formed in which members share ideas and collaborate in the process of becoming teachers.

Purpose

The purpose of the study was to develop a deeper understanding of the phenomenon of professional growth in the early stages of teacher development as observed in pre-service teachers.

In this study the professional learning of pre-service teachers was supported by multiple perspectives, using video and structured reflection on developing practice within a learning community. The research investigated how pre-service teachers use reflective processes involving video, the input of colleagues and professional discourse to identify areas for improvement in their practice, and also investigated the impact of these

reflective processes on their practice and their capacity to direct their own professional learning.

As feedback from a mentor teacher and from a university supervisor are normal components of any pre-service teacher's practicum, the main focus in this study will be on the contribution of video, increased agency of the pre-service teacher, and professional discourse within a professional learning community.

Research Questions

The research questions are:

1. What personal and contextual variables affect pre-service teachers' professional growth during their final practicum in a primary school?

2. How do multiple perspectives on teaching practice provided by video, peers, classroom students, mentor teacher and university supervisor, combined with reflection and professional discourse, help pre-service teachers come to know the quality of their professional practice and inform their professional growth?

Significance

This research offers insight into the resources, processes, strategies and interventions that potentially enhance the ability of pre-service teachers to understand and define the quality of their practice, and the steps required to improve that practice.

Successful teachers in the future will need the capacity to continually improve the effectiveness of their teaching practice, and also to evaluate and provide feedback on the performance of colleagues once they enter the profession and are working in schools. This research generates new knowledge about the role which video-enabled self and peer evaluation can play in the professional development of pre-service teachers, as well as the role of learning communities (communities of practice) within the school and the broader teaching profession in improving individual teacher effectiveness and raising the standard of the teaching profession in Australia.

The research seeks to describe and understand one aspect of becoming an effective teacher: developing the ability to 'see' salient features of practice. This ability is essential, as all further decisions regarding professional growth (establishing the existence of a gap, obtaining information about how to close the gap, and actually

closing the gap) depend on the ability to see and understand clearly the quality of their practice.

This research leads to the development of a theoretical model describing how learning to see can be developed, using video and multiple perspectives on practice to improve the quality and effectiveness of teacher professional learning, both in a higher education setting and beyond.

Chapter 2: Literature Review

This literature review highlights key issues in teacher education, with a particular focus on the final practicum as a situated learning experience, where pre-service teachers' pedagogical content knowledge and personal beliefs about good teaching inform their teaching practice. The review considers a range of influences on the pedagogical content knowledge and the beliefs of pre-service teachers, as well as factors which facilitate improvement of practice.

The review also considers what the research tells us about what is required of teacher education in the 21st century, how pre-service teachers learn, and what makes pre-service teachers' practicum experiences effective.

Social Constructivist and Socio-cultural Perspectives on Learning

Learning is an active process, and the idea that learners actively construct knowledge (constructivism) is a mainstream theory of learning in Australia today. Social constructivists explain that new experiences are interpreted using prior knowledge through conversations with others (Palincsar, 1998). The *Australian Professional Standards for Teachers* (AITSL, 2011) recognise the importance of engaging in professional dialogue with colleagues to improve practice. This research proposes application of this approach to pre-service teacher learning. In order for the social interaction to benefit the learning process a certain level of trust must be present. This social capital and the mentoring, networking and mutual support associated with high levels of social capital contributes to success in education (Coleman, 1988).

Socio-cultural influences on learning can result in differing interpretations of learning experiences, but Daniel, Schwier and McCalla (2003) suggest that social capital can bridge cultural differences by building a common identity and shared understanding. Pre-service teachers undertaking a practicum are joining a community, both in the broader professional sense as well as at a local level. The interaction and shared commitment within that community can build social capital and encourage a sense of solidarity and social cohesion. The establishment of shared goals and common frames of reference, and the building of trust relationships that are characteristic of social capital, can promote better knowledge sharing (Prusak & Cohen, 2001).

The collaborative learning environments described by social constructivism are based on the assumption that knowledge is a complex entity that is shaped by social context. For teachers the pedagogical content knowledge required for effective teaching combines information, context and experience, and includes both tacit and explicit knowledge. Tacit knowledge is drawn from experience and is the most powerful form of knowledge (Daniel, Schwier & McCalla, 2003). It is difficult to articulate formally and hence difficult to communicate and share as it includes privately held insights, feelings, culture and values. Tacit knowledge is shared only when individuals are willing to engage in social interaction. Wenger (1998) suggests that sharing tacit knowledge within a community yields higher success than sharing explicit knowledge does.

Learning as part of cultural and historical experiences is prominent in socio-cultural learning theories and constructivist theories of learning. Vygotsky (1978) emphasised the influence of cultural and social contexts in learning, with knowledge being grounded in the relationship between the knower and the known. In a Vygotskian view of socio-cultural learning, the learner's task is seen as coming to know the wider community, its ways of working and its cultural tools. Induction into the language of a discipline and/or a professional community is an important part of socialisation into that community.

Vygotsky also noted the central role of language as a cognitive tool for mediating learning. Language is important because thinking is seen as internalised speech, so verbalising and explaining assists learners to internalise new ideas. A common language facilitates shared understanding, a sense of belonging, and social construction of knowledge, where meaning-making is a form of negotiation. Lave and Wenger (1991) observe that it is through engagement in a community of practitioners that students become increasingly competent and confident in their identity as practitioners. Socio-cultural theory proposes that learning is enhanced by interaction with more knowledgeable peers and a more experienced/knowledgeable mentor. Vygotsky (1978) emphasised the benefits of learners' interaction with competent others. It is important for learners to be exposed to a higher level of reasoning than the current level, within their ZPD, to facilitate their cognitive growth (Hogan & Tudge, 1999).

Activity Theory

Garrison and Anderson (2003) recognise that the type of interactions that take place in a learning community can be complex, and may include student-student interaction, student-teacher interaction and student-content interaction. Cultural Historical Activity

Theory (CHAT), developed by Engeström from Vygotsky's work (Engeström, 1987, 2001, 2005), offers a theoretical lens through which these interactions can be explored, along with contextual variables such as the pre-service teachers' and mentors' backgrounds, beliefs and values, and mediating tools and artefacts. Engeström's model proposes that the interactions between individuals and the object (purpose) of their activity are mediated by the tools appropriated to accomplish the activity; that the interactions between individuals and the communities they participate in are mediated by rules (which may be implicit such as conventions); and, that the interactions between the community and the object of their activity are mediated by the community's division of labour. This research takes account of all these interactions in describing pre-service teacher learning. Video offers an opportunity to re-examine these complex interactions.

Situated Learning

This study draws on situated learning theory, which suggests that skills should be acquired through authentic contexts and by communicating with peers and experts about and within those contexts (McLoughlin & Luca, 2002). This fits within a social constructivist paradigm in which meaning is negotiated. In situated approaches, students collaborate with one another and their instructor toward some shared understanding. Students can process concepts and information more thoroughly when multiple opinions, perspectives, or beliefs must be accounted for across a group (Oliver, 1999).

Brownlee, Boulton-Lewis and Purdie (2002) explain that learning is nurtured by situating learning in students' experiences. This was investigated by engaging students in a journal writing process, whereby students were encouraged to use their own experiences to link with the theoretical issues. Further findings were that helping students to construct knowledge was also facilitated by encouraging students to include personal beliefs, experiences, evidence and theory to support and validate such beliefs, in their journal entries.

In situated learning, theory becomes a co-partner in improving teaching practice. Experiences are theorised (attempting to explain what works), rather than applying theory to practice. When actions are determined they are informed by theory, but grounded in the reality of personal experience. Situated learning is effective because concepts "…continually evolve with each new occasion of use, because new situations,

negotiations, and activities inevitably recast it in a new, more densely textured form"
(Brown, Collins & Duguid, 1989, p. 33).

The perceived value of situated learning for pre-service teachers in Australia was
highlighted in a review of initial teacher preparation conducted for the Parliament of
Victoria (Victoria, 2006, p. xxii), which commented in the following terms:

> The teaching practicum was a key area of contention throughout the
> inquiry, with the overwhelming majority of stakeholders believing that that
> the current time spent on practicum, as well as the quality of the practicum
> experience, is largely inadequate. Many called for teaching practice to
> represent at least 25 per cent of pre-service teacher education, with some
> suggesting a 50 per cent split between university classes and school-based
> education.

Although there is a growing consensus that much of what teachers need to learn must
be learned in and from practice rather than in preparing for practice (Ball & Cohen,
1999; Darling-Hammond, 2000; Putnam & Borko, 2000), there is much disagreement
about the conditions that must exist for this learning in and from practice to be
educative and enduring.

Situated learning occurs within a community of practice. This community of practice will
naturally influence both the beliefs and the pedagogical content knowledge of the pre-
service teacher. Examination of both can be facilitated by the use of video.

Pedagogical Content Knowledge

The knowledge that teachers require to carry out their jobs effectively is both
substantial and complex (Clark & Lampert, 1986; Clark & Peterson, 1986). In addition to
content knowledge of their disciplines in which they teach, they also need pedagogical
knowledge in relation to that content, in other words an understanding of how that
content is most effectively taught and learned, that is, pedagogical content knowledge
(Shulman, 1986). The acquisition of pedagogical content knowledge has an added
complexity for primary teachers in Western Australia, who are expected to be content
experts across all eight discipline areas of the WA Curriculum Framework (Curriculum
Council, 1998). The achievement standards for each discipline area are described in the
Australian Curriculum, along with seven general capabilities considered important for
life and work in the 21st century and three cross-curriculum priorities. Teachers are

expected to incorporate these general capabilities and cross-curriculum priorities through the learning area content on which the curriculum is built. Specific recommendations from a review of the Curriculum Framework (Andrich, 2009) are guiding the Western Australian implementation of the Australian Curriculum.

Shulman (1986) suggests that teachers' subject knowledge and pedagogy should not be treated as mutually exclusive domains in teacher education. He introduced the notion of Pedagogical Content Knowledge (PCK), which he described as involving representation and formulation of concepts and pedagogical techniques, knowledge of what makes concepts difficult or easy to learn, and theories of epistemology. It also includes knowledge of students' prior knowledge and misconceptions, knowledge of the strategies students are able to use, and what they bring to the learning situation. PCK goes beyond combining content and pedagogy to transforming content into pedagogically powerful forms which make the content comprehensible to others.

Pedagogical Reasoning and Tact

Shulman (1987) also introduced the concept of pedagogical reasoning, which he describes as the process teachers engage in when they combine content expertise with knowledge of students and how they learn (PCK) to make decisions about their teaching. Pedagogical reasoning is informed by reflection on action and becomes an iterative process that includes six stages: comprehension of content to be taught; interpretation and transformation of content into teaching materials and strategies; teaching; evaluation; reflection; and new comprehension/understanding of content, learners, and pedagogy (Wilson, Shulman, & Richert, 1987). Models of pre-service teacher education need to incorporate opportunities for the development of all six stages of pedagogical reasoning, including evaluation and reflection (Peterson & Treagust, 1995).

A similar term 'pedagogical tact' was coined by Max van Manen (1990). He claims that pedagogical tact is the skill of knowing what do to at each of the decision points or teaching moments which make up our teaching practice. Pedagogical tact has internalised pedagogical reasoning to such a degree that it can be exercised virtually instantaneously. Such tact is built by reflecting on our teaching experiences and drawing on our pedagogical content knowledge. These reflections include interpretation of the experience. Each individual's interpretation will combine their cognitive understanding of the situation with deeply held personal beliefs and values. The influence of personal

beliefs and values on the development and professional growth of pre-service teachers is explored in this study.

Beliefs

"Much of what we do, individually and collectively, is shaped by our personal histories" (Schoenfeld, 1999, p. 4). In her recent investigation of the beliefs, knowledge and practices of effective primary science teachers, Angela Fitzgerald (2010, p. 241) found that "beliefs and knowledge have a significant influence on teachers, in terms of how they teach and why they teach in the ways they do."

Brownlee, Boulton-Lewis and Purdie (2002) claim that student teachers' epistemological beliefs are often not addressed within teacher education programs. They reference research indicating that teacher education programs tend to follow a content mastery model that does not promote the personal construction of knowledge through pedagogical reasoning (Shulman, 1987). There is growing evidence to suggest that pre-service teachers' beliefs are an important consideration in pre-service teacher education since those beliefs will influence classroom practice (Fitzgerald, 2013; Pajares, 1992). Personal experiences, often a foundation for beliefs, are influential in teachers' reflection, pedagogical reasoning, and decision-making (McMeniman, Cumming, Wilson, Stevenson, & Sim, 2000; Sim, 2004).

Brownlee (2004) and Entwistle, Skinner, Entwistle and Orr (2000) described links between epistemological beliefs and beliefs about teaching and learning. This means that individuals who believe learning is individually constructed are more likely to conceive of teaching from a constructivist or transformative perspective. From this perspective teaching and learning becomes a two-way interaction, which implies a relational approach to teaching. Students and the teacher become co-learners. Such teachers are also more likely to participate in a community of practice wherein all members collaborate to enable continued learning.

Teachers' beliefs can be examined and challenged in the light of research evidence. Pre-service teachers who actively engage with research in refining their practice will also be better equipped to support their students to become lifelong learners by always seeking to analyse and synthesise their learning in order to make it their own. They adopt the inquiry pedagogy recommended by Cherednichenko and Kruger (2001).

Schoenfeld (1999, p. 6) noted that "Instruction no longer focuses almost exclusively on the mastery of facts and procedures, but also on … engaging in intellectual practices central to the discipline". Therefore, teacher education programs need to foster intellectual practices based on research. Labaree (2003, p.17) recommends that teaching should be both a "normative practice, which focuses on the effort to produce valued outcomes" and an "analytical practice, which focuses on the effort to produce valid explanations". In order for this to occur, teacher education programmes should prepare students well for both practices.

Brownlee, Boulton-Lewis and Purdie (2002) found that the use of relational pedagogy (an approach which treats relationships as the foundation of good pedagogy) encourages students to include personal beliefs/experiences and evidence/theory to support and validate such beliefs, in an atmosphere of care and trust. Relational pedagogy encourages reflective behaviours, face-to-face discussions and student-centred learning in which student and teacher learn from each other.

Models of Professional Learning in Teacher Education

Given the importance of teacher education and the complexity of teaching it is not surprising that much time and effort has been spent on developing and documenting models of pre-service teacher education which aim to improve the effectiveness of that education and thus enhance the return on investment. These models include, but are not limited to, the apprenticeship model (also called cognitive apprenticeship, which includes mentoring), the application of theory model, and the reflective practitioner model (Collett, 2007).

Cognitive apprenticeship

The apprenticeship model gives strong support to pre-service teachers in the beginning and gradually moves to less support as pre-service teachers develop their teaching repertoire. In addition to modelling good teaching the mentor provides feedback and coaches the pre-service teacher. In an apprenticeship, learners can see the processes of work, but the processes of thinking and learning are often invisible. Cognitive apprenticeship attempts to make thinking visible (Collins, Brown & Holum, 1991).

The modelling of teaching practice allows for focussed observation of experienced teachers, which gives pre-service teachers an opportunity to analyse what is happening

in the classroom and to get a sense of the standard of performance required for effective teaching.

The competency model

The competency model is based on the assumption that learning to teach involves acquisition of certain competencies and the role of the mentor becomes that of providing feedback and coaching the pre-service teacher in relation to specified standards of performance. These standards can be seen as attempting to objectify 'good' teaching. What may be questionable is the extent to which 'good' teaching can be objectified (Stevens, 2009).

It is possible that assessment of pre-service teachers against a checklist of teaching competencies could be reductive and give scant recognition to the more advanced knowledge and understanding of teaching that could be expected of a reflective practitioner.

The application of theory model

In her discussion of the United States context for teacher education, Darling-Hammond (2000) referred to the power of teacher preparation for transforming teaching and learning, and the current challenges for this enterprise in the United States.

In the historically dominant 'application of theory' model of pre-service teacher education in the United States (and also in Australia), prospective teachers are supposed to learn theories at the university and then go to schools to practice or apply what they learned. Darling-Hammond and Richardson (2009) referred to the lack of connection between campus courses and field experiences as the Achilles heel of teacher education. Zeichner (2010) drew our attention to the variety of work going on across the United States to connect course work and practicum experiences, and suggested that a paradigm shift is occurring in the epistemology of teacher education towards a less hierarchical interplay between academic, practitioner and community expertise. The context in which this proposed research is situated demonstrates that the shift may be occurring in Australia too, as we move to more partnership based models.

The reflective practitioner model

The roots of the reflective practitioner model lie in the work of John Dewey, whose approach to teaching was based on teachers becoming active decision-makers. This concept was elaborated by Donald Schön (1987), who emphasised the importance of

both values and theory informing decision-making and reflection being a conceptual tool for both constructing meaning and challenging that meaning.

In Australia, the reflective practitioner model is strongly supported in teacher education (ACDE, 2004; Hatton & Smith, 2006; Menter, et al., 2010). Learning is seen as a cyclic process involving experience and reflection on experience (Clarke, 2004). In this model pre-service teachers on practicum reflect on their teaching practice, guided by mentor teachers, and through this structure important professional discoveries are made about teaching goals and strategies and the needs of classroom students. A recent study of Australian pre-service teachers of mathematics found that keeping a reflective journal about teaching strategies and the learning responses of students facilitated the teaching of mathematics well "beyond technical rationality levels" (Kaminski, 2003, p. 30).

The notion of teaching as a reflective activity emerged partly in response to the competency model, which was seen by some as restricting teacher professionalism (Hartley, 2002). Grossman, Hammerness and McDonald (2009) contend that teacher education should include pedagogies of investigation, reflection and enactment. The reflective practitioner model suggests that the professional development of teachers should involve education rather than training. There is a danger that a competency based model of teacher education, if there is a dominant focus on practical strategies without reference to theories, could result in teaching practice becoming de-professionalised (more like a trade than a profession). Practical competencies are necessary, but not sufficient.

Schön's (1987) notions of reflection-in-action and reflection-on-action provide a useful way of understanding this difference between education and training. Reflection-in-action refers to the thinking which occurs when a practitioner needs to attend to a situation directly (in the classroom during a lesson). Reflection-on-action occurs when a practitioner analyses their reaction to the situation after it has occurred and explores the reasons around, and the consequences of, their actions. This is usually conducted through a documented reflection of the situation. Schön (1996) also uses the term knowing-in-action to draw our attention to the often unconscious and unarticulated knowledge teachers draw upon in teaching that provides an implicit framework for action. As this knowledge is values-laden, reflection provides a basis for the recognition and challenging of those previously unquestioned assumptions and beliefs.

Bain, Ballantyne, Mills and Lester (2002) developed a 5Rs model for reflection which offers a vehicle for moving from superficial description of an event or situation, through careful analysis of the event or situation, to the development of a plan of action to improve future responses to such events or situations. The five levels of responses are categorized as Reporting, Responding, Relating, Reasoning and Reconstructing. Classroom teaching consists of a series of decision points, all of which require recognition, understanding and effective response. Ghaye and Ghaye (1998) argue that reflection-in-action enables professionals to address and resolve problems arising in practice, and that reflection-on-action aims to improve future action in a deliberate and conscious way (acting on information about the gap). Reflection determines whether our knowing-in-action is adequate and often takes place when normal practice is challenged, requiring interpretation of a situation to guide further action. Reflection can lead to generation of professional knowledge and improvement of practice.

Summary of models and relevance to study

The Cognitive Apprenticeship model seeks to make the thinking of an experienced teacher visible to the apprentice, exposing knowledge used in the decision making process, whereas the Competency model has a stronger focus on the skills and strategies that form the basis of experienced teachers' daily actions. In the Application of Theory model the role of the practicum is to offer a context for the application of previously learned theory. A weakness of this model can emerge when there is a lack of alignment between the language of academia and that of practicing mentor teachers.

The Reflective Practitioner model incorporates elements of the other models in that it encourages reflection on: teaching decisions and the knowledge that underpins them; skills and strategies used in teaching practice; and the context in which theoretical knowledge, skills and strategies are employed. The additional element of reflection offers a vehicle for moving from knowing (cognitive) and doing (competency) to becoming an informed professional teacher.

Informed professional judgement requires more than knowledge of what to do and how to do it. Informed professional judgement requires understanding of why a particular strategy is chosen in a particular situation, an understanding of the merits of one strategy over another, and an acknowledgement of circumstances in which there is no 'right' answer (Tripp, 1993). It is this that requires teacher education to be an education and not simply training. Creating and analysing critical incidents (Tripp, 1993) is a good

way to develop the necessary skills of informed professional judgement. The reflective aspects of this study are centred on the diagnostic teaching cycle of David Tripp (1993) in which critical incidents are identified and analysed. Tripp encourages the reflective practitioner to pay attention to the unremarkable and everyday events that make up our routine professional lives, as our automatic responses in these situations can offer critical insights into the patterns and values that underpin our practice.

In her study of the use of critical incidents to promote and assess reflective thinking in pre-service teachers, Maureen Griffin (2003) found the process resulted in a significant increase in the degree of orientation of pre-service teachers toward growth and inquiry, moving them from concrete to alert thinkers. She found that the use of critical incidents appeared to assist concrete thinkers to look beyond themselves and the immediate situation to larger, contextual issues, and promoted an increased awareness of the variables that impact teaching and learning. Comments from study participants revealed aspects of Dewey's (1933) three attributes of reflective individuals: open-mindedness, responsibility and wholeheartedness.

Reflective practice requires going beyond the practical skill development of applying techniques and strategies to engagement with theoretical frameworks. It requires going beyond 'how to do it' to understanding why it is done, and perhaps even questioning whether it should be done at all (Collett, 2007).

In their *Guidance Report for Continuing Professional Development*, Kiely, Davis and Wheeler (2010) recommend the use of critical learning episodes as a central focus of collaborative learning experiences within a professional learning community. Experienced teachers are encouraged to engage critically with their own practice and "to connect teaching practice to concepts in the research literature" (p. 9).

The reflective practitioner model outlined above formed a key element of the research process. Video data, combined with participants' reconstructive accounts of classroom events, facilitated reflection and analysis of classroom events (Clarke, Mesiti, O'Keefe, Jablonka, Mok & Shimizu, 2007).

Use of Video in Teacher Professional Learning

There has recently been considerable research interest in the use of video for teacher professional learning (Charteris & Smardon, 2013; Kleinknecht & Schneider, 2013; Marsh, Mitchell & Adamczyk, 2010; Sherin, Linsenmeier & van Es, 2009; van Es, 2012;

van Es & Sherin, 2010). One finding, as van Es, Tunney, Goldsmith and Seago (2014) explain, is that viewing video is not enough:

> "video captures the authenticity and complexity of teaching and can promote the examination of classroom interactions in a deliberate and focused way. However, simply viewing video does not ensure teacher learning. An important question concerns how to facilitate substantive analysis of teaching practice with video so that it becomes a productive learning tool for teachers." (p. 340).

Critical analysis of classroom video can facilitate structured reflection on teaching practice (Brookfield, 1995) and lead to the development of teachers' professional vision and pedagogical reasoning (Scott, Mortimer & Ametller, 2011). This ability to notice and interpret significant features of classroom situations has been identified as an important element of teaching expertise (Seidel & Sturmer, 2014; van Es & Sherin, 2002). It helps teachers to notice salient features of classroom practice and decide what classroom situations to attend to (Sherin & Linsenmeier, 2011; Sherin, Russ, Sherin & Colestock, 2008).

Mentoring

One of the inhibitors of effective teacher education in the United States (and in Australia) is that student teachers do not necessarily get access to the thinking and decision-making processes of their experienced mentors (Hammerness, Darling-Hammond & Bransford, 2005; Zeichner, 1996). Mentors are usually vastly undercompensated, particularly in time allowance, for the complex and difficult work they are expected to do when mentoring prospective teachers (Ure, Gough & Newton, 2009).

Schön (1987) proposes three approaches mentors can use to facilitate development of attributes of the reflective practitioner in those they are mentoring. These are: joint experimentation, follow me, and the hall of mirrors. Geen (2002) claims that the hall of mirrors approach is most conducive to an examination of underlying beliefs and values, an important element of reflection on practice. The important outcome from reflection-on-practice is that students can develop personal theories that then may be related to more formal theory derived from readings and theory lectures. As Kiely, Davis and

Wheeler (2010) suggest, mentors should "discuss and analyse practice to describe rather than evaluate; and ensure evaluative perspectives start with teacher self-evaluation" (p. 36). Collaborative viewing of video offers opportunities to explore professional standards from multiple perspectives (Sim et al., 2012).

Adult Learning

Andragogy (adult learning) is a theory that holds a set of assumptions about how adults learn. It uses approaches to learning that are problem-based and collaborative rather than didactic, and also emphasises more equality between the teacher and learner. Knowles (1990) identified adult learners as being intrinsically motivated and goal oriented. Their orientation to learning is problem-centred and they seek practical, relevant knowledge at the point of need. Adult learners bring both knowledge and life experiences to their learning experiences. They like their opinions to be heard and respected.

This study is about the learning of pre-service teachers as adult learners who need to have agency in the learning process. David Clarke of Melbourne University conducted a four year study in which video was collected of teaching practice and the teachers then selected a five minute segment to discuss with their peers. This gave the teacher agency and control over the process (Clarke & Hollingsworth, 2002); a key element of adult learning. Adult learners want to get to the point quickly. They prefer learning that is situated and needs-based, with others offering support and direction while allowing the learner to retain ownership of the learning (Knowles, 1990; Brookfield, 1995).

Gorodetsky and Barak (2008) recognised the need for an equal and more dialectical relationship between academic and practitioner knowledge in support of student teacher learning. They explored collaboration between schools and universities and identified a cultural gap which exacerbates the difficulties and complexity of school-university partnerships. They used a conceptual framework to address the issue of how to bridge the cultural gap between schools and universities that acknowledges that closure of the gap can be achieved only through the acceptance and legitimisation of a new culture, one that is neither that of the schools nor that of the universities. In this new culture an equal and more dialectical relationship between academic and practitioner knowledge can be created in support of student teacher learning.

Self-directed and student-centred learning

In addition to applying the principles of adult learning, this research proposes a student-centred approach to learning. Student-centred learning was credited to Hayward as early as 1905 and to Dewey's work in 1956. Carl Rogers was then associated with expanding this approach into a theory of education: "I know I cannot teach anyone anything. I can only provide an environment in which he can learn." (1969, p. 389). This learning approach has also been associated with Piaget's (1932) work on developmental learning and Malcolm Knowles' (1990) self-directed learning.

Knowles (1990) summarises the characteristics of such learning as follows:
- The reliance on active rather than passive learning.
- An emphasis on deep learning and understanding.
- Increased responsibility and accountability on the part of the student.
- An increased sense of autonomy in the learner.
- Interdependence between teacher and learner.
- Mutual respect within the learner-teacher relationship.
- A reflexive approach to the teaching and learning process on the part of both the teacher and the learner.

Student-centred learning is broadly based on constructivism as a theory of learning, which is built on the idea that learners must construct and reconstruct knowledge for and by themselves in order to learn effectively, with learning being most effective when, as part of an activity, the learner experiences constructing a meaningful product (Cole & Wilson, 1990). It is also akin to transformative learning (Mezirow, 1991) which contemplates a process of qualitative change in the learner as an on-going process of transformation which focuses on enhancing and empowering the learner, developing their critical thinking ability.

Student-centred learning requires an on-going reflexive process. The philosophy of student-centred learning (Rogers, 1969) is such that teachers, students and institutions need to continuously reflect of their teaching, learning and infrastructural systems in such a way that would continuously improve the learning experience of students and ensure that the intended learning outcomes are achieved in a way that stimulates learners' critical thinking and transferable skills. This ongoing reflexive process also improves teacher practice. As Stenhouse (1981, p. 37) comments: "A good classroom … is one in which things are learned every day which the teacher did not previously know".

The *Time for a new paradigm in education: Student centred learning (T4SCL)* project, funded by the European Union under the *Lifelong Learning Programme*, noted that the Bologna Process has resulted in a shift towards learning outcomes in higher educational course organisation across Europe (Attard, Di Ioio, Geven & Santa, 2010). This shift has led to renewed interest in student centred learning (SCL) and parallels the shift from instructing to teaching that produces learning which is characteristic of the paradigm shift in higher education institutions that subscribe to the concept of SCL.

Self-direction in learning includes elements of independence in forming professional judgements (Boud, 1988). Students demonstrate increased confidence and competence in professional judgements when they actively engage in the evaluation of work (their own and that of others). This research proposes such an approach, using video as a tool in the process.

Multiple Perspectives

Haberman (2004) observes that expert teachers are keen to gain multiple perspectives on their practice. Student-teachers need to be trained to acknowledge their own limitations and adopt multiple perspectives. "Education only starts to become understandable when it is approached from multiple perspectives" (Labaree, 2003, p. 15). Outcalt (2002) suggests four lenses for critical reflection on teaching:

1. *Autobiographical:* Teachers focus on their previous experiences as a learner, or on their experiences as a teacher, in order to reveal aspects of their pedagogy that may need adjustment or strengthening.

2. *Theoretical literature:* An engagement with scholarly literature supports teachers to clarify their understanding of why certain practices appear to work in particular contexts, while others do not. It also provides a vocabulary for collegial discourse within a professional learning community.

3. *Peers:* Peers can highlight hidden habits in teaching practice, and also provide innovative solutions to teaching problems. Further, teachers can gain confidence through engagements with other teachers, as they realise perceived failings are shared by others.

4. *Students:* Teachers can reflect upon student evaluations or demonstrated learning outcomes to assist them to reveal teaching habits that may need adjustment in the name of student equity or that can be harnessed for greater impact.

The use of video within a professional learning community supports all four of the above lenses. Using video to revisit an event for repeated observation facilitates multiple ways of analysing and interpreting events, thus attending to the layers of complexity that are inherent in teaching (Fitzgerald, 2013).

A study by Li, Liu and Steckelberg (2010) revealed a significant relationship between the quality of peer feedback that teacher education students provided to others and the quality of their own final projects. It further found that there was no evidence of a direct link between the quality of feedback students received and the quality of their projects. This supports the anecdotal evidence of tutors that students often appear to ignore the quality feedback they receive from their tutors. It contradicts our common belief that high-quality feedback leads to better performance. It seems that active engagement in self and peer assessment is a greater predictor of student ability to produce work of a high standard. As will be seen in this study, students' response to feedback was variable and dependent on a set of internal and external factors in operation in a complex social setting. Morehead and Shedd (1997) found that the use of constructive, formative processes of peer review of teaching, that included the use of video, increased the quality of classroom instruction.

The affordances of video in teacher education are becoming increasingly clear as video technology becomes more affordable and easier to use. Sherin, Linsenmeier and van Es (2009) found that the use of video for reviewing, analysing and discussing critical incidents, facilitates an expansion of professional vision (noticing salient features of classroom interactions), and an improvement in pedagogical reasoning (how noticed features are interpreted). It also facilitates clarification of standards (Sim et al., 2012).

Evaluation of teaching practice needs to be done in relation to agreed standards. This study used a progress map based on the key elements of quality teaching as described in the *National Professional Standards for Teachers* (AITSL, 2011). The progress map has been adapted from an observation schedule developed by Fetherston (2009). This schedule was based on ACER's standards, which were subsequently adapted and used in the evaluation of University of Queensland's Bachelor of Learning Management. Fetherston further adapted and refined these standards to suit the WA primary context, deleting some irrelevant sections and refining the various levels.

In his study (Fetherston, 2009) the schedule proved valid and sensitive to changes in teacher behaviour. The instrument can be used for self and peer evaluation, as well as

evaluation by supervisors and mentor teachers. An additional section was added for this study related to engagement in professional learning (Standard 6 of the *National Professional Standards for Teachers*).

Conceptual Framework

The framework arising from this literature review, illustrated in figure 2.1 (below), conceptualizes the professional growth of pre-service teachers', during their final practicum, as a process that results in changes to PCK, beliefs and practice. These changes are conceptualised as occurring through situated learning in the context of the school culture and the student characteristics of pre-service teachers' final practicum school. They are influenced by mentoring and feedback from multiple perspectives, and are viewed using social constructivist, socio-cultural and activity theories.
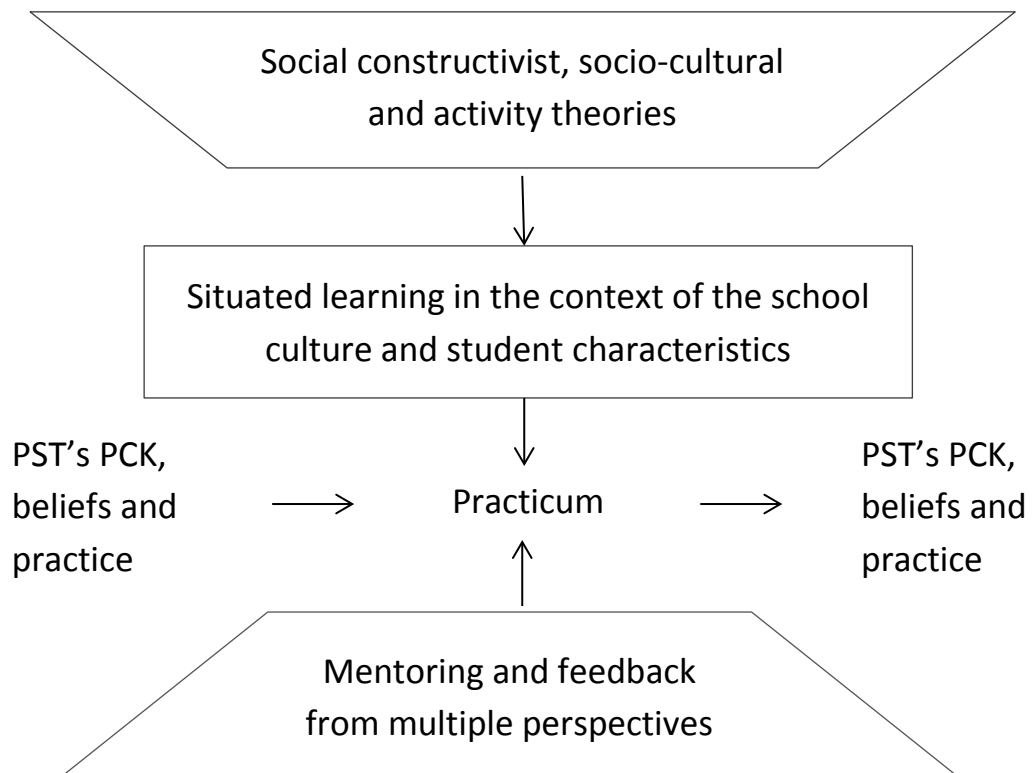
Figure 2.1: Conceptual framework

Chapter Summary

This review has a focus on pre-service teachers' final practicum as a situated learning experience, where learning occurs as part of a cultural and historical experience. Learning is viewed as an active process, recognising that, in accordance with socio-cultural views, learners construct different interpretations of learning experiences based on their own histories and the cultural setting. As adults the pre-service teachers were viewed as learners who need to have agency in the learning process and a student-centred approach to their learning.

Teachers need content knowledge, but also need pedagogical knowledge in relation to that content. Pedagogical content knowledge includes both tacit and explicit knowledge. Language is important in acquiring PCK, and communicating with peers and experts about and within communities assists knowledge growth and potential change in beliefs.

This review examined several models of professional learning in teacher education, with a particular focus on the Reflective Practitioner Model. The practice of the use of video clubs for the professional learning of qualified practicing teachers was also reviewed, particularly in relation to the enhancement of professional vision and pedagogical reasoning through reflective practice.

The literature points to the opportunities for reflective practice that uses video to facilitate the review, analysis and discussion of classroom events from multiple perspectives, to develop professional vision and improve pedagogical reasoning. Video also facilitates the examination of professional practice against professional standards.

The next chapter explains the methodology used to explore the process of, and influences on, pre-service teachers' professional growth during their final practicum in an independent primary school in Western Australia.

Chapter 3: Methodology

This study was designed to reveal the influences on pre-service teachers' professional growth during their final practicum experience. The methods used were designed to illuminate the process of a pre-service teacher becoming a teacher. This chapter begins with a substantiation of the approach taken, followed by a description of the method; the data collection and analysis procedures undertaken.

Research Approach

This was a qualitative research project. As such it encompassed a broad range of methods all aimed at bringing multiple ways to exploring a phenomenon. The rich descriptions contained in each case recreate a vicarious experience for the reader (Peshkin, 2000). The study involved the Researcher being in close contact with the participants as they lived through the experience of becoming a teacher. The opinions, values and beliefs of all participants were an integral part of that process and consequently an integral part of this study.

Broadly, the approach taken was phenomenological in that the methods used were designed to illuminate the process of a pre-service teacher becoming a teacher (Creswell, 2009; Merriam, 2009; van Manen, 1982), and to disclose how the inclusion of video and peer evaluation within a learning community influenced that experience. Semi-structured interviews, direct classroom observations and Video Club discussions created opportunities to observe, describe and explore the phenomenon within its real context, and understandings developed are considered to be maintained within a bounded system, that of pre-service teachers' final practicum in a primary school (Merriam, 1998; Yin, 2009). The particular phenomenon under scrutiny was the role of video and multiple perspectives in the development of insightful professional judgement and changes to practice of pre-service teachers. Their stories illuminated the process of becoming a teacher

Data from each pre-service teacher's experience were gathered using four different methods, with the Researcher as a participant observer, then combined in order to produce three individual case studies that offered a detailed examination of real life cases in a contemporary context using multiple data sources (Bergen & While, 2000). The case studies are exploratory, observational and responsive to the context and participants. Commonly interviews, field notes, observation and documents form data

sources for case studies, and all of these methods were used in this study to supplement audio data from semi-structured interviews and audio visual video data. A cross-case analysis was conducted to determine how video and professional discourse in a reflective cycle assisted students in becoming teachers.

The Researcher has taken an interpretive epistemological stance which, together with a social constructivist theoretical position, indicates a view of knowledge as socially constructed and interpreted by the Researcher. Hermeneutic/interpretive epistemology in educational research has a focus on educational practices, interpreting human action within the context of practice (Usher, 1996). Since it is impossible to separate the Researcher from the cultural and historical context that defines her interpretive framework (Gadamer, 1975), knowledge-formation in this study is perspective-bound, taking place against a background of social-constructivist beliefs and practices.

Using interpretive listening and reflexivity during data analysis, the Researcher was able to illuminate processes, beyond the participants' words, to reach an understanding of pre-service teachers' professional growth. This process was viewed from this stance as a process that resulted from the complex interaction of many factors, underpinned by social conditions. While such an interpretive analysis may not produce 'truth' in a positivistic sense, it does construct an explanation that leads to satisfactory understanding of professional growth.

Usher (1996) states that:

> Data on their own are not considered of much use per se. They assume significance only when used within descriptions, explanations or generalisations. *Descriptions* answer the question – what is happening? Or they can be more historical in orientation and answer the question – what has happened? *Explanations* answer the question – why is this happening? – and this 'why' generally tends to be answered in terms of a cause (p. 10).

In this study the data were richly described, both in terms of what was happening in the classroom and video discussion meetings, and in terms of the historical events that informed and influenced the classroom and video discussion meeting data. The explanations in this study are constructed from the interplay of multiple causes that combined to create the phenomenon illuminated: pre-service teachers' professional growth.

The Researcher has formal teaching qualifications and extensive teaching experience in both the public and private school systems in Western Australia spanning 15 years. During that time she undertook roles that included teaching, coordination, and supervision of pre-service teachers in schools with students drawn from a range of socio-demographic areas. In addition the Researcher's professional membership of the *Career Development Association of Australia,* and work as a career counsellor for 11 years, developed in-depth understandings of professional identity formation. In the last five years the Researcher has been involved in the development of teaching and learning in a public university in Perth, Western Australia, giving her further insight into these processes. These experiences gave her deep understandings of the complexities of teaching across a range of settings, and an excellent knowledge of what constitutes effective teaching practices, facilitating an interpretive approach to the analysis of data.

Context and Participants

The project involved a study of three Graduate Diploma of Education pre-service teachers during their final practicum at an Independent Public School (described in Chapter 4). The pre-service teachers are referred to by pseudonyms to protect their identity and those of other participants in the study.

Paul was married and had a young family. He was actively engaged in his children's extra-curricular activities after school and during weekends. Paul's professional background included delivering training for adults in the workplace.

Bruce was single and did not have extensive personal commitments during the period of his practicum. He had coached young children for about seven years when worked at a state sporting association as a Development Officer.

Lee's first degree was in Exercise and Sports Science and she had done some exercise and sports coaching as a volunteer prior to embarking on her Graduate Diploma of Education. At 27, Lee was younger than the other pre-service teachers at the School.

The School worked in close partnership with the University and had video recording facilities in a purpose-built classroom. The classes taught by the pre-service teachers were Years 5 to 7. Each pre-service teacher was supervised by a mentor teacher. In addition, each pre-service teacher was asked to engage in systematic self-assessment of their own professional practice by watching video recordings of selected lessons, and to engage in peer assessment of the professional practice of their colleagues by watching

and discussing video clips selected from those video recordings. Video clips selected by pre-service teachers were discussed online as well as in face-to-face sessions.

While the online discussion forum was originally designed to engage all pre-service teachers and all mentor teachers in discussion about each video, it ultimately became a forum through which mentor teachers and university facilitators could contribute to the professional discourse initiated by pre-service teachers during video discussion meetings. Pre-service teachers appeared reluctant to participate in the online discussion, so face-to-face professional learning community meetings were set up in which they were much more willing to participate.

The video discussion meetings involved the three pre-service teachers, but not the pre-service teachers' mentors. In addition to receiving valuable feedback from their peers at these meetings, each pre-service teacher also gave formative feedback to their peers. The Researcher was present, as well as the Research Supervisor, an experienced University teacher educator, who facilitated the discussions and provided guidance for the structured reflection process.

A major challenge in pre-service teacher education is how to assist pre-service teachers to develop a shared understanding of the qualities of good teaching practice. The progress map referred to earlier (Appendix A), based on Fetherston's observation schedule (2009) and adapted to include Standard 6 (professional learning) from the *National Professional Standards for Teachers* (AITSL, 2011), was part of the process of developing this shared understanding as it provided the shared language required for the discourse within the professional learning community established in this study. Video clips of critical learning episodes in teaching practice offered contextualised learning opportunities for all members of the learning community, enhancing the development of professional vision and informed professional judgement.

The school in which the practicum took place had a specially designed classroom with built-in video facilities and an observation room. Four video cameras were installed, one in the centre and three in corners of the room. Each camera could be zoomed in or out to focus on the teacher, a particular student's work or to show a whole group of students. The cameras captured the visual aspects of the lesson from four different perspectives, while audio was captured through microphones placed strategically around the room, and one attached to the teacher.

Design

Specifically the research was designed as a linked set of case studies exploring how three Graduate Diploma of Education students developed their professional practice during their final practicum as pre-service teachers of students in Years 5 to 7.

Participants were selected by invitation. Pre-service teachers who had been placed in a particular primary school were offered an opportunity to participate in the *Seeing to Learn* project in addition to their final practicum. This would give them an opportunity to use video and obtain feedback from multiple perspectives during their final practicum which might support their professional growth. The project did not replace any of their normal practicum tasks and had no bearing on their grades.. The mentor teachers of pre-service teachers who accepted the invitation were then also invited to join the project. All the mentors were experienced teachers. The students in their classes were then also invited to participate in the study. There was no discussion between the researcher and mentors or university supervisors regarding the assessment and grading of the pre-service teachers at any time, either during or after the practicum.

The pre-service teachers' access to, and engagement with, video (of their own practice and that of their colleagues) provided a rich context in which to expand professional knowledge and develop professional judgement. As a result of this approach, rich descriptions of how pre-service teachers learn their profession (and learn how to see in classrooms) were generated. Apart from such rich descriptions, a further advantage of the case study approach is the opportunity to analyse these rich descriptions and develop explanations of how pre-service teachers learn and the factors that influence their learning journey. These descriptions and explanations provide insight into ways in which pre-service teacher education might be adapted to better serve the needs of education in the 21st century.

In addition to the perspectives obtained through video, the eyes of peers and experienced University educators, and mentors, the perspectives of the classroom students on the teaching practice of the pre-service teachers were obtained. This occurred twice during the study, once near the beginning and again at the end of the study. The descriptive statistics and qualitative comments derived from these questionnaires were interpreted as one of the multiple perspectives on the pre-service teachers' developing practice.

Procedure

Pre-service teachers participated in a reflective cycle designed to assist them to 'see' the quality of their professional practice, and to assist them to make professional decisions that inform and direct their subsequent learning and practice.

Each pre-service teacher was asked to maintain a reflective journal, structured around the five stages of reflection outlined below.

Stages of reflection	Nature of reflection
Reporting	A descriptive account of the situation, incident or issue
Responding	An emotional or personal response to the situation, incident or issue
Relating	Drawing a relationship between current personal or theoretical understandings and the situation, incident or issue
Reasoning	An exploration, interrogation or explanation of the situation, incident or issue
Reconstructing	Drawing a conclusion and developing a future action plan based on a reasoned understanding of the situation, incident or issue

Figure 3.1: Stages of reflection (Bain, Ballantyne, Mills & Lester, 2002)

Constraints on students' participation in the journalling process were: lack of time due to the demands of their practicum; extra-curricular school activities and residency program obligations; and, lack of motivation as the journal did not form part of their practicum assessment.

Nevertheless, pre-service teachers did reflect on their practice during video discussion meetings that were introduced into the process when it became clear that individual reflection along the lines outlined above was not going to happen. During the discussions these stages of reflection were grouped into phases, following guidelines on using critical incidents developed by Griffin (2003). Five cycles of video capture and discussion were conducted during the final practicum. These guidelines reflect the diagnostic teaching cycle of David Tripp (1993) and consist of two distinct phases. The first phase facilitates exploration of facts and emotions (reporting and responding) and the second phase moves to broader meanings and connections to theory, professional standards (using the progress map developed for the *Seeing to Learn* project (Appendix 1), and examination of beliefs and values, before a personal position is developed. This phase incorporates the relating and reasoning stages of reflection. In this study cognitive dissonance was often triggered during the first phase and it was during this phase that

the multiple perspectives and reflective professional discourse proposed in this practicum model came to the fore.

The process meets Black and Wiliam's (1998) conditions for effective assessment (assessment which enhances learning) as the current and desired quality of practice will have been identified, and actions devised to bridge the gap. Implementation of these actions offers the opportunity for further reflection and the start of a new cycle. The fact that the process was not part of the student's formal practicum assessment meant that engagement with the process dropped lower on the list of priorities as time pressures took over.

Transferability

The transferability of this study is based on the extent to which findings can be generalised to the wider community in which the study is set (Guba & Lincoln, 2005; Lincoln & Guba, 1985). The phenomenological approach taken in this case study resulted in rich descriptions of events, people, interactions, beliefs and processes underpinning the professional growth of pre-service teachers. The case studies have been written in a way that describes as closely as possible the original footage to preserve their authenticity. The descriptions offer a vicarious experience of the journey of the pre-service teachers during their final practicum which enables the reader to decide the wider applicability of the interpretations.

Dependability

An audit trail has been developed through the case study chapters to the discussion and conclusion by using key findings from each case study to generate themes for the cross-case analysis and discussion. The reader is able to follow the development of the emergent themes back to the data sources. The interpretation of the data was checked by two supervisors to ensure the credibility of the findings and the data sources. Analyses of findings and data sources were triangulated to establish strong themes and eliminate weak or irrelevant trends.

Ethical considerations

The ethical conduct of this research was guided by the approval for the conduct of the project by the University Human Research Ethics Committee. The processes adopted ensured the privacy of each individual participant was maintained and that the research data and records were kept in a confidential and secure manner. This study involved

three pre-service teachers, their mentors and their classroom students. Letters were sent to the three pre-service teachers, their mentors, the parents of the children in their classes, and the children themselves, explaining the purpose of the study and the way in which the data would be collected, stored and used. Consent forms were attached to the letters and all participants gave informed consent based on their clear understanding of the potential benefits and risks of involvement (Marshall & Rossman, 2006). In addition, permission was sought from the WA Department of Education and the school principal. Participants were informed that they were able to withdraw from the study at any time and that, if they decided to withdraw, any interview data or video footage depicting them would be erased.

Data Collection

1. Interviews

At the start of the study pre-service teachers were interviewed using semi structured techniques in order to determine their current beliefs and values about teaching and learning. These interviews were repeated at the conclusion of the study, with additional questions about professional growth and factors influencing it.

2. Lesson videos

Pre-service teachers selected which lessons to video. These videos provide direct evidence of change in teaching performance.

3. Video discussion meetings, supplemented by discussion board

Video discussion meetings provided an opportunity for pre-service teachers to share their own video clips with peers, and to view and discuss peers' clips. Discussions were facilitated by the research supervisors. Discussion board comments from mentor teacher, peers, university colleague, and the pre-service teacher initiating the video discussion were kept and used to provide additional evidence of any increasing ability to 'see' in the classroom, to evaluate and contribute to the professional practice of others.

4. Reflective journals

It was anticipated that these would be completed at the time pre-service teachers viewed their lesson in order to select a video clip to share with the professional learning community. However, time constraints prevented this from occurring on a consistent

basis. Occasional journal entries were collected and used to provide evidence of any increasing ability to identify strengths and weaknesses in practice. They were examined to determine student teachers' capacity for self-evaluation and to act on evaluation.

5. **Student questionnaires**

Students in each pre-service teacher's class were surveyed early in the study, and again at the end, to determine their experience of changing teaching practice using the *Effective Teaching* survey instrument developed by Fetherston (2010.) Even though this is a quantitative instrument, the study is still essentially interpretivistic, as results from this instrument were interpreted in light of all the other data and added to the cases constructed.

Timeline

Time period	Research phases and activities

Term 1, 2011
2 Feb – 19 Apr
	Preliminary phase:
	    Finalise instrument development.
	    Gain ethics clearance from ECU HREC and WA DoE.

Term 2, 2011 5 May – 8 Jul	Recruit pre-service teacher participants. Conduct initial interviews with pre-service teacher participants. Seek consent from principal, mentor teachers and university colleagues for participation in the study. Seek consent from parents and children for participation in the study.
Term 3, 2011 25 Jul – 30 Sep	Introduce pre-service teachers, mentor teachers, and university colleagues to the process. Conduct initial classroom student survey (a few weeks into term). Reflective cycle 1: Collect video, share, reflect on and discuss video clips. Reflective cycle 2.
Term 4, 2011 17 Oct – 16 Dec	Reflective cycle 3. Reflective cycle 4. Reflective cycle 5. Conduct final classroom student survey. Conduct final interviews with pre-service teachers. Conduct focus group interviews with mentor teachers and university colleagues.

Figure 3.2: Outline of research phases and activities in relation to timeframes.

The reflective cycle process itself, indicating roles of student teachers, peers, mentor teachers and the university colleague, is outlined on the next page.

Timing	Pre-service teacher	Peers	Mentor teacher	University colleague
During lesson	Teaches lesson. (Lesson videoed)		Watches lesson. Notes areas for improvement.	
Directly after lesson	Writes brief notes about what went well (and what didn't), with approximate times that critical incidents occurred.			
Later that day	Watches lesson video. Selects short clip (1 to 3 minutes) related to a learning episode. Posts entry in reflective journal*.			
Video club meeting	Shares selected video clip, describing lesson context and area of focus.	View video clip. Respond with observations**.		Views video clip. Guides reflection** and discussion***.
Discussion board (after Video Club meeting)	Posts video clip to discussion board and describes context of clip. Starts discussion with own observations and interpretations of the responses received from others, inviting further discussion.		Views clip (of own mentee and others). Contributes to discussion.	Contributes to discussion
Following lessons	Reflect on whether decisions for future practice have been implemented and have been effective.	This starts a new reflective cycle.		

Figure 3.3: Outline of processes involved in **each** reflective cycle

*Describes what happened (rich, concrete facts), what emotions were evoked, and possible explanations for the incident, relating to the first three stages of reflection on p. 28.

**Reflections relate to actions and responses observed, possible explanations and meanings, and connections to theory and professional standards, using progress map.

***Discussion (using a discussion board) considers the aspects of teaching/learning illustrated by the incident, explores possible meanings, explicitly connects to teaching & learning theory, and matches appropriate standards to the incident (understanding that several standards can be addressed in one incident). Discussion then moves to identification of current levels of performance in relation to the identified standard(s), comparison with the desired level and how to close the gap.

Data Analysis

Data from interviews, video records, video discussion meetings, discussion boards, journals and questionnaires were collated for each pre-service teacher and used to compile a case study (Figure 3.4).

Data	Analysis
Interviews	All interviews were open coded and codes used to construct themes.
Video	All lesson videos were open coded and codes used to construct themes.
Note: Video capture took place in normal lesson times. The decision about which lessons to video was made by the pre-service teacher in collaboration with the supervising teacher.	
Video club discussions	All video discussion meetings were audio recorded. Recordings were open coded and codes used to construct themes.
Discussion board comments	Contributions from mentor teacher, peer, university colleague, pre service teacher were analysed in relation to themes constructed from video and interviews.
Reflective journals	Journal entries were analysed in relation to themes constructed from video and interviews.
Student Questionnaires	Individual results in regard to effective teaching added to each case and to overall results. Descriptive statistics were generated from before and after. Significant differences tested using MANOVA.

Figure 3.4: Analyses conducted on the collected data.

After analyses were concluded, cases were constructed and then cross-case analysis was conducted. Both of these enabled the research questions to be explored and answered.

To assist with the construction of cases, video and audio data were analysed with the assistance of computer software (*Artichoke,* Fetherston, 2011). Artichoke is a program for categorising, searching and constructing themes with video. Video and audio files were imported and divided into intervals set by the Researcher. An interval of 30 seconds was used on most occasions. Codes were assigned to each interval and the codes were then grouped into themes. Codes were assigned based on the meaning of each 30 second unit. Codes arose both from the data and from the literature. The codes assigned were mostly conceptual in nature in that they represented events, objects, actions or interactions. However, consideration was given to the need to preserve the meaning of the participants' perspectives through the use of *in vivo* codes, thus retaining the original voices of the participants

(Charmaz, 2006; Creswell, 2009; Strauss & Corbin, 1998). Sections that exemplified key ideas were also transcribed in the text input box. Using this approach meant that the analysis represented the actual conceptions of professional growth of each participant. Artichoke Analysis enables an infinite number of codes to be attached to video segments entered from the input window, so video could be tagged in as many ways as possible to facilitate future retrieval. The flexibility of the software used meant that codes did not need to be pre-decided, and coding was fluid, iterative and multi-directional. Up to eight different codes were assigned to each unit of analysis, depending on the richness of the data. This enabled the meaning of each unit to be adequately captured.

Coding is a data reduction step that has traditionally been applied to written transcripts. With Artichoke the Researcher was able to explore the video data systematically without first transcribing it, eventually generating high level themes or assertions that could then be substantiated from the video data. In general, codes were used to identify relevant video segments in order to develop the case. Where necessary, increasingly refined summaries (Miles & Huberman, 1994) were used as a data reduction method: for example, the code *monitoring*, for Bruce, occurred 12% of the time. This was a higher frequency code. Segments of video with this code were then examined using the software to understand how and why monitoring was used and what other codes it was associated with. Summaries were constructed from notes about these segments and these summaries were then used to generate themes in cases. Following this, the Researcher looked for patterns in the emerging themes across all three cases and highlighted converging ideas for the cross-case analysis and discussion. Below is an example of the Artichoke Analysis screen Explore window.
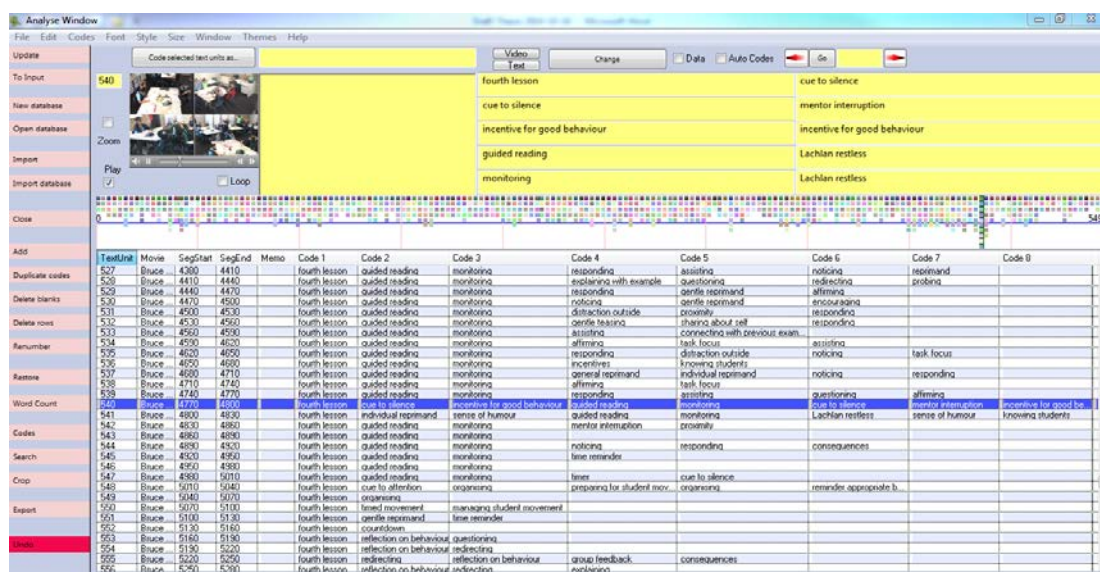
Figure 3.5: Example of Artichoke Analyse window

No.	Code	Count	%
74	monitoring	301	12%
287	third lesson	183	7%
443	fifth lesson	181	7%
388	fourth lesson	180	7%
148	second lesson	107	4%
412	guided reading	86	3%
1	first lesson	73	3%
378	responding	63	2%
13	questioning	57	2%
357	connecting with student experiences	46	1%
41	redirecting	44	1%
26	gentle teasing	40	1%
397	vocabulary game	38	1%
15	probing	35	1%
344	encouraging	33	1%
14	affirming	30	1%
393	spelling test	22	0%
168	sharing about self	22	0%
309	task focus	21	0%
252	sense of humour	21	0%
454	student reading	17	0%
59	proximity	15	0%
29	student contributions	15	0%
385	noticing	14	0%
222	mentor interruption	14	0%
349	behaviour management	12	0%
367	gentle reprimand	12	0%
463	task time remaining	10	0%
323	reminder appropriate behaviour	10	0%
416	assisting	9	0%
414	organising	9	0%
440	explaining	8	0%
154	consequences	7	0%
390	task instructions	7	0%
293	reminder of appropriate behaviour	7	0%
418	general reprimand	7	0%
413	rewards	7	0%
89	wait time	6	0%
455	taking turns	6	0%
115	non-evaluative	6	0%
163	visual illustration	6	0%

Figure 3.6: Example of Explore window with codes sorted by decreasing frequency

The construction of the cases and then cross-case analysis enabled the research questions to be explored and answered. The data were analysed to describe the ability of each pre-service teacher to direct his own professional practice, as well as any influences of feedback from multiple perspectives, engagement in peer evaluation and ability to make informed judgements regarding own teaching practice. A clear focus of the study was to explore how video assisted these processes. Statistical data were analysed using SPSS V.20 (IBM, 2011) to generate descriptive statistics and to test for significant differences using MANOVA techniques. This offered an opportunity for methodological triangulation of the data (Denzin,

1970). Figure 3.7 (below) links each research question with the data collected and associated analysis.

Research Questions	Data Collected	Data Analysis
What personal and contextual variables affect pre-service teachers' professional growth during their final practicum in a primary school?	Pre and post interviews with pre-service teachers	Open coded, themes, specific examples.
	Pre and post mentor interviews	Open coded, themes, specific examples.
	Video club discussions	Open coded, themes, specific examples.
	Written mentor feedback	Examined for evidence of themes and specific examples.
	Discussion board data and reflective journal entries	Examined for evidence of themes and specific examples.
How do multiple perspectives on teaching practice provided by video, peers, classroom students, mentor teachers and university colleagues, combined with reflection and professional discourse, help pre-service teachers come to know the quality of their professional practice and inform their professional growth?	Video club discussions	Open coded, themes, specific examples.
	Pre and post interviews with pre-service teachers	Open coded, themes, specific examples.
	Pre and post mentor interviews	Open coded, themes, specific examples.
	Reflective journal entries and discussion board data	Examined for evidence of themes and specific examples.
	Student questionnaires, pre and post	Descriptive statistics and MANOVA

Figure 3.7: Alignment of data collections and analyses with research questions.

For each of the case studies, triangulation of data from multiple data sources led to key findings being developed from the data and used to form a chain of reasoning between the data, assertions in the discussion chapter, and conclusions.

Limitations

This study was conducted in a particular context, that of a primary school with video classroom facilities, and using a small and possibly unrepresentative sample of teachers and mentors. This means that caution should be exercised in generalising the findings. The Researcher has described the setting as richly as possible so that the reader can make informed decisions as to what may or may not be generalisable to their context. Similarly the participants are richly

described in order to assist transferability and generalisability. The case studies have reflected as closely as possible the original sources of data to preserve their authenticity, enabling the reader to decide the wider applicability of the interpretations.

The next chapter describes the context in which this study was conducted.

Chapter 4: Context

This study was undertaken at an independent public primary school in the eastern suburbs of Perth. The pre-service teachers from the University were all enrolled in a Graduate Diploma of Education (Primary).

The School

The primary school in which the pre-service teachers undertook their final practicum was structured as an *Independent Public School*. The independent status of the school means that the school community has greater freedom in making decisions related to curriculum, staffing and student support, as well as financial management and governance. The premise behind the establishment of independent public schools in WA is that of shared ownership and responsibility amongst the whole school community for making the school successful (Australian Curriculum, Assessment and Reporting Authority, 2011).

The sense of shared ownership and responsibility was evident in the commitment all staff made in terms of time and effort, and in their expectations of each other. This extended to the commitment expected of pre-service teachers, one of whom, contrary to practicum guidelines, was asked to teach at 100% load from the start of their five-week block practicum, and all of whom were expected to participate in extra-curricular activities in addition to their teaching load.

The increased autonomy of Independent Public Schools also increases opportunities to be responsive to local communities and to establish community partnerships. The school in which this study was conducted has a specialised video research classroom and observation room within the school's facilities.

This video classroom brought a different dimension to the lessons that were recorded as students were not in their familiar classroom environment and pre-service teachers had to set up the room and equipment, such as the interactive whiteboard, before each video lesson. They also had to remember to bring all resources with them, including such items as student workbooks which were stored in the normal classroom.

Both the curriculum and student support services at the School have been developed in response to the multicultural and migrant nature of the student population and school community. Central to the School's philosophy is the importance of early intervention

strategies. Individual Education Programs are set up for many students in the school; further acknowledgement of the response to the diversity of the student population and a recognition that students learn at different rates and in different ways. Specialised resources include Aboriginal Islander Education Officers, support for English as a Second Language, and additional funding for Literacy and Numeracy. The Classroom Management and Strategies (CMS) Team, providing services to the education region, is also co-located on the School site. The CMS Team provides skills-based professional learning in classroom management and instructional skills for staff of the School and across the district. All teachers at the School are required to participate in this program.

As part of their placement at the School, pre-service teachers were required to attend behaviour management training sessions during non-teaching time and to participate in the classroom management program in place at the school. They were also expected to familiarise themselves with the Individual Education Programs for students in their classes, and be aware of them in their lesson planning, in addition to the standard curriculum for the majority of the class. The multicultural and migrant nature of the School population also meant that some pre-service teachers gained new students in their class part way through their practicum, which had considerable impact on the class atmosphere.

The specialised video classroom facilities available at the School, and the particular features of the student cohort (highly multicultural, socio-educationally disadvantaged) suggests that caution should be used in generalising findings from this study to other contexts.

The next three chapters describe three pre-service teachers' practicum experiences and the development of their teaching practice, using multiple perspectives to highlight what each was attending to and what aspects of their beliefs and practice changed. Each chapter concludes with the perceived impact of participating in the *Seeing to Learn* project for each pre-service teacher.

Chapter 5: Case 1 (Paul)

Introduction

This chapter describes the development of Paul's (pseudonym) teaching practice during his final teaching practicum. His experience during the practicum is described through his own eyes as well as those of his mentor teacher, the students in his classroom and the Researcher. In addition, Paul's practice is viewed through the eyes of participants in the video discussions created for the *Seeing to Learn* project: other pre-service teachers; other mentor teachers; and, university representatives. These data are also reported.

The chapter begins with an introduction to Paul, his students and his mentor. It then describes Paul's practicum experience and his teaching practice, highlighting what he was learning to see and learning to do. The chapter concludes with the perceived impact of participating in the *Seeing to Learn* project.

Introducing Paul

This section outlines background information relevant to Paul's case study. Contextual factors that relate to Paul's teaching and learning experiences and his practice are identified and described as these presage variables may have influenced the development of his teaching and professional growth.

Paul's professional and personal background

Paul was a mature age (late thirties) Graduate Diploma of Education student. He was married and had two children. Paul's commitment to his family meant that he spent time ferrying his children to extra-curricular activities, assisting at weekend sporting events and the like. As a result his lesson preparation was often done late at night, after the children had gone to bed.

Paul's professional background included two key teaching experiences which shaped his initial teaching approach. This approach was generally transmissive, reflective of his childhood experiences and his first teaching experience as a trainer. Delivering training for adults in the workplace had reinforced, for him, the importance of getting through the content, of delivering what he said he would deliver, and of getting everything done that he had planned to do in a particular session (Interview 28/11/2011, 9:45).

Paul's second key teaching experience was his first school placement during his teacher education. The students' achievement at the school on this practicum was either above or close to the average for all Australian schools. Paul taught those students in 2011 when they were in Year 6. He was able to use standard curriculum and content resources for his lessons as most students were working at the level for which the curriculum was written. The curriculum was a good match to the students, easing one potentially confounding factor to be allowed for in teaching.

Key finding 5.1

Paul's prior teaching experiences involved using a transmissive approach to deliver standard curriculum content to mainstream students.

Paul's lasting memory from his first practicum was that

> "there's a lot to take on board in learning to teach. When you're actually in the situation of being in the classroom and conducting lessons, there's a lot you need to be aware of. For myself, I'm constantly thinking those things through, yet at the same time I want to make sure I'm delivering the lesson. I found that there were quite a few things going on in your mind at once. It's just full on, full on." (Pre-interview, 1/08/2011, 1:10).

After his first practicum Paul concluded that he needed feedback from others to help him focus on specific aspects of his teaching practice that he needed to improve.

> "In your mind you can say, 'I think I could have done better here, or I think I could do more there', but really it all comes into play when you get that feedback. I've had situations where I've not even realised I was doing something because it just happened naturally. You might not even be thinking you're doing it, but someone else can recognise it. So feedback is SO important." (Pre-interview, 1/08/2011, 4:12).

Key finding 5.2

Paul's awareness of the complexity of teaching, and of his inability to be aware of aspects of his own teaching, predisposed him to use feedback from others to help him select specific aspects of his teaching practice to focus on during his final practicum.

Paul's beliefs about teaching at the inception of the project

Paul's perceptions of teaching were grounded in his childhood experiences growing up in England as well as in his more recent role as a trainer. Teaching was, for Paul, about delivering content (Pre-interview, 1/08/2011). He was unaccustomed to adapting lessons to learners' needs while the lesson was in progress and, once started, was very much focused on completing the lesson as planned. Paul put a great deal of effort into developing resources for his lessons. He believed that the role of students was to listen and learn from the teacher: "I know we're looking at engagement, but I'm looking at the kids hanging onto your words" (Pre-interview, 1/08/2011, 2:10).

> Key finding 5.3
> Paul believed a teacher's role was to impart knowledge using carefully planned lessons with good resources, and the students' role was to listen and learn.

Introducing Paul's Mentor (Peter)

Peter was in his late thirties and had been teaching in a variety of schools for about 15 years. This extensive experience meant that he had a lot to offer a beginning teacher. He was well liked at the school; staff and students respected and related well to him.

In his initial interview Peter described the role of a teacher as: "to make sure the kids are aware of expectations and boundaries, and that you've got them engaged in what you're doing, and then just try to get the concept across to them." (Interview 28/11/2011, 10:15). This suggests that Peter's approach to teaching was a good match to Paul's transmissive approach.

Peter firmly believed that classroom behaviour management is a pre-requisite for student learning: "you need to control the class and engage the class and then teach them" (Interview 28/11/2011). Peter's priorities were reflected in the criteria he used to evaluate Paul's teaching practice: "setting boundaries and keeping the class under control is a large part of what we judge the prac students on" (Interview 28/11/2011).

Another aspect of teaching practice that Peter judged teachers on was the ability to know individual students, particularly in regard to what level they were working at:

"when it comes to standing in front of them and a student is at this level and another student is at another level, that's when you find out who knows what they're doing" (Interview 28/11/2011, 10:40).

Paul's mentor believed good teachers would adapt lessons to suit a range of individual abilities in the class. This would require quite different lesson preparation than Paul had previously experienced and would add to the pressure and challenge of his final practicum. Peter commented on Paul's ongoing struggle to understand the influence of his students' cultural background on their learning, and his struggle to adapt his teaching accordingly (Interview, 28/11/2011).

Key finding 5.4

Peter judged the pre-service teachers he supervised on their ability to control and manage the class, and on how well they knew individual students and the level they were working at.

Introducing Paul's Students

The students in Paul's Year 5 practicum class were quite different from those in his first practicum school, with significantly greater social disadvantage and cultural diversity. The overwhelming majority (85%) were drawn from the bottom two quarters of the Index of Community Socio-educational Advantage. NAPLAN results were substantially below the average for all Australian schools (MySchools website).

By contrast, Paul's first placement was at a small parish community school with only one class for each year group. Eighty-three percent of the students were drawn from the top two quarters of the Index of Community Socio-educational Advantage, and NAPLAN results indicated they were above or close to the average performance levels for all Australian students (MySchools website).

The differences in students' cultural backgrounds between these two schools were also significant. Paul's first practicum school had a quite homogeneous student population unreflective of the Australian population as a whole, with no Indigenous students and only 16% of students with a language background other than English. At his final practicum school 20% were Indigenous and 30% had a language background other than English (MySchool website). This meant standard curriculum resources would need to be adapted to meet their particular needs. The students Paul taught during his first practicum were a good match to the national curriculum, so his lessons needed minimal adaptation for the cohort in his class.

First Impressions

Paul's perspective

Paul first met his mentor teacher and the students in his class during the first week of the semester. He joined the Residents and new teachers as they were inducted into the School.

Paul's first impression was that the school and his mentor were very different from his first placement. There was a greater sense of formality, higher expectations in terms of forward lesson planning, but also better facilities and more formal school support from day one (Interview 28/11/2011, 2:00; 2:30; 2:47).

At the inception of the practicum Paul's mentor discussed the teaching load with him. Paul recalled:

> "He asked me up front: The first two weeks is a build-up - you're supposed to be starting with about two lessons, building up to about half, then the final two weeks you'll be teaching full-time. That's the plan. I was thinking we'd start full-time from day one." (Interview 28/11/2011, 29:00).

That first contact set the tone for Paul, a tone of high expectations and commitment to teaching, of demonstrating by your actions as well as your words that you're prepared to do whatever is required to become a good teacher.

Students' perspective

One of the perspectives sought on pre-service teachers' professional growth was that of classroom students. A 31 item questionnaire was used to gather students' perceptions of their pre-service teacher's teaching on two occasions: once near the beginning of their teaching

practicum, then again at the end. Responses to the question: *How often does your teacher do these things?* were sought using a four point scale: *Never, Sometimes, Often, All the time*. The reliability of the instrument used for the preliminary survey was .95 (Cronbach's alpha).

Students were also given space to write qualitative comments. Student comments at the start of the practicum about what they'd like Paul to change included:

- "Manage time better."
- "He spends too much time explaining one thing."
- "I would change him to talk less."
- "Listen to me more."
- "REALLY listen to me."
- "Use words kids understand."
- "He should cut his speeches short because he gets boring and loses people's attention."

The mean scores for each questionnaire item were used to create a graphical representation of student perceptions of Paul's teaching at the start and again at the end of semester.
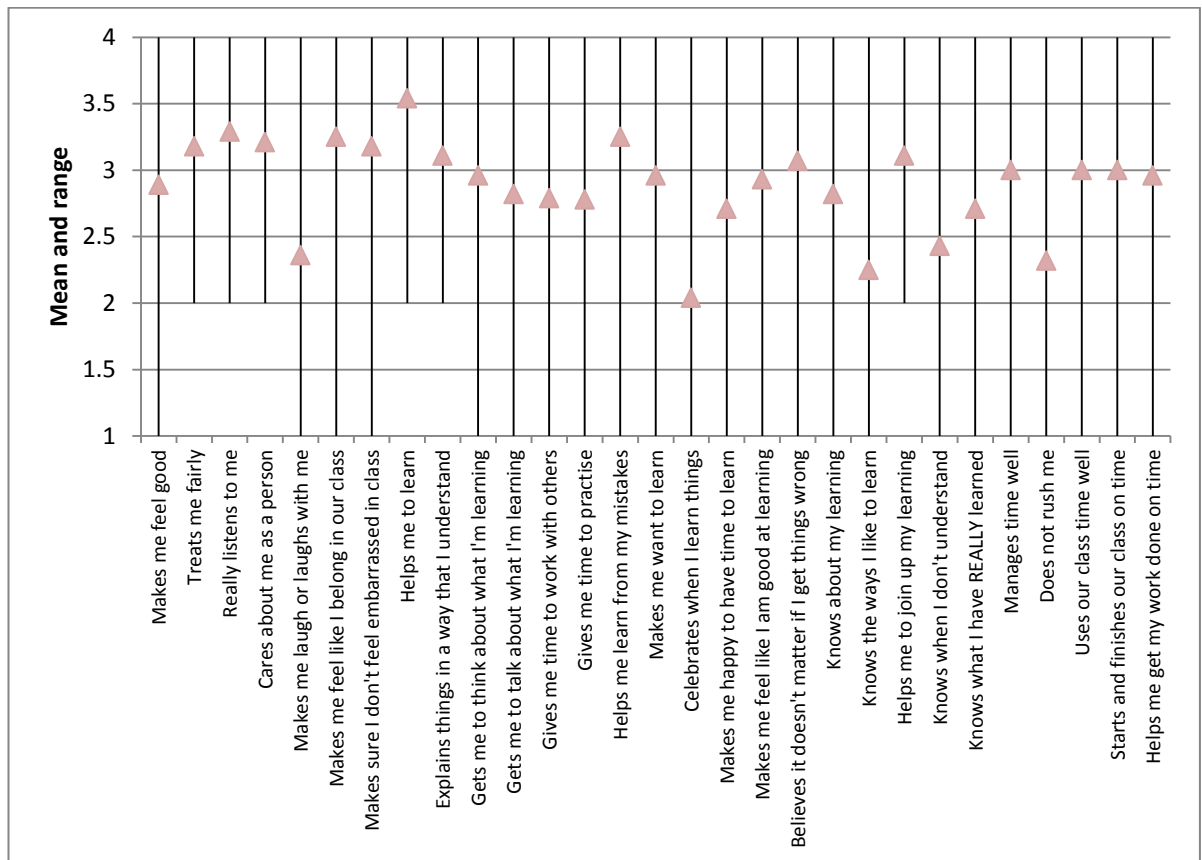
Figure 5.1: Students' rating of Paul's teaching at the start of the practicum

Variables with the highest ratings were:

- Helps me to learn
- Helps me learn from my mistakes
- Really listens to me
- Makes me feel like I belong in our class
- Cares about me as a person
- Treats me fairly

The ratings portray a classroom with an emphasis on what the teacher is doing. This is consistent with Paul's beliefs about teaching.

> Key finding 5.7
>
> Paul's students noticed that, even though he did a lot of talking, he also helped them and cared about them.

Mentor's perspective

Peter did not have any children himself and his first impression of Paul was that he seemed to have quite a lot going on in his private family life, particularly with regard to his own children's extra-curricular activities (Interview 28/11/2011, 2:10). From Peter's perspective, this could possibly have a negative impact on Paul's practicum performance: "Previously I had a young girl who could focus solely on the program and what she had to do, which made a difference I think" (Interview 28/11/2011, 2:15).

In spite of recognising Paul's family commitments, Peter did not back away from his request that Paul should take on a full teaching load from the start of his practicum, contrary to university guidelines.

> Key finding 5.8
>
> Peter's first impression was that Paul was not fully committed to his practicum as he was distracted by personal commitments.

Paul's Teaching Practice during the Practicum

This section describes the development of Paul's teaching practice during his final practicum, using evidence from the lessons that were video recorded, and then viewing those lessons from multiple perspectives: through Paul's own eyes, the eyes of his mentor, the eyes of colleagues in the video club, and the eyes of the Researcher.

Reflection, feedback and professional discourse

Paul started recording lessons a little later than his peers. His first activity in the *Seeing to Learn* project was participation in the first video discussion meeting on 7th September. When viewing a peer's video clip he drew attention to the fact that some of the students had their backs to the whiteboard because of the way the furniture was arranged. This affected their ability to see the handwriting that the pre-service teacher was modelling. Paul was aware of factors that might interfere with students' ability to focus on what a teacher was showing them as he saw demonstration as central to the role of teaching.

Paul's focus on behaviour management was also clear in this meeting. Watching a peer's video clip gave him an opportunity to think about how he would have handled a behaviour management situation:

> "What was the idea of having two at the desk and one on the mat? It's just that I would have struggled with keeping groups on the floor and groups on the tables. To me, it would have been better if you had the group that you were concentrating on still at their desks. That way you would be able to move around. You were actually stuck on the carpet so I'm not sure how much visibility you had of what people were doing on the desks. Personally, I would have had them either all on the carpet or all at the desks. Also, do you let your students get up? I thought I saw a few of them get up." (Video discussion meeting 7/9/2011, 24:30).

And again in response to a different video clip:

> "With your cue to stop, your cue for attention, there didn't seem to be a lot of students actually paying attention. There seemed to still be a lot of movement and someone on the mat behind you still had their back to you, and then there was another incident where there was a girl on the left hand side that got up from her desk and went across the room and spent a long time standing at the other desk." (Video discussion meeting 7/9/2011, 44:32).

Paul had attended the behaviour management induction program run for the pre-service teachers and was very aware of behaviour management and the importance of waiting for full attention before teaching.

First video lesson: September 28

The first lesson that Paul recorded took place during the last week of Term 3, just before his block practicum in Term 4. He had received his interim practicum report on 21st September, a week before the lesson. In the report his mentor reinforced the importance of setting and enforcing classroom behavioural boundaries.

Right from the opening moments of the video it was clear that Paul was determined to make sure students behaved appropriately, but he also didn't want confrontation. He seemed unsure of his ability to manage behaviour, making sure students knew that their teacher was still watching them. The opening scene shows students seated at their desks, fidgeting, rocking on seats, turning around and generally restless.

> "Now, before we start, as I mentioned outside the room, we are on camera in here, we all know that we're being recorded, okay."
>
> Student interrupts, calling out: "how come the cameras aren't moving?"
>
> Paul (ignoring the interruption): "What you should know, and you probably do know, is that Mr Peter is just in there and there could be anyone else in there. So what we're looking for is continued good behaviour, which, with this group, we never have a problem."
>
> "So, before we actually start anything, rules are:
> * while I'm talking, no talking please;
> * while I'm talking, all eyes on me if you don't mind; and
> * if you do have a question, please just raise your hand."
>
> (Video 28/9/2011, 0:35 – 1:41).

The lesson was a literature lesson based on a picture book, *Fox* (Wild, 2001). It followed on from earlier teaching about themes and how they tie a story together (Video 28/9/2011, 02:20). During the lesson Paul mentioned that the themes in the chosen story were about friendship, love, risk and betrayal (Video 28/9/2011, 02:47). Another focus was on the use of descriptive words to paint a picture, such as "haunted eyes" (Video 28/9/2011, 14:33). Although Paul revised the concept of themes at the start of the lesson, he did not directly refer to themes again. He did talk about the need for endings to tie in with the story (Video 28/9/2011, 26:25 & 29:11).

The *Fox* story does not have a clear ending. The activity for students was to create their own ending. Requirements were that the ending should fit with the characters as they had been developed and the situation they found themselves in, making *Fox* a good choice. His requirements were enunciated as follows:

> "There should be a resolution for each of the three characters and they should have to deal with each other to resolve any issues. The ending should be connected to the story, organized in a way that followed the same pattern as the story, and use descriptive words. It should be written in present tense from the view of the narrator rather than the view of any character." (Video 28/9/2011, 25:30 – 32:52).

During the first half of the lesson Paul had the students sitting on the mat while he read the book to them, discussing aspects of the story along the way. He stopped every now and then and asked students to predict what would happen next (Video 28/9/2011, 6:04). He also gave students opportunities to talk about what he'd read, to explain what they thought was happening, and to talk about the illustrations on each page and what they were designed to convey (Video 28/9/2011, 9:23;10:57; 12:30; 14:20; 17:10; 18:02; 20:11; 21:26; 22:25). During this part of the lesson Paul used questioning to elicit student responses.

At the end of the story Paul spent some time talking about the next activity, explaining what the requirements were for the story ending that each student was to write. About 10 minutes into this explanation Paul sent two boys to the corner. This incident was the focus of the clip Paul chose for discussion with peers in the *Seeing to Learn* Video Club meeting. The clip started with students sitting on the mat listening to Paul's explanation of the task. Many students were restless, moving about and fidgeting, and Paul did not appear to have their full attention. One student had her hands clasped around her knees and was swinging her whole body from

left to right, while another had grasped her ankles and was rocking sideways. Others were looking around the room, looking up at the cameras, playing with their clothing, yawning and coughing. Just before the incident students had been giggling about Paul's examples of inappropriate story endings. He had explained that the ending still needed to be connected to the story, so "they don't suddenly hop on a bus", which elicited some laughter. Paul then returned to being serious "so, if you wanted to…" and then stopped as he noticed that two boys were still giggling and talking. He sent the two boys to separate corners: "okay, in the corner please". As the students moved to their corners, Paul said "Guys, we need to do this properly" (Video 28/9/2011, 26:30 - 29:45).

During the second half of the lesson students went back to their desks and worked on creating an ending to the story. Paul walked around the room assisting and answering questions. Students shared ideas with others at their table. Paul was careful to manage student movement around the room, probably as a behaviour management strategy. He told students that they could get up to refer to the book if they needed to, but they needed to ask him before they stood up (Video 28/9/2011, 37:20).

Overall the lesson was well planned with a range of resources and activities and the topic and activities chosen provided many opportunities for students to learn (viewed slides, discussed, used books). There was little feedback to students on their learning and no evidence of activities being adapted for different student abilities. Paul's strong focus on behaviour management was evident throughout the lesson.

Key finding 5.11

Paul's focus during his first lesson was on completing planned lesson activities and managing student behaviour. He began tentative use of questioning to encourage student participation.

Reflection, feedback and professional discourse

Mentor feedback on this lesson was positive, particularly in relation to behaviour management:

> "Well done starting this session with a reminder of your behavioural expectations.
> In much of the lesson you focused well on behaviour management, which is crucial
> in this first week. You displayed several incidents where you 'mean what you say'.
> Don't forget to use positive comments where they are warranted." (Lesson
> feedback, 28/9/2011).

Paul's mentor also drew attention to his use of questioning as an engagement strategy: "You're asking a lot of good questions. Who is answering them? Are you asking anyone who doesn't have their hand up?" (Lesson feedback, 28/9/2011).

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Key finding 5.12

Paul's mentor picked up on aspects of practice that Paul was attending to and affirmed his efforts, while also offering constructive suggestions for further improvement.

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Paul was unable to attend the video discussion meeting on 28 September and did not get an opportunity to share his first video clip until after the school holiday in a video discussion meeting on 24 October. During this meeting Paul sought feedback on whether his response to the students' behaviour was appropriate. When describing the broader context of the clip, Paul explained that during the first few moments of the lesson he had reminded all students about expectations regarding behaviour: not talking while he was talking; raising a hand and waiting for permission to talk; and, paying attention by looking at him while he was talking (Video discussion meeting 24/10/2011, 5:20).

In that meeting Paul was still quite focused on behaviour management, although his focus was becoming more preventative: "I've found with spelling, if you don't keep the pace up you end up with students fiddling." (Video discussion meeting 31/10/2011, 10:24). This demonstrated a growing awareness of factors that might lead to poor behaviour.

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Key finding 5.13

Paul broadened his understanding of behaviour management to include a growing awareness that engagement, through questioning or a fast-paced activity, could reduce misbehaviour.

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Second video lesson: 31 October

The topic of this lesson was the early history of the Swan River Colony (the Swan River is the river that runs through Perth, the capital of Western Australia). Paul made a conscious effort to connect it to what he knew about students' lives, saying: "We're having a look at our own history, at the people who started Perth and moved out to this very area, where there used to be market gardens." (Video 31/10/2011, 00:25).

He used a visual stimulus (a map) to engage students and prepare them for the lesson activity he had planned: "Looking at this picture, do you think this would be a great place to start a city?" (Video 31/10/2011, 1:10).

The lesson video also showed Paul using more positive reinforcement techniques in his behaviour management and being more conscious of explicitly setting expectations. He reminded students about how they should behave, not only at the start of the lesson, but during the lesson as well. He used a bell as the cue to silence and raffle tickets to reward students who responded quickly. He also used raffle tickets to reward students who gave an answer that was right or 'good' (what he was looking for).

Early in the lesson Paul tested the raffle ticket method:

> Paul rings the bell as a cue to silence: "Well done, David, that's what I like to see" (handing out raffle ticket) "saving my voice, that's what I like to see. Well done Assung, well done, there you go," [handing out raffle ticket] "very good." (Video 31/10/2011, 3.33).

By the time Paul had handed out the second raffle ticket the class was totally silent and all eyes were on him.

The planned lesson activity was for students to choose a site where they would have located the settlement. Criteria were:

- good place for a lookout;
- protected from possible cannonball fire from passing ships (out of range);
- close to where food could be produced; and
- near a supply of tall trees and fresh water.

Paul discussed the criteria with students before they started their activity. For example:

> "Why do you think they needed to be near tall trees?"
> Student: "For shade"
> Paul: "Aaahh, yes, but that would be secondary. Why else would they want to be near tall trees?"
> Student calls out: "For oxygen". Paul ignores the comment.
> Student: "To protect the city".
> Paul: "No, no."
> Student: "For air?"
> Paul: "Air would be important for everybody, that's true, but there is a more urgent need for tall trees. Elijah."
> Elijah: "So they could cut them down to make huts and things"

Paul: "Well done! That is exactly right!" (hands Elijah a raffle ticket) "That was the

immediate thing. Because what is the important thing that, as a human being that

we all are, what do we need. What's important to us?"

Student: "Oxygen"

Paul: "Oxygen, what else?"

Student: "Shelter"

Paul: "Shelter is the one I'm looking for, shelter." (Video 31/10/2011, 16:40 –

17:50).

This lesson showed Paul's attempts to engage students more in the lesson; broadening his initial definition of engagement as listening. Paul's main teaching strategy in this lesson was to engage students by asking questions and students responding.

Key finding 5.14

Paul responded to mentor feedback from his first lesson by applying a positive behaviour management technique in this lesson and incorporating much more questioning.

Students who gave the answer he was expecting were praised and rewarded, as shown in the previous extract and the one below:

"Does anyone think that boat there would have gone up the Swan River? Hands

up, what do you think? … Yes?" pointing to a student

Student: "No"

Paul: "Why do think it wouldn't have?"

Student: "Cause there wasn't enough room for it to go up"

Paul, handing out a raffle ticket: "What a great answer! That's really good! That's

exactly right actually." (Video 31/10/2011, 6:30).

Key finding 5.15

Paul started to use questioning to probe for deeper understanding. He used reward strategies that were designed for behaviour management to encourage students to come up with answers that matched the script for his lesson.

While Paul put a great deal of effort into reinforcing correct behaviour, he still accepted responses from students who called out, merely reminding them that they should raise their hand "Thank you David, but hands up. You are correct." (Video 31/10/2011, 13:20).

Features of this lesson were the introduction of broader range of behaviour management strategies, particularly positive reinforcement of desired behaviour; a shift from teacher talk to more student talk; less telling and more listening; students trying to guess what response the teacher wanted; and, an absence of content sources for students to learn from, apart from the teacher, making the lesson essentially transmissive.

Key finding 5.16

In his second lesson Paul tried to shift from a transmissive style of teaching to one that involved more active student participation. He prepared good visual stimuli, but he remained the sole resource for student learning.

Reflection, feedback and professional discourse

Paul wrote a personal reflection on this lesson, noting that he had:

- planned an interesting topic that related directly to the students' own experiences;
- achieved a good level of interaction and engagement, enabling as many students as possible to answer or ask questions;
- given students a lot of information that they could relate to by sharing his own knowledge; and,
- provided positive confirmation and feedback to students on their learning (Journal entry dated 31/10/2011).

Key finding 5.17

Paul's lesson reflection showed the shift in his focus to deliberately connecting learning to students' lives and improving engagement, interaction and positive feedback.

Paul's second clip for the *Seeing to Learn* project also focussed on behaviour management. The clip showed him introducing images on the interactive whiteboard, then asking students to discuss them in pairs before resuming a whole class discussion. During the whole class discussion one of the students made an inappropriate comment that amused other students.

Paul asked for feedback on his response to that incident, and placed that request in the context of an ongoing strategy he had adopted of trying to respond to the situation rather than the disruptive individual. His intention was to minimise the impact of the disruption by quickly moving on to a reliable student who was able to give a positive response to the initial question. Paul described the student in question as having "decided to be disruptive this term" (Video discussion meeting 31/10/2011, 24:50). On this occasion Paul was seeking affirmation

that he was on the right track and was quite pleased with how he'd handled the situation "We need to make quick calls in a classroom. For example, the student who said "*they would throw spears at them*" was actually angling for a laugh, but I managed to turn it into a positive by saying "*that's exactly what they did*"." (Video discussion meeting 31/10/2011, 29:20).

Key finding 5.18

Paul's reflections and actions demonstrated that his behaviour management strategies were becoming increasingly refined and effective as he put more thought into what lay behind students' behaviour.

Third video lesson: 7 November

In Paul's third video lesson he wanted students to learn about health in the Swan River colony in the early 1800s. He used the context of the life of a family buried in the East Perth cemetery. Paul opened the lesson with a slide of a tombstone and asked students what they thought that was. Some students said it was an angel. Paul probed further, "It signifies something. Does anyone know what that is?" One student called out "a dead person" and Paul responded with "you are correct, but please, hands up!" (Video 7/11/2011, 5:20).

This type of exchange set the pattern for the first half of the lesson, with students trying to guess what the slides were depicting and Paul reminding them periodically that they should raise their hands rather than calling out. Paul was working on trying to reduce the amount of talking he was doing and encouraging the students to contribute more. After discussing the number of early deaths inscribed on the tombstone, Paul tried to lead students to the idea that disease may have caused ill health and premature death, rather than just tell them as he would have done previously:

> "One of the things you'll notice here is the very young age at which they passed
> away. What I'd like you to do is chat to the person next to you about why that
> might have been the case." (Video 7/11/2011, 20:45).

Students chatted for a while and drew on their own general knowledge when giving feedback at the end of the small group discussion. Some students came up with words like plague, while others suggested breast cancer, accidents, kidnapping, or murder.

Paul accepted all answers, but kept looking for more: "yes these are the small things that really happened every day, but there are some real big reasons".

Students tried again:

"people were riding across the road on their bike and got run over",

"maybe they didn't have enough food so they died of starvation", and,

"the baby could have maybe not had enough oxygen." (Video 7/11/2011, 24:10).

Eventually Paul gave up as no-one had come up with the words he wanted to hear: "Okay, hands down. Most of these children would have died because of **disease**. They would have had big issues with **disease**." (Video 7/11/2011, 26:00).

Then he tried again to engage students, to get them to come up with what he wanted them to learn: "Back in those days, why do you think disease was such a big problem?" (Video 7/11/2011, 26:15).

One student, without raising his hand, suggested "because they were homeless". Paul ignored that response. Another called out "it was a new country" and Paul followed up on that with "it was a new country so it didn't have … what?" and the cycle of guessing continued (Video 7/11/2011, 27:20).

Key finding 5.19

Paul continued to work on asking questions related to carefully prepared lesson resources, but he had difficulty judging students' prior knowledge and was inexperienced at scaffolding their responses.

For this lesson Paul's prepared resources stimulated discussion and student engagement. He was persistent in his efforts to draw statements out of students rather than simply teaching by telling. Students generally enjoyed the entertainment provided by the images and fellow students' comments and Paul had minimal behaviour management issues during the lesson.

Reflection, feedback and professional discourse

Paul was very aware of the importance of engaging students. However, early in the practicum he tended to equate engagement with attention, and attention with listening: "The first thing I look for is: Do I have that attention. I know we look at engagement, but I'm looking at the kids hanging onto your words, so they're looking at you" (Interview 1/8/2011, 0:20). As the practicum progressed his definition of engagement expanded to include active contribution to class discussions. He noted that watching video helped him realise when he did not achieve what he'd intended:

"I wanted the lesson to be interactive, but I still seemed to do more talking than I'd intended. I also ended up using a lot of 'big words' like sanitation and immunization. The students' task after this clip was to compare health standards in the 1800s with today, to build an appreciation of what they have today. I thought students were quite well engaged and the subject matter was interesting, but I may have missed opportunities for more engagement." (Video discussion meeting 7/11/2011, 30:25).

He drew attention to what teachers "who lead really engaged conversations" do as the model for what he was trying to emulate. Paul noted that he'd still fallen into the trap of answering his own questions on occasion. This was because he still wanted to stick to his plan and by talking he kept the lesson moving. He recognised that he had a tendency to push through the content without noticing whether or not students were ready, attentive and engaged (Video discussion meeting 7/11/2011, 35.40).

Key finding 5.20

At this stage Paul was struggling to change his teaching approach and improve student engagement. Through video he noticed his own actions and students' responses and was able to evaluate his own progress.

In response to his peers' video clips Paul demonstrated an ability to transfer what he'd learned about behaviour management to different situations. He continued to be aware of the impact of physical positioning on behaviour management: " It stood out for me that you were sitting there when the students were moving instead of standing up and kind of being in their midst (Video discussion meeting 7/11/2011, 12:10).

In the same meeting, Paul also commented on another video clip where a student had been sent to time-out: "**I** knew exactly why he got the time out, I'm not sure **he** would have known. I do exactly the same, because you know he knows. But there's something about re-affirming that it is unacceptable behaviour." (Video discussion meeting 7/11/2011, 23:05).

Key finding 5.21

During Video Club meetings Paul consolidated his knowledge of behaviour management through viewing and discussing peers' video clips.

Fourth video lesson

The topic for the fourth recorded lesson was the expansion of the Swan River Colony into the Wanneroo area (a suburb north of Perth). Paul tried to engage students more by connecting

local history with students' daily lives. This lesson showed Paul leading students through a comparison between life in the early Swan River Colony and their lives today.

After students had placed their books on desks and moved to the mat, Paul introduced the lesson. He showed a photograph of Cockman House (an early settler's house) and began a series of questions to students such as whether anyone had heard of it, and what differences could they see between the house in the photograph and houses today. Further photographs followed, showing details of the kitchen and workshop, again accompanied by a series of questions about what students observed "what's the interesting thing about this workshop?" (Video 14/11/2011, 6:40).

A number of students called out during the questioning session and Paul generally ignored these interjections despite the interesting nature of the questions, for example: Student calling out: "did they have hot water?" Teacher, continuing the description: "that's a lamp hanging from the ceiling" Student: "or torches?" Teacher: "those there, that's actually what they used to make their butter in" (Video 14/11/2011, 7:50).

Ten minutes into the lesson the following incident took place:

> Paul: "they had to get their own water, and if they didn't get it from a well where else would they go?"
> Student 1: "into the toilet"
> Student 2: "yes into the toilet".
> Paul: "that's not funny, that's not funny so we don't pay attention to that. Would you mind going into the corner please" (Student 1 goes to corner)
> Paul: "We don't have silly comments. What we're doing here is something where we try to have a bit of fun but we try to be serious at the same time."
> Paul to Student 1: "facing into the corner please".
> Turning to the whole class: "So, what are some of the differences between today and back in colonial times?" (Video 14/11/2011, 12:30 – 12:33).

After a further two minutes Paul moved the students back to their desks, handed out lined paper and issued task instructions: "what we're going to do is write on our lined paper the things you consider are the biggest differences between living today and living back in colonial times, in the 1800s." (Video 14/11/2011, 14:50).

Paul then moved around the room, monitoring student work and interacting with students informally. After a further 20 minutes he drew the desk activity to a close and moved students back to the mat. Paul began the session:

"Ok, we have a big list of things. As you start thinking about some of the differences you go 'aah! Of course!' That's what I mean. Just looking around the room, they wouldn't have had cameras, they wouldn't have had microphones, they wouldn't have had smartboards, would they? So who can tell me, (without shouting out - we need to have our hands up) what are some of the differences that kids would have had even if they were going to school? So, they would have gone to a small school." (Video 14/11/2011, 34:50).

Towards the end of the sharing session on the mat the following interaction took place:

Student 1: "if you killed like an African or someone, you would be a hero"
Student 2: "that's racist"
Student 1: "it's not, it's true"
Paul to Student 1: "yes that's inappropriate, you don't say things like that, that's inappropriate"
Student 1: "well it's true"
Paul: "beg your pardon"
Paul then turned his attention away from the student and moved on: "Alright, lots and lots of differences, I hope you've got plenty of them recorded on your sheets" (Video 14/11/2011, 38:45).

The incident above became the focus for Paul's Video Club discussion. For Paul it was about behaviour management, something he was attending to. He did not notice a missed opportunity to discuss with students the treatment of Australia's Indigenous population at the hands of settlers. That was not part of his lesson plan and Paul was still struggling to move away from a focus on delivering pre-planned content.

In drawing the lesson to a close Paul congratulated students on how many ideas they had, said he hoped they had written them down, and told them he would look at what they'd written and comment on it before returning it for them to put in their folder (Video14/11/2011, 41:10).

Key finding 5.22

Paul continued to put a great deal of effort into lesson preparation. He also continued to use questioning to engage students, but he lacked the skills to scaffold the discourse. He was reluctant to respond to anything that was not directly related to the content he had planned to discuss.

A key feature of the lesson was that resources for student learning during the lesson came from Paul or from students' prior knowledge and imaginations. While Paul tried hard to elicit student ideas about the topic, he himself was the only source of knowledge against which students could test their ideas as there were no other content resources available during the lesson.

Reflection, feedback and professional discourse

Paul wrote a personal reflection on the lesson in which he noted that he had asked many more questions rather than telling students the information, and had achieved a substantial amount of engagement. He felt he had created a safe environment for learning by being encouraging and considering most answers favourably. In the Video Club meeting Paul said:

> "I thought the kids were pretty much engaged. I had lots of hands up. To me that's a sign of engagement. I had to actually stop because I was getting lots of people wanting to add to the whole thing… but they were just rehashing the same things, wanting to add their bits and pieces which weren't of huge value so I thought it was time to move on." (Video discussion meeting 14/11/2011, 10:40).

The clip opened with students sitting on the mat and Paul asking the question "How is it different now from what it was then?" (Clip 14/11/2011, 0:06). This initiated a question and answer session, with students raising their hands and Paul choosing respondents and giving each person feedback on their answers. The clip ended with students trying to outdo each other with examples of what was different, looking around the room for inspiration (Clip 14/11/2011, 3:45).

Key finding 5.23

Paul used the video discussion meeting to ascertain whether his assessment of student engagement was accurate.

Feedback from Paul's mentor was that the visual stimulus was good, but that a few more pictures, or perhaps even physical objects, might have helped to spark students' ideas. His

mentor reminded him that students needed to "actually research and learn some things" otherwise they would just be guessing, even if they were engaged. He noted that it was good to see Paul using positives in his behaviour management (Written feedback 14/11/2011).

Paul's ongoing struggle to change his conception of learning was demonstrated in this video discussion meeting as he tried to explain what he meant by engagement:

> "I had a situation where all eyes were on me. There might have been a bit of bubbling noise, but it was… I couldn't detect it was about anything other than the subject matter. I had lots of hands up. In fact, I had to stop them because I had so much of 'what about this, what about that'. I exercised a bit of discretion to keep the momentum going." (Video discussion meeting 14/11/2011, 15:45).

The discretion Paul mentioned was that he let some students call out rather than insisting that they raise their hands. He was pleased that they were so keen to participate.

Key finding 5.24

Paul's initial concept of learning, which was that students could repeat what he had taught them, had expanded to include the notion of students actively constructing their own learning by sharing ideas. He struggled to differentiate between engagement and learning.

What Changed?

Paul's perspective

In an interview at the end of his final practicum (28/11/2011) Paul was asked to rate his teaching practice in relation to the Progress Map developed for the *Seeing to Learn* project. One change in his focus and approach to teaching became clear when Paul rated himself at a *Distinguished* level of proficiency in relation to *Knowing the individual learning needs of students*, explaining that:

> "I spent a lot of time changing things around because the curriculum didn't match up with the students' capabilities. So, in a maths lesson, percentages, discount percentages, the curriculum says you should be doing 10%, 20%, 50%, but the maths class, even though it's streamed, had never even looked at discount, didn't even know what that was." (Interview 28/11/2011, 21:45)

Paul had previously been focussed on how well he had delivered content and had no experience of adapting curriculum to meet students' need.

Paul also rated himself at *Distinguished* in relation to content. However, despite all the time and effort he spent planning lessons, Paul felt he was only at a *Basic* level in his ability to *Plan and implement learning experiences that enabled students to examine the central ideas of a topic, problem or issue.* He explained that he still had difficulty getting students to examine key concepts. This was quite different from his earlier thinking which was about how well he could explain key concepts.

Paul noted that his ability to *Use informal classroom interaction and discussion to monitor student understanding and provide feedback* was at a Basic level. While he was aware of the need to monitor student understanding, he was also aware (in retrospect) that he had missed opportunities to provide helpful feedback. Paul described this as a lack of 'with-it-ness' (Interview 28/11/2011, 17:10). Without an ability to monitor student understanding while the lesson was in progress, Paul's problems adapting to student needs during the lesson were exacerbated.

Even though he worked on behaviour management throughout his final practicum, Paul thought he was still at a *Basic* level in terms of *establishing clear standards of student conduct* . In his concluding interview Paul commented that he still needed to improve his ability to wait for full attention, despite having focussed on it throughout his final practicum: "I took that into the prac with me; I knew that was an area I had to work on. I think I'm better at it" (Interview 28/11/2011, 8:05).

Paul believed he was *Proficient* at *judging a lesson's effectiveness* and at *improving his teaching practice by contributing to collegial discussions* and *applying feedback from colleagues to improve his practic*e. One way in which Paul judged the effectiveness of his teaching was by assessing how confidently students were able to answer his questions about the content of the lesson. He described their responsiveness to his questions as a way for him to know that they had absorbed some of what he was trying to teach them. He said that by the conclusion of the lesson he would want them to be answering his questions confidently: "you can sense that confidence, so instead of just blank faces looking at you, you've got people going 'yeah, I know the answer', then you know that something has stuck" (Interview 1/8/2011, 2:40).

During a lesson he would try to gauge students' level of engagement, as indicated by their level of participation in what he was doing: "I think you've got to get a sense of the level of engagement the children have, their level of participation in what you're doing, their level of interest, the amount of input they're giving you, so if you ask a question, how many are prepared to answer." (Interview 1/8/2011, 2:50).

Key finding 5.25

Paul felt he had made good progress in relation to adapting curriculum to student needs, encouraging greater student participation, and noticing whether students had learned what he'd tried to teach them.

Paul's mentor's perspective

Peter's perspective on what changed in Paul's teaching practice was obtained through written feedback on lessons and a concluding interview in which he rated Paul's teaching practice against the Progress Map (Appendix 1) used during the *Seeing to Learn* project. His ratings were sometimes quite different from Paul's own ratings: for example, in relation to *Knowing the individual learning needs of students*, he felt Paul had only reached a *Basic* level of proficiency, but Paul believed it was *Distinguished.* In relation to *Knowing Students' Interests and Cultural Backgrounds*, Paul felt he was *Proficient* whereas his mentor rated his skill as *Basic*. Peter observed that, in Society and Environment, Paul seemed quite unaware of the background and life experiences of his students: "Our kids have a very small context in what they've seen and experienced. They don't even get out of the suburb very often and that made it quite difficult." Also: "He knows there are eight different cultures in the class, but I don't know if he's aware of the differences in them all." (Mentor interview 28/11/2011, 22:15).

He had difficulty really understanding what level they were at. Peter felt that Paul's lack of knowledge and understanding of his students was demonstrated by the amount of assistance he needed in adapting his language to a level the children would understand and in the way he tried to use standard curriculum content for Year 5 without initially realizing that only two or three of the top students were at a level where they could understand any of it (Interview, 28/11/2011)

Peter explained that the reason Paul's ability to *Plan and Implement Learning Experiences that enabled students to examine the central ideas of a topic, problem or issue* was at a *Basic* level, was that he had a tendency to try to do too much in one lesson. As his mentor said "He'd go into a lesson with four concepts he'd want to get through and really you'd be lucky to get

through one." (Interview 28/11/2011, 23:40). That meant that students had little time to really engage with difficult concepts and understand them at a deeper level.

Peter felt that Paul's behaviour management strategies had improved quite noticeably during the practicum as he learned to use explicit behaviour management strategies to reinforce desired behaviour. He rated Paul as *Proficient* at behaviour management, even though Paul was dissatisfied with his own progress and felt that his ability was still *Basic.*

Key finding 5.26

Peter felt Paul had improved his behaviour management and was getting to know students better, but still needed a lot of guidance in adapting lessons to suit the students. He was inclined to push through too much content which reduced time available for students to learn concepts well.

Students' perspective

One of the perspectives sought on pre-service teachers' professional growth was that of classroom students. A 31 item questionnaire was used to gather students' perceptions of the effectiveness of their pre-service teacher's teaching on two occasions: once near the beginning of their teaching practicum, then again at the end. Responses to the question: *How often does your teacher do these things?* were sought using a four point scale: *Never, Sometimes, Often, All the time*. The reliability of the instrument used for the preliminary survey was .95 (Cronbach's alpha).
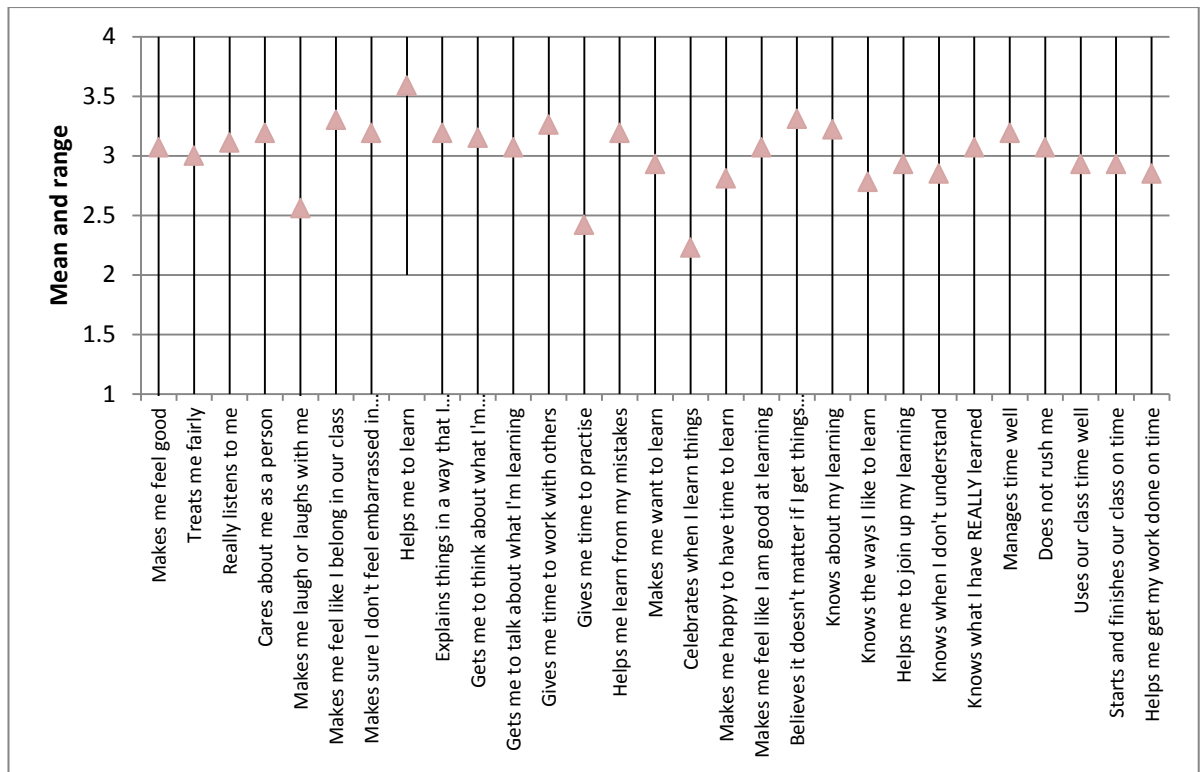
Figure 5.2: Students' rating of Paul's teaching at the end of the practicum

Multivariate analysis (MANOVA) revealed statistically significant ($p<.05$) differences in student perceptions of Paul's teaching practice for only the elements listed below.

Table 5.1: Student perceptions of significant differences in Paul's teaching practice between the beginning and end of his practicum

Variable	Mean difference	Probability
Gives me time to work with others	0.61	0.009
Knows about my learning	0.53	0.024
Does not rush me	0.71	0.013

Students in Paul's class felt that that they were given time to work with others more frequently at the end of the semester than at the start. They also felt more often that he knew about their learning at the end of the semester than he had at the start, and they felt rushed less often by the end of the semester.

As the practicum progressed Paul's awareness of the students and their learning needs grew. This concurs with the results of the student survey.

There was space on the survey for students to write comments about Paul's teaching. Student comments at the start of the practicum about what they'd like Paul to change included:

- "Manage time better."
- "He spends too much time explaining one thing."
- "I would change him to talk less."
- "Listen to me more."
- "REALLY listen to me."
- "Use words kids understand."

Student comments at the end of the semester show that Paul managed time better. He also seemed to listen and understand them better:

- "He will always give the class time to finish off."
- "He will always listen to my answer."
- "He knows about my learning."

Paul still had some difficulty stopping himself from going into 'delivery' mode, although he was aware of this and working on changing it. As one student commented: "He should cut his speeches short because he gets boring and loses people's attention".

Key finding 5.27

Students noticed that Paul's teaching changed in that he gave them more time for learning, knew more about their learning and reduced his content delivery.

The Researcher's perspective

During his final practicum Paul increased his awareness of how much lesson time was spent on teacher talk rather than student talk. He took steps to address this by shifting to a combination of questioning and visual stimuli to encourage participation and give students opportunities to brainstorm ideas about the topic (Lessons 2, 3 and 4).

Paul also attended to student engagement during the practicum and became more aware of the role of content in determining engagement and preventing behaviour problems. Paul's lessons at the beginning of his practicum were teacher-centric and developed from his own world view/perspective. They did not cater to the cultural diversity of his students. By the end of his practicum Paul explicitly connected history lessons to students' daily lives. Paul also learned to use explicit behaviour management strategies to reinforce desired behaviour and applied those strategies to rewarding students who came up with answers that he wanted.

Paul was under extreme time pressure during his practicum, which led him to be selective about what feedback to respond to and what to ignore. He made the decision based partly on the style of teaching that he felt suited him. This was different from his mentor's style and more aligned with that of his mentor's colleague, Glen (Interview 28/11/2011). This created tension for Paul as his mentor would be grading his practicum and he noted that Peter "believed his way of handling the students was the right way of handling the students." (Interview 28/11/2011, 20:25). The time pressure also put constraints on Paul's professional growth. He struggled to stay awake during Video Club meetings and acknowledged that he had not found time to watch all of his lesson videos, often skipping through them to the approximate time that he recalled something happening so that he could select a clip for sharing (Interview 28/11/2011).

Paul entered his final practicum with an approach to teaching that was very structured and planned around content delivery. By the end of the practicum he had learned to be more flexible in his planning. This was necessitated by whole-school activities that cut across his teaching time with little warning and he simply could not keep re-planning the whole lesson, as he had at the beginning (Interview 28/11/2011).

Early in his practicum Paul seemed to believe that students would be interested in the same things that he found interesting and his own cultural background seemed to influence the content of his lessons. Images that he selected to stimulate class discussions included a number of images set in England. Paul himself was from England and was able to expand on the English influence in Australia subsequently in his lesson, so the images he selected enabled him to teach from his strengths:

> "I'll show you another one, okay? Do you know what that is? Bubonic – that's
> bubonic plague. They used to call it 'black death'. It wasn't so bad in Western
> Australia. In London, in Britain, it killed a third of the population." (Video
> 7/11/2011, 16:45). *(Bubonic plague was virtually unknown in Western Australia.)*

In a later lesson Paul photographed a local historical site and used these images to stimulate discussion. This demonstrated a shift in Paul's thinking and an improvement in his ability to adapt curriculum to connect with students' lives. As the practicum progressed Paul was increasingly able to pitch lessons at an appropriate level, to adapt lesson plans in response to circumstances, and to deal with disruptive behaviour and move on. He was much more able to notice what was happening in the classroom and to make on-the-spot decisions about how to

respond (Lesson 4). While initially hesitant about taking on the role of teacher (using his mentor as back-up authority in the first lesson), Paul's professional identity became stronger during the practicum as he made decisions about what his own teaching style would be.

Key finding 5.28

During his practicum Paul moved towards a more student-centred approach to teaching. His awareness of student needs grew and he learned to be more flexible and adaptable in his teaching as he developed his professional teaching identity.

Paul's beliefs at the end of his practicum

By the end of his practicum Paul had changed his beliefs about behaviour management. Rather than thinking behavioural expectations only needed to be explicitly attended to in the first lesson, Paul now believed that behaviour is something that needs to be constantly attended to. In his final interview Paul explained it like this:

> "You don't want to be spending a lot of time just organising your class, going through the rules. To me it's the sort of thing they should know, but you let it go and you suffer the consequences. It's difficult to get that mindset to the point where every lesson you go through 'what are the expectations, how do we act, what do we do during this lesson, what are the rules of the classroom' and it just needs to be repeated all the time and constantly reinforced. I'm very much used to you say it once and that's all you have to say." (Interview 28/11/2011, 09:30).

Paul's cognitive understand of how students learn also changed: students need opportunities to socially construct knowledge rather than just absorb it from the teacher. This changed his understanding of the role of a teacher, which became to switch students on to learning through visual stimuli and questioning rather than telling. Paul described how he struggled to change his behaviour in terms of delivering the content of a pre-planned lesson:

> "maybe because of the way I did things when I was working with adults - I feel that I've got my lesson and that's what my mind says I've got to deliver, so I have a tendency to try and push through, rather than say 'it doesn't matter if I only get half way through'. In an adult world that wouldn't be acceptable - you haven't got the luxury of saying 'half enough is good enough', so I still need to get around the idea that it's better to have students have a good understanding of half than no understanding of the whole thing." (Interview 28/11/2011, 25:40).

Despite the change in his understanding of learning, Paul still judged the effectiveness of his teaching (and how much students were learning) by "the amount of input they're giving you, so if you ask a question, how many are prepared to answer." He also still evaluated his effectiveness, and student learning, by how much students could recall: "How many take a genuine interest in what you're saying - they're listening and they can recall". When students are able to relate or connect what they'd learned in a previous lesson to a new lesson Paul knows that "something is sticking". His understanding had not yet been internalised into a belief, it was not yet tacit knowledge.

Key finding 5.29

Even though Paul understood the value of adapting lessons to meet student needs, and said that students need to socially construct knowledge, he struggled to change his belief that good teaching was about delivering content and good learning was about absorbing it.

Perspectives on the Experience Itself

Paul's perspective

This section describes Paul's feelings about his final practicum, as articulated by him during his closing interview.

Paul's overwhelming feeling about his final practicum was that it had been very tiring. He said that on a few occasions he had not slept at all, or had only managed to sleep for a couple of hours (Interview 28/11/2011). Paul had agreed to his mentor's suggestion that he should take on a full teaching load from the first day of his practicum. In retrospect Paul felt that the full load "actually did take a toll". In reflecting on that decision, Paul said:

> "I probably would look at it now and say, no, I should have said I prefer to build up, but at the time you just go 'yeah, I'm up for it - I'll give it a go'. But it was a lot of pressure, it really was." (Interview 28/11/2011, 29:30 - 31:00).

Another strong perception for Paul was what he described as the "increased intensity" of his final practicum (Interview 28/11/2011, 1:40). Formal lesson planning was important right from the start and he missed the gradual build-up he'd had on his previous placement. In spite of feeling that his final practicum was "a huge step up", Paul did acknowledge that the level of support was also greater. He liked the behaviour management training delivered through the School and the fact that he was getting feedback not just from his mentor, but also from the teacher in the adjoining classroom and from his peers and the university facilitators through

the *Seeing to Learn* video discussion meetings. The teaching facilities were also better. Paul's feeling was that there was more of everything, including pressure (Interview 28/11/2011, 4:50).

It seemed to Paul that he was constantly planning and then re-planning and re-planning, right up until just before he went into the classroom. An example he gave was: "I might be going home and Peter will go: *"tomorrow's changed"*. One or other whole school program will have cut across the timetable and I'd have to change plans right up until the last minute." (Interview 28/11/2011, 28:50).

Paul's desire to have the full lesson planned out "exactly as it was supposed to be done on that day" meant that he would even rush to make changes in the morning, just before his lesson (Interview 28/11/2011, 29:00). An added pressure for Paul was that he took pride in being able to cope by himself and "never once asked Peter" to help him out at the last minute (Interview 28/11/2011, 29:40). Peter did not encourage Paul to ask for assistance.

Key finding 5.30

Paul allowed himself to be placed under pressure, outside of practicum guidelines, in order to please his mentor. He felt overwhelmingly tired throughout his practicum, but his pride prevented him from seeking assistance from his mentor.

An aspect of his final practicum experience that Paul found both challenging and inspirational was the opportunity to view his teaching practice from a number of different perspectives. For example, Paul liked the fact that the teacher in the classroom next door, who could hear what was going on, would offer unsolicited feedback on his teaching:

> "It was good because he put a different spin on things and I actually appreciated
> the fact that he did have a different way of looking at things." (Interview
> 28/11/2011, 6:05).

Seeing the differences in style and noting that both seemed to be effective helped Paul to realise that he didn't need to just try to duplicate what his mentor did (Interview 28/11/2011, 11:30). Nevertheless, he did feel some pressure to emulate his mentor as Peter would be assessing his teaching practice: "Peter has high expectations of himself, and I think he sees that the way he manages the class is the best way to manage the class." (Interview 28/11/2011, 12:10).

This was a problem for Paul that he wrestled with throughout his practicum:

"Peter's style was not my style, so trying to emulate him, I found, was difficult. There was a point in time when I thought that Glen would have been a better fit for me than Peter. When I had opportunities to sit down with Glen it just felt more comfortable." (Interview 28/11/2011, 12:40).

Other perspectives came from the *Seeing to Learn* video discussion meetings. Paul said:

"I really appreciated the feedback [from peers] because I was getting a viewpoint from people who were experiencing the same things as I was … the feedback was simpler and perhaps more limited, but it was a nice change" (Interview 28/11/2011, 14:05 & 15:50).

Paul sometimes felt quite overwhelmed by the feedback from his mentor and other experienced teachers:

"You can get a bit bombarded by your mentor because they do have the benefit of years of experience, so you can get a lot of information and you go 'goodness, I've got to do this, do this and do this'." (Interview 28/11/2011, 16:00).

Paul was selective about what feedback he attended to. He was aware that his desire to focus on one thing at a time meant that he didn't pick up on things that others might notice, but he was comfortable with that: "There are things that I would be focussed on, whereas someone like an Bruce or a Lee [Paul's peers] would be focussed on something else" (Interview 28/11/2011, 18:40).

Overall Paul reached the conclusion that the combination of simple and complex feedback was a good mix (Interview 28/11/2011, 16:05).

In his closing interview Paul reflected on the frustration he experienced in trying to 'see' in the classroom. He noted the value of viewing his teaching on video, describing it as quite different from experiencing it at the time, and surmised that perhaps it was because he hadn't yet developed what he described as 'with-it-ness', a level of mindfulness in the classroom that he believed would gradually develop with experience (Interview 28/11/2011, 17:10). He found that it was sometimes difficult to see things happening on the video even after someone had pointed them out to him, which made him realise that things could easily happen in his classroom which he would be totally oblivious to (Interview 28/11/2011, 17:55).

> Key finding 5.31
>
> While Paul valued the opportunity to see his practice from different perspectives, his overwhelming tiredness led him to focus selectively and pragmatically on aspects of his practice that he thought were most likely to influence the grade his mentor gave him.

Peter's perspective

Peter's perspective was that Paul grew in confidence during the course of his practicum. He thought that, given Paul's past experiences and personal commitments, he would find the practicum challenging and noted that Paul did find some aspects of teaching young children quite challenging. His observation was that Paul was perhaps more suited to middle schooling, perhaps a competent Year 7 class. He was quite serious in class and towards the students and did not find it easy to build relationships with them. He felt that, being older, Paul perhaps struggled more to pitch his language at an appropriate level. In retrospect Peter felt Paul had coped well, although he still wasn't as assertive as Peter felt he should be with the students (Interview 6/2/2012). His feeling was that "it is essential to be able to control the class before you can engage the class." (Interview 28/11/2011, 10:30).

Peter did not get any sense that Paul was tired beyond what he would have expected (Interview 6/2/2012), although he did note that Paul didn't seem to have time to watch his whole lesson videos. He felt that even just watching the clips was a big advantage for Paul and was more than 99% of other pre-service teacher would experience (Interview 28/11/2011, 6:30).

Peter remarked on the fact that pre-service teachers would need to "kick up a gear" again when they started their first year of teaching and so the experience of building resilience during their final practicum would help to prepare them for that challenge (Interview 28/11/2011, 2:10).

> Key finding 5.32
>
> From Peter's perspective Paul coped well with the challenges of his final practicum. He felt it was important that pre-service teachers build resilience in preparation for their real teaching the following year.

What Role Did the *Seeing to Learn* Project Play?

In his concluding interview on 28/11/2011 Paul reflected on his participation in the *Seeing to Learn* project and the impact it had on his developing professional practice. He said he really

appreciated the feedback from his peers because "They were in the same position as I was, experiencing the same things as I was going through. They were just basically saying 'I got caught', or 'I didn't know what to do' and I could relate to that." (Interview 28/11/2011, 30:15). Paul also appreciated the simplicity of the feedback he received from his peers: "It was more limited, simpler feedback – and less of it. Sometimes you can get a bit bombarded by your mentor." (Interview 28/11/2011, 33.10).

Paul described feedback from others as essential for directing his attention to the areas he needed to concentrate on: "without that feedback I would just be going blindly". He also noted that receiving feedback from multiple sources helped him to avoid the tendency to just try to duplicate what his mentor did. He felt that receiving feedback on his first practicum from his mentor teacher, collaborative teacher, principal, and university colleague, made it possible for him to choose what he wanted to work on: "You can just go: 'well, I like that, like that, like this and like the other thing' and then bring it all together yourself."

> Key finding 5.33
> Paul appreciated simpler feedback from peers and selectively used feedback from multiple perspectives to reflect on his teaching and inform his professional growth.

Reflecting on feedback he'd received from the university facilitator during video discussion meetings, and from teachers at the school, Paul noted that experienced teachers were able to see much more than he could, even when he tried. As he said "I'd have watched that clip four or five times and never have picked that up". By seeing what happened through the eyes of others, Paul was able to expand his professional vision. He also liked viewing video of his own teaching, even though he felt uncomfortable about it at first. He commented on the value of "being able look at it externally, because when you're in the middle of it you don't have that level of 'with-it-ness' that I believe you develop over time." (Interview 28/11/2011, 20.25). He felt that an advantage of viewing a clip with others was that someone else would see something and ask if he'd noticed it – and he hadn't. As Paul said "Something was happening in the room that I was totally oblivious to, even when I watched the video." (Interview 28/11/2011, 22.10). Paul noticed that each pre-service teacher seemed to notice slightly different things, and felt that depended on what they were attending to at that time: "There are things that I would be focussed on, whereas someone like a Bruce or a Lee would be focussed on something else." (Interview 28/11/2011, 23.45). That made him aware of the importance of choosing to focus on the right things for him if he wanted to improve his practice.

During the discussion group meetings there were often conversations about what may have led up to a particular incident – what went before. Paul noted that "It was also interesting to see how something you missed was a catalyst for something else." The process of sharing and discussing video clips helped Paul to understand how events unfold in a classroom, and to begin to notice the tiny things that were indicators that he needed to make some change. He began to realise that being aware of, and responsive to, students was at least as important as delivering a lesson.

One of the insights Paul gained from watching his peers' video clips was that they all had similar issues. He said that sometimes he'd wish he had a different class because a student was being particularly difficult, but then he'd realise that it probably wouldn't make any difference "you swap one thing for another – there is no such thing as a perfect world" (Interview 28/11/2011, 30:20). The discussion group meetings gave Paul an opportunity to broaden his understanding of students and their behaviours, and to realise that every class had similar issues.

Paul found it particularly useful to be able to see something happening in another class that had not happened in his class. It alerted him to what might happen and gave him an opportunity to think about how he would respond. "So I can see something on screen that hasn't happened in my class, but at least now I have a level of awareness that it could, and I can think about how to deal with it because we discuss it." (Interview 28/11/2011, 33:15). The opportunity to think about a range of situations that he may not have personally experienced enriched Paul's practicum experience and helped him to prepare for future situations that he might need to deal with as a teacher. Video discussion meetings helped Paul to see different ways of managing lesson transitions and inappropriate behaviour.

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Key finding 5.34

The video discussion meetings gave Paul time and space to grow his ideas and move his conception of effective teaching to a more student centred view. Vicarious experiences of other classrooms helped Paul to expand his definition of engagement and his professional vision.

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Chapter Summary

Being involved in the *Seeing to Learn* project gave Paul an opportunity to compare his practice with those of his peers. He realised that others were experiencing much the same issues as he was and appreciated the simpler feedback he received from his peers during video discussion

meetings. Paul expanded his professional vision and developed his "with-it-ness" through viewing video. He realised that people notice different things, and that more experienced people noticed more than he did. Through broader vicarious classroom experiences Paul developed his ability to notice antecedents of poor behaviour and the effect of classroom arrangement and physical positioning of teacher and students on student behaviour.

By the end of his practicum Paul had learned different ways of handling transitions between classroom activities and different ways of managing behaviour. He understood that improving student engagement could prevent behaviour problems. Paul's view of teaching became more student centred as he developed an expanded sense of learning. He gave students more time for learning, knew a little more about his students' learning and slowed his delivery. He also came to realise that there are many ways of doing things – that he didn't have to copy his mentor and could develop his own teaching style. Paul learned the value of using others' feedback to calibrate his own judgment of his teaching performance.

A factor that affected Paul's professional growth was his background as a trainer that predisposed him to focus on delivering in a pre-planned manner within a set timeframe. His own cultural background strongly influenced his selection of lesson resources. Paul transmitted knowledge to students in a way that he thought they would find engaging based on his background and not the students'. Paul's practice showed clear signs of growth despite the time pressures of his final practicum. His professional teaching identity was developing and more time for reflection and professional discourse would accelerate his professional growth.

Chapter 6: Case 2 (Bruce)

Introduction

This chapter describes the development of Bruce's (pseudonym) teaching practice during his final teaching practicum. His experience during the practicum is described through his own eyes as well as those of his mentor teacher, the students in his classroom and the Researcher. In addition, Bruce's practice is viewed through the eyes of participants in the video discussions created for the *Seeing to Learn* project: other pre-service teachers; other mentor teachers; and, university representatives. These data are also reported.

The chapter includes an introduction to Bruce, his students and his mentor. It describes Bruce's practicum experience and his teaching practice, highlighting what he was attending to and what aspects of his belief and practice changed. The chapter concludes with the perceived impact of participating in the *Seeing to Learn* project for Bruce.

Introducing Bruce

This section outlines background information relevant to Bruce's case study. Contextual factors that relate to Bruce's teaching and learning experiences, and his practice are identified and described as they may have influenced the development of his teaching practice and his professional growth.

Bruce's professional and personal background

Bruce was single and did not have extensive personal commitments during the period of his practicum. His mentor noted that his lack of personal commitments meant Bruce was able dedicate considerable time to reflecting on his teaching practice and learning as much as possible during his final practicum. He put a great deal of personal time and effort to reviewing his own lesson videos and discussing aspects of the recorded lessons with his mentor (Interview 29/11/2011).

Bruce came to his final practicum with experience of coaching young children, having worked at a state sporting association as a Development Officer for about seven years. During that time he'd learned how to establish good working relationships with children and particularly how to encourage them to do their best. The enjoyment he obtained from that experience was what prompted him to undertake studies in primary teaching (Interview 28/7/2011).

Bruce found his first practicum exhausting. He said it was completely different from being the 'outsider' coach, but he thoroughly enjoyed being part of the team. He'd really appreciated the way his mentor made him feel "like we were co-teaching rather than her being the experienced one and me being the rookie." (Interview 28/07/2011, 3:05). Bruce also had an opportunity to co-teach with another pre-service teacher during his first practicum when they planned and taught a 90 minute science lesson together once a week on a Thursday afternoon. "I did see a couple of things that she did [his co-teacher] that I thought were quite a good idea and I made a mental note to try to incorporate that into my teaching." (Interview 28/7/2011, 7:30). After the lesson they would give feedback to each other and discuss what they thought had worked well and what could have been better (Interview 28/7/2011). Bruce's mentor emphasised reflecting on the specific purpose of his lesson and if he'd achieved it. Bruce said:

> "it was almost, umm, almost like trial and error, in terms of what strategies
> worked best to get the purpose achieved. Also, reflection, you know, writing down
> what went well, what I didn't think went well. We'd sometimes plan lessons for a
> week on the run and then it was up to me to make the call if I think they got it or if
> I had to repeat the lesson in another way, so I really had to think about it."
> (Interview 28/7/2011, 17:40).

Bruce had used video before as part of his own sporting skill development and appreciated the value of being able to view and reflect on a recorded performance. He was looking forward to the opportunity to use video as a resource for the development of his teaching practice. Bruce's mentor on his first practicum encouraged him to look at evidence of learning as the basis for deciding whether to move on or to repeat a lesson a different way. He appreciated the value of being able to read students' body language and know when they grasped a concept or didn't and anticipated that reviewing his own teaching on video would help him to see evidence he might have missed during the lesson (Interview, 28/7/2011).

Key finding 6.1

Bruce's extensive coaching experience predisposed him to focus on individual learning needs and to challenge each individual to do their best.

Reflecting on his first practicum experience, Bruce said:

> "I was starting to develop the ability to be able to read kids' body language and tell
> when they're actually grasping a concept and when they're not. I think,
> particularly with year ones, it's about coming up with so many different things,

little mnemonics or metaphors or comparisons with things to try to get them to remember a concept. So for maths in term two we focussed on number stories in maths and we gradually progressed to solving number lines. I introduced the traffic light system to number lines– it didn't match up perfectly but it all worked – it worked for them. You could see them taking their worksheets that they did away and, through interactive whiteboard sessions and that sort of thing, gradually you noticed, when you're writing your reflections and doing your feedback stuff, gradually you notice that you're having to prompt them less and less and they're remembering on their own more and more. That was probably the key through year one. It was very repetitive but, as my mentor said, if you don't think they're getting it you need to repeat the lesson, but you need to find new ways of repeating it." (Interview, 28/7/2011, 5:20-6:20).

Bruce's understanding that different students learned differently was reinforced by his work with a group of boys who were particularly weak in mathematics. Bruce designed activities for those students that

"were very much hands on, manipulative type of activities, doing lots of things with blocks or laminated number cards and things like that, mainly because they were struggling with their number sequence from 1 to 100 so it was very manipulative things and getting them to identify patterns like counting patterns and things like that, and they all seemed to enjoy that, whereas the rest of the group responded really well to going away and working as a group and then coming back, and I found they really enjoyed coming back and presenting their findings to the rest of the class." (Interview, 28/7/2011, 6:50).

Bruce monitored students' responses to different types of learning activities and adapted his teaching to suit diverse student needs.

"In the weaker group there were also two boys with autism, one from Iraq and the other from Africa, so both had very poor English. The improvement the boy from Africa made in six months was phenomenal. You could see - even when he was struggling to communicate - you could see in his eyes that he understood." (Interview, 28/7/2011, 7:20).

Key finding 6.2

During his first practicum Bruce learned the value of adapting his teaching to suit diverse student needs and using a range of indicators of student learning to inform his teaching decisions.

Bruce's beliefs about teaching at the inception of the project

Bruce's approach to teaching was strongly influenced by his years as a sports coach. He enjoyed seeing children develop and helping them in that development. His focus was always on what the students were learning so that he could work out where they needed help. He had learned from experience that no single strategy worked for all children, and that students learned better when they had opportunities to work together (Interview, 28/7/2011).

Bruce liked to remain flexible with his daily lesson plans so that he could respond to student progress. He noted that other pre-service teachers at his previous school had mentors who insisted on receiving detailed lesson plans 48 hours in advance, but that, in year one at least, you didn't know 48 hours in advance whether you would be moving on or repeating the teaching of a concept using different strategies (Interview, 28/7/2011).

Bruce's previous coaching experiences as a Development Officer, as well as his previous practicum experience, taught him the importance of adapting teaching to individual students and groups of students, and of learning to observe student progress before deciding what to do next.

Key finding 6.3

Bruce believed learning was socially constructed. His approach was student-centred and he liked to keep his lesson plans flexible in order to respond to students' changing learning needs.

Introducing Bruce's Mentor (Wayne)

Wayne (pseudonym) was an experienced teacher who enjoyed making students laugh. He had a strong presence in the classroom and made good use of proximity to manage student behaviour. As a teacher (and a person) Wayne was self-confident and outgoing. He liked to have fun and enjoyed being at the centre of things, entertaining students while at the same time imparting knowledge. Wayne also liked to help others and took pleasure in seeing how his contribution helped others to grow.

Wayne felt his greatest contribution to Bruce's development was teaching classroom management skills, particularly preventative strategies "those hundreds of little things that you do constantly throughout the day, mostly to prevent misbehaviour". Wayne saw a great improvement in Bruce's level of prevention of misbehaviour, which was quite different from the reactive strategies most pre-service teachers tended to apply. Wayne said that the best thing students get out of a practicum is the management skills, because "without that you can't teach". He liked helping pre-service teachers to link theoretical discussions to practical application in the classroom (Interview, 29/11/2011, 7:20).

Key finding 6.4

Bruce's mentor liked to feel that he was helping others to learn and was generous in sharing his knowledge with others. He was always a vibrant presence in Bruce's classroom. He valued, and helped pre-service teachers to develop, good behaviour management strategies.

Introducing Bruce's Students

The students in Bruce's final Year 6/7 practicum class were similar in terms of non-English language backgrounds to those in his first practicum school (30% compared with 37%); however, a far greater proportion were drawn from the bottom quarter of the Index of Community Socio-educational Advantage (62% vs. 21%). The final practicum school also had more Indigenous students (20% compared with 2%) (MySchools website).

NAPLAN results showed substantial differences in academic achievement between the two schools with students in the first school achieving results close to or above the Australian schools' average, whereas those in the final school achieved results substantially below the Australian schools' average in all measured areas: reading, persuasive writing, spelling, grammar and punctuation, and numeracy (MySchools website).

Key finding 6.5

Bruce's students were of a different socio-economic group from those of his first practicum, although their cultural diversity was similar. Like the first school, these students would also require adaptation of lessons to their specific needs.

First Impressions

Bruce's perspective

Bruce's first impression of this final practicum school was that it had a strong community approach and seemed well structured and well resourced. He was looking forward to the practicum, and particularly to the opportunity to use video as a tool for reflection. Bruce was keen to learn more about the responses his teaching strategies triggered in students, which he often found difficult to notice while in the classroom when there was so much going on (Meeting notes 5/7/2011).

Key finding 6.6

Bruce's first impression was that his final practicum school would offer great learning opportunities and he was looking forward to the challenge.

Students' perspective

One of the perspectives sought on pre-service teachers' professional growth was that of students in their classrooms. A 31 item questionnaire was constructed to gather student perceptions of the effectiveness of their pre-service teacher's teaching. The construction and use of this instrument is discussed in Chapter 3. The questionnaires were administered once near the beginning of the semester, then again at the end. Responses to the question: *How often does your teacher do these things?* were sought using a four point scale: *Never, Sometimes, Often, All the time.* The reliability of the instrument used for the preliminary survey was .95 (Cronbach's alpha). The mean scores for each item were used to create a graphical representation of student perceptions of Bruce's teaching at the start of the practicum.
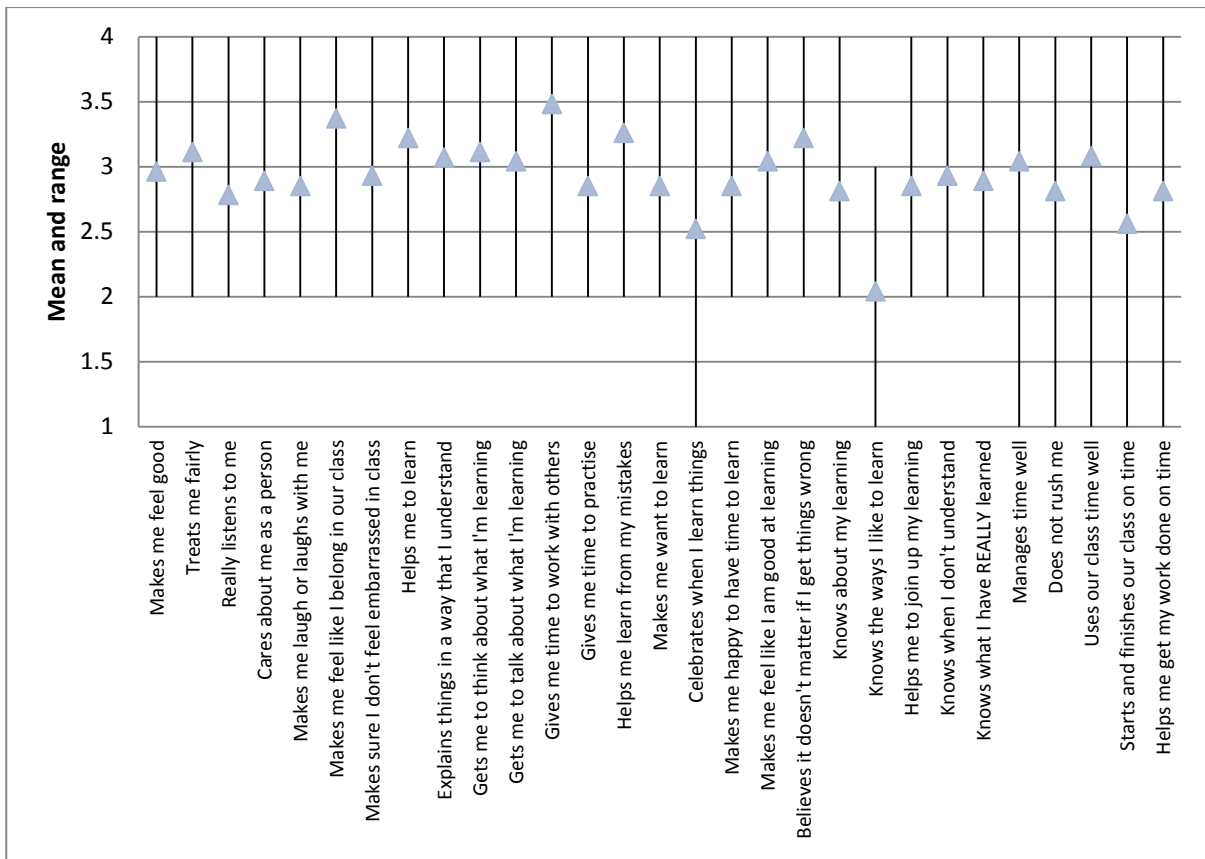
Figure 6.1: Students' rating of Bruce's teaching at the start of the practicum

Variables with the highest ratings were:

- Gives me time to work with others

- Makes me feel like I belong in our class

- Helps me learn from my mistakes

- Believes it doesn't matter if I get things wrong

- Helps me to learn

- Gets me to think about what I am learning

The students' perception that they had time to work with each other indicates that Bruce's lessons were student-centred and quite different from transmissive lessons where the focus is on the teacher as the source of knowledge and getting through the content. In Bruce's classes the students were engaged in thinking, making mistakes and working together. This took place in a safe classroom atmosphere where mistakes didn't matter and students felt that they belonged.

> Key finding 6.7
>
> Bruce's classroom was a safe place for students to extend themselves and learn from their mistakes. Activities were centred learning around the students and their learning rather than on himself.

Mentor's perspective

Wayne noted that Bruce was very good at establishing good relationships with students right from the start. He took the time to chat with them outside of the classroom and find out a bit more about them. Wayne saw a maturity and confidence in Bruce that he believed positioned Bruce well for becoming a good teacher. He noticed that Bruce set high standards for himself and tended to get a bit frustrated in the early part of his practicum when students didn't learn what he'd hoped they would in a lesson (Interview 29/11/2011).

> Key finding 6.8
>
> Wayne thought Bruce was well prepared for his final practicum and had personal attributes that would make him a good teacher.

Bruce's Teaching Practice During the Practicum

This section views Bruce's teaching practice as it developed during his final practicum, using evidence from the lessons that were recorded, and viewing those lessons from multiple perspectives: through Bruce's own eyes, the eyes of his mentor, colleagues in the *Seeing to Learn* project, and the Researcher. The views of the students in Bruce's class on his teaching practice at the beginning and end of his practicum add a further perspective.

First video lesson: August 24

The first lesson that Bruce recorded was a literacy lesson with a focus on developing the skill of making inferences from texts. Students had already been introduced to the concept in previous lessons. Bruce started the lesson by reviewing the concept with students. His student-centred, constructivist approach was obvious from the start in the questioning he used, redirecting and probing questions to reach for deeper thinking and learning (Video 24/8/2011, 7:10–7:50):

> Bruce: "This week you've been talking about inferences. Who can tell me what inferring is?"
>
> Student 1: "Reading between the lines"

Bruce: "Yes, good. So we have a very simple definition. What does 'reading between the lines' mean?"

Student 2: "Understanding what it's saying without having to read it."

Student 3: "Knowing what it means without having to say what it means."

Bruce then asked a student to use the interactive whiteboard to reveal his pre-prepared definition of inference and present an example to illustrate the concept. Bruce's relationship with the students was highlighted in the next episode, as well as his ability to create a safe classroom environment by conveying the message that it was okay if students didn't get things right straight away. In this instance a student had difficulty operating the whiteboard (Video 24/8/2011, 8:00 – 8:30):

Bruce: "Come on Ashleigh"

Ashleigh: "It's not working!"

Bruce watches until she gets it right, then smiles and says: "It's not working or you're not working?"

Ashleigh smiles and sits down. The whole class looks relaxed and smiling.

Once Bruce had reviewed key concepts he moved students back to their tables and gave them an activity in which they had to apply their learning immediately. He moved around the room, using proximity when a table became a bit chatty and occasionally reminding students about appropriate behaviour while maintaining a gently teasing attitude: "I did say at the beginning this is an independent activity" and "You don't need to be talking to be reading" (Video 24/8/2011, 20:10).

Bruce paid careful attention to what students were doing even though he appeared to be casually strolling around. He responded quickly to raised hands and worked through student questions quietly. He tended to help students find the answer rather than giving them the answer and offered suggestions that encouraged them to extend themselves, such as: "If that book's too simple, choose a different one" (Video 24/8/2011, 24:00).

Bruce encouraged students to have a go: "so, from what you know, what do you think? It doesn't matter if you're right - you're just making an inference based on what you know so far. So if that's what you think, you write that down" (Video 24/8/2011, 26:30).

Bruce didn't let students get away with not following the process properly, but he added a gently teasing tone to his reprimands (Video 24/8/2011, 34:30):

> Bruce, looking at student's work: "So that's fine, but what facts did you get out of here to come up with that question?"
>
> Student, whispering: "It's not really out of the book"
>
> Bruce, smiling: "Well then, that's the idea, to use the facts out of the book for your question. You can't just make up the facts as you go along".

He also expected students to do more than the minimum, encouraging and challenging them to extend themselves (Video 24/8/2011, 20:10):

> Bruce, looking at a student's work: "What inference did you make?"
>
> Student: "It saves resources"
>
> Bruce: "Are there any other inferences we could make? So, reading between the lines, are there any other answers we could come up with."

During the whole group sharing at the end of the lesson Bruce used opportunities to connect student learning with their daily lived experiences. He also kept students on track without putting them down (Video 24/8/2011, 28:40):

> Bruce, summarising what a student said: "So her question is: why does landfill take so long to decompose?"
>
> Student: "because of how much waste is going into it"
>
> Bruce: "Yep, what's another inference we can make?"
>
> Student 2: "In Venice rubbish is collected by barges"
>
> Bruce: "So, we'll just stick with this one for the moment. So we know that landfill takes long to decompose. Why does it take so long? That's the question at the moment."
>
> Student 3: "It depends where the waste comes from, because it's bio-degradable"
>
> Bruce: "Yep. So, what about the fact that everything we put into our landfills doesn't just break down. So if you think about things we put into our landfills...the

stuff that gets put in there takes a long time to break down. If you finished drinking from a plastic juice bottle at lunchtime and you left it on that bench top over there, how long do you think it would take to break down? If no-one touched it, would it still be there in 10 years?"

Student 4: "Yes"

Bruce: "The label might be slightly faded from the sun, but it's not going to be decomposed and absorbed back into the earth, is it? Whereas, if you left an apple core it would be gone."

Student 5: "Wouldn't a crow eat it?"

Bruce: "A crow might eat it, but over time it might also just decompose and go back into the ground."

Bruce's careful attention to making his students feel good about their learning was demonstrated just after this episode. He remembered which student had interjected with the off-task comment and went back to that student straight away, showing by his actions that he valued her contribution even though her timing had been out (Video 24/8/2011, 38.30):

Bruce: "…. over time it might also just decompose and go back into the ground." Turning to Student 2: "Your one."

Student 2: "In Venice rubbish is collected by barges."

Bruce: "In Venice rubbish is collected by barges. What was your question to go with that?"

Student 2: "Why."

Bruce: "Why. Okay, so what's an obvious inference we can make from that?"

Student 2: "They don't have garbage trucks? They don't have roads?"

Bruce: "That's right, in Venice there's lots of canals and lots of water so you can't have a truck driving around to collect the rubbish."

Key finding 6.9

In his first video lesson, Bruce used sophisticated questioning to develop and reinforce key concepts, connected learning to students' daily lives, encouraged and challenged students to extend themselves, attended to individual students and their needs, and used a range of strategies to manage student behaviour.

Reflection, feedback and professional discourse

A few weeks before his first video recording, Bruce's mentor had given him written feedback about behaviour management in which he noted that Bruce needed to deal with 'call-outs' more effectively and suggested that he could have moved a student "to front/centre to deal with his unsettled-ness and fidgeting". He told him to ensure he had silence and no fiddling before giving instructions, and reminded him that the lack of a reward system and the lack of clear expectations in regard to behaviour caused 90% of off-task behaviour (Feedback Notes 1/8/2011).

Insight into the aspects of his professional teaching practice Bruce was attending to came from the decisions he made about which clips to share and from what he said about his clips and the clips of others. By the first video discussion meeting meeting Bruce's understanding of behaviour management had already improved. He understood the importance of maintaining good contact with students in order to prevent misbehaviour. His awareness of factors that might threaten that contact was demonstrated in the first video discussion meeting meeting:

> "I just thought when you were writing on the board there, not every kid was
> watching. It's difficult to stand there and try and write and not lose contact with
> the students. I find it easier to have my back to the wall and write across like this
> (standing up and demonstrating)" (Video discussion meeting 7/9/2011, 6:39).

Bruce's focus was not just on preventing misbehaviour, but also on using activities students enjoyed to get them engaged in their learning so they wouldn't be inclined to misbehave:

> "You might have done that modelling on the mat instead of at their desks, and
> then maybe let them have a go at writing on the smartboard. They love to get on
> the smartboard." (Video discussion meeting 7/9/2011, 18:45).

Bruce went on to explain why he had used the smartboard in his lesson:

> "I could have given students a worksheet with the answers on it, but a lot of them
> just end up in the bin. Having the discussion first, getting the kids involved, then

getting them to use the picture on the smartboard that I've linked to the words to slide across and reveal the answer on the smartboard – it just works." (Video discussion meeting 7/9/2011, 30:39).

Bruce paid careful attention to the feedback he received and amended his teaching accordingly. He had an opportunity to repeat a lesson because many students had been absent. He shared his adaptation of the lesson during the Video Club meeting:

"The feedback I had the first time [from mentor] was that I had them on the mat too long, so this time I spent 15 minutes on the mat, then they went back to their desks to summarise their results, then back to the mat for five or 10 minutes, then back to their desks again." (Video discussion meeting 7/9/2011, 26:00).

Key finding 6.10

Bruce thought deeply about the feedback he received and was careful to implement his mentor's feedback in subsequent lessons. His understanding of behaviour management broadened to include strategies that engaged students so that they were not inclined to misbehave.

Second video lesson: 20 September

The second lesson that Bruce recorded was a review of a previous lesson in which students had revised the results of a science experiment. All students had conducted the experiment, but about half the students in the class had not been present for the discussion about the experiment and had therefore missed key science concepts. Bruce needed to find a way to help those students catch up without losing the other students.

Bruce devised a lesson which started with all students on the mat revising the results of experiments. He had repeated the experiment himself at home the previous night and was able to show students photographs of various stages of his experiment as he helped them remember their own.

The lesson started with Bruce sending students back out of the room because they had entered too noisily. When the lesson eventually started he made them aware of the natural consequences of their behaviour and then quickly moved on to the lesson:

Bruce: "We now have less time to do the activities I had planned, which means what?"

Student: "Got to do it in your own time?"

Bruce: "You've got to do it in your own time, namely at home, that's right. Okay, so the last time we did an investigation in science, what did we do?"

Student 2: "We did the balloons with the bottles."

Bruce: "Yes, right, so what were we investigating?"

Student 3: "What temperature does yeast work at." (Video 20/9/2011, 5:30)

The discussion of key concepts was revision for some students, but new for others. Bruce varied his resources and strategies from the previous lesson, adding another dimension to the revision by conducting and photographing the experiment in his own home. Student curiosity was aroused about where he lived as well as about how his experiment compared with their own:

Bruce: "I did this last night at home so that I could show you this and I set it up the same, this is my lounge room at home."

And later, Bruce: "So in the morning I moved the bottles out onto the back deck."

Student: "Is that the city?"

Bruce: "Yes, as you can see I live near the city and I can see the city from my back yard. Is it still a fair test, now that I've moved them - hands up if you think yes... Nice and straight so I can see … and hands up if you think no … okay. Melissa, can you tell me why you think it's still a fair test?" (Video 20/9/2011, 7:20)

Bruce engaged students in high level thinking by getting them to commit to a position about whether it was still a fair test, and then asking them to justify that position. When Bruce noticed students who were disengaged he helped them refocus on learning as quickly as possible:

Bruce: "What did we notice? Reece?"

Reece: "I'm not sure."

Bruce: "Maybe you need to stop colouring in the front of your science book Reece. Ok, Jordan?"

Jordan: "Ummm…"

Bruce: "Not sure? Think about it, I'll come back to you. Reece?" (Video 20/9/2011, 9:40)

In this lesson we saw Bruce giving students time to think. We also saw him asking them to predict what might happen, encouraging them to observe carefully and to look for explanations for their observations:

Bruce: "I took the experiment further than you did. I left it overnight. What do you think happened?"

Student: "All the balloons standing up."

Student 2: "The balloons could be a bit bigger."

Student 3: "The warm one could be deflated a bit."

Student 4: "The cold one could be lying down."

Student 5: "You would only have the hot and warm one up."

Bruce: "Okay, here's a photo I took at about 4pm, this one's at 7pm, and this one's the next morning. You can see that in the morning the cold one is more inflated. … Why do you think that is?" (Video 20/9/2011, 14:00)

During the second half of the lesson Bruce allowed those students who had started working on group posters in the previous lesson, to go to their desks and finish them while he stayed with others on the mat and helped them understand the key concepts revealed by the experiments; both their own and his. During this part of the lesson some students became a bit restless and chatty, particularly those seated further away from where Bruce was working with students on the mat. In general students took a while to settle back to work after the mat session.

In his written feedback on this lesson, Bruce's mentor reminded him that it could be very effective to offer rewards to those who finish their work on time, and also that the use of an overall class behaviour measure, the *Behaviour-o-meter*, just after the mat session would have settled students more quickly.

Key finding 6.11

In his second lesson Bruce used the excellent resources and activities he had developed to engage students in deep learning, connecting concepts to their daily lives and prior learning. He used questioning to engage and extend students as well as manage their behaviour. He reinforced clear boundaries on behaviour with natural consequences and no anger.

Reflection, feedback and professional discourse

Bruce spent considerable time and effort preparing interactive whiteboard resources that he believed would engage students. His mentor noted on 21/9/2011 in written feedback that:

"Jeopardy IWB [Interactive White Board] resource looked fantastic and was an outstanding way to engage the students. Great job! Well worth the preparation. Whole lesson flowed well."

In the video discussion meeting of 27 September, Bruce introduced his video clip by explaining what had happened in the lesson just prior to the start of the clip. He had just finished summarising the previous science lesson and had secured student engagement by drawing answers out of them. This was the section of the lesson he referred to:

Bruce: "Okay, so the last time we did an investigation in science, what did we do?"

Student 2: "We did the balloons with the bottles."

Bruce: "Yes, right, so what were we investigating?"

Student 3: "What temperature does yeast work at."

Bruce: "That's right, we used bottles and balloons, yeast and water, and tried to create carbon dioxide to make the balloons expand." (Video 20/9/2011, 5:30)

In the video discussion meeting he demonstrated his understanding of engagement by explaining that "if I just told, just summarised it for them they wouldn't be engaged" (Video club 27/9/2011).

Bruce also posted the clip on the Blackboard discussion page. The clip showed him interacting with a group of students on the mat while trying to monitor other students working on posters in groups at their tables. In introducing the clip for further comment and feedback on Blackboard, Bruce noted that the lesson had felt very busy:

"There was a lot to keep track of – I felt like I had to have an eye in each direction to keep them all on task. Having the group that I was focussing on seated on the mat may have made it more difficult to monitor students working at the desks. I used noise level as an initial cue that students may be getting off task." (Blackboard 13/10/2011).

This demonstrated that Bruce realised the way he had organized the activities and physically arranged the students was not conducive to good behaviour management. Even though he understood noise level may have been an indicator of off-task behaviour, he felt hampered by his inability to use behaviour management techniques to resolve issues and keep students on task.

In his response to a peer's video clip, Bruce demonstrated his understanding of the value of positive behaviour management strategies:

"I thought your positioning during the lesson was interesting. I don't think, with the exception of writing on the board a couple of times, you didn't have your back to kids at any stage. And I noticed lots of positive comments and encouragement for them." (Video discussion meeting 28/9/2011, 16:15).

Although Bruce's first clip was partly about behaviour management, he also wanted feedback on how he was going in relation to helping students to learn:

"Science is content-rich and I needed to know that students understood the content and terminology. The lesson had lots of assessment and feedback, with my strategy being to have a discussion revising the ideas and to involve students through the interactive whiteboard. By using my pre-prepared answers students received immediate feedback. They could compare their answers with the answers they pulled across on the whiteboard.

The script for this lesson seemed to work quite well. I'm interested in what you would have done differently and why. What aspects of my teaching practice do you think I should focus on now?" (Blackboard, 13/10/2011).

Bruce realised that there was a link between student behaviour and engagement. He understood that students who were absorbed in their learning were unlikely to misbehave. He was also aware that different students have different learning needs, and thought about this when watching his peers' video clips. In response to a colleague's Mathematics lesson he

asked: "Were they all doing the same activity? They weren't differentiated?" (Video discussion meeting 28/9/2011, 15:20) and, later: "The only thing you might want to do differently in the future is have an extension activity or a different activity for those kids that need it." (Video discussion meeting 28/9/2011, 16:55).

Bruce watched a peer's video clip in which students were learning about giving change – various combinations of coins that could come to the same amount. His response revealed that he used observation of students as a source of feedback for improving his own practice:

> "How many of the class just got it straight away? I'm asking because last semester when I did a similar activity, just about none of the students picked that 50 cents could be made up of just one 50c coin. It seemed that, because they had so many coins in front of them, they thought they had to use them." (Video discussion meeting 28/9/2011, 9:05).

Later, on 20/10/2011, Bruce's mentor commended him on what he had done to engage students in a Society and Environment lesson:

> "Brainstorm worked well to engage. Cyrus was engaged/contributing (so was Solomon). Jump on these occasions (they can be rare).
>
> Dressing up as a convict was a great idea to engage kids. They really love it when you ham it up for this – go totally over the top!"

At this stage of his practicum Bruce had refined his knowledge of behaviour management, particularly in relation to getting students to take responsibility for their own behaviour. He used this knowledge in giving feedback to his peers:

> "I would probably have done a similar thing, starting with a verbal response using their name, then separating them. The only other thing I would have done, or would have done differently, is just the language around the time-out. I would have just said *"You've chosen to keep talking – you have now chosen a time-out."* You could even take it back further. You could say *"You've made a poor choice about who to sit next to."* A lot of the time, when I bring my class down to the mat now, I just remind them to make a smart choice about who they sit next to. You know your two or three that are going to make a poor choice anyway, and you might physically move them, or ask them if they think it's really a smart choice,

and what might be a better choice." (Video discussion meeting 24/10/2011, 4:56 –
6:15).

Bruce also shared his practice of getting students to reflect on their learning at the end of a
lesson:

"I often bring my students down to the mat to recap what they've learned –
usually a solid 10 minutes or so. We often use that time to share the results of an
independent activity." (Video discussion meeting 31/10/2011, 56:45).

Key finding 6.12
Bruce's actions and words underscored his belief that engagement in learning was the key to
behaviour management. His belief in the value of reflection was demonstrated by his own
actions and by his practice of structuring opportunities for students to reflect.

Third video lesson: 4 November

This was a literacy lesson that included a formal spelling test of 250 words, which Bruce broke
up into sections and interspersed with a vocabulary game. Students were restless when they
entered the room and took a while to settle. Bruce reminded them that so far their behaviour
was "fairly ordinary" and reprimanded two individuals in particular. Then he moved straight
into the activity, focussing students on the task and the fact that they were under test
conditions. He also reminded them that they were the top literacy group, preparing them to
rise to the challenge, and reinforced positive behaviour: for example, by thanking a student
who raised his hand in answer to a question while ignoring another who had called out the
answer.

For each spelling word he called out Bruce put it into a sentence which related in some way to
students' lives: for example:

"Ready - Hopefully the Year 7s are ready for high school next year - ready.
Let – Don't **let** anyone distract you during this test – let.
Ride – I know some of you **ride** your bike to school – ride." (Video 4/11/2011,
6:50).

Bruce made a conscious effort to connect class work to students' daily lives.

After doing the test for 15 minutes students moved to the mat to play the vocabulary game.
Students had played it the previous day, so Bruce started by asking them to restate the rules.

Four students each contributed a rule and then Bruce summarized what they'd said before starting the game.

Bruce used opportunities to involve students whenever possible and avoided simply telling them things that they were likely to already know. In his lessons Bruce always tried to ensure students knew it was okay to make a mistake or be wrong, but it was not okay to not try, as illustrated in the examples that follow.

In the first example a student made a mistake during the game. Bruce made sure it was okay and gently teased the student later in the lesson to show that it was not serious. The word that students were giving the contestant clues for was "endure".

> Bruce: "Who can define that word – Janice?"
>
> Janice: "It means you're taking it without complaining."
>
> Bruce: "Yes, good, good. I like that one. Any idea Harshi? No? Jaidan, a definition?"
>
> Jaidan: "Like you have to do it but you don't want to?"
>
> Bruce: "Yes, doing something you don't want to do but you have to anyway. Does that help you Harshi? No? Okay, the last definition … Jamie."
>
> Jamie: "If you take pain you like endure it – Aaaahhh! (general laughter erupts)."
>
> Bruce: "Yes Jamie, you do endure it, but you're not supposed to use the word in the definition!" (smiling). "Okay… Harshi, Jamie's ruined your chance of getting two raffle tickets, but can you spell it correctly?"
>
> Harshi: "e-n-d-u-r-e"
>
> Bruce: "Correct, well done." (Video 4/11/2011, 26:55).

The next student Bruce called on to be a contestant was reluctant to participate:

> Bruce: "Okay, someone who hasn't had a go (ignoring all the raised hands) – Amber, up you come."
>
> Amber: "I don't really know how to play the game."
>
> Bruce: "You've just been watching. You sit up here, I put a word on the board and people give you clues so you can guess what it is."
>
> Amber: "I wasn't here when you did it before."
>
> Bruce: "That's alright, you know our spelling words, it's just all our spelling words. Up you come."
>
> Amber gets up reluctantly and walks to the front.
>
> Bruce: "It's okay, people will only be looking at you for a little bit."

Amber sits down, blushing, and hides her face behind one arm. Bruce ignores her, quickly chooses and displays a word on the interactive whiteboard behind Amber so that the class can see it but Amber, sitting with her back to the board and facing the class, cannot. The word is 'captivity'.

Bruce: "Okay, can we define this word? Crystal."

Three definitions are given and each time Amber is asked if she knows the word she just shakes her head and hides her head in her arms. She is blushing and a few students start to giggle at her embarrassment.

Bruce: "Any idea Amber? No? Your word is captivity." (turning to students) "Why are you laughing?"

Student: "She looks like she's crying."

Bruce: "She's not. Can you spell captivity Amber?"

Amber, looking up: "Umm, c…" (giggles and hides behind arm again - class laughs)

Bruce: "No, there's no laughing in the spelling. Amber."

Amber: *"c-…"* (giggles again)

Bruce: "Go on – captivity."

Amber: "c- … Do I have to?"

Bruce: "Yes you have to, so control yourself." (general laughter) "You're worse than Ashleigh" (more laughter).

Student: "She's gone into hysterics."

Bruce: "Okay Amber, spell the word for us."

Amber: "c-a-p- … what was it again?" (general laughter)

Bruce: "captivity"

Amber: "c-a-p-t-i-v-i-t-y*."*

Bruce: "Yes, correct. Well done." (general clapping as Amber returns to her seat).

Jamie: "Does she get a raffle ticket?"

Bruce: "Yes, she does. You don't. You said the word!" (laughter). "Okay, let's see … Selena, up you come. Try to not laugh as much as Amber." (Video 4/11/2011, 28:28 – 30:45).

Bruce was not always successful at getting students to participate. A later incident in the same lesson, when a student refused to do the spelling test because he said it was too hard, became the focus of Bruce's clip for discussion in the video discussion meeting.

Key finding 6.13

Bruce's third lesson video showed how he encouraged students to take risks in his class and to participate even when it was difficult for them. His warm and caring relationship with students created a safe classroom environment where mistakes were accepted as part of learning.

Reflection, feedback and professional discourse

Bruce's second video clip focussed exclusively on behaviour management of one particular boy in the class through individual interactions. He selected three incidents with the boy, the first of which involved a reprimand, the second a while later resulted in a time out and the third culminated in the student being sent out of class to the Deputy. In discussing the clip with colleagues during the video discussion meeting, Bruce explained that he'd finally sent the boy out because he'd had his warning, then he'd had his time-out and he was still choosing to respond to instructions by either questioning or ignoring them. When pressed about the reasons he thought lay behind the boy's misbehaviour; whether it might be attention seeking or some sort of power behaviour, Bruce showed empathy:

> A little bit of power behaviour. He's attention-seeking as well. I think he's trying to work out where he fits in to the school. You know, it's pretty tough coming into a school in your last six or seven weeks of your last year of primary school… (Video club discussion 7/11/2011)

At this stage Bruce knew it was important to engage with the student at a personal level, but was unable to do so in class. However, he did have a chat with him at lunch time, trying to reinforce that doing what he was doing (pushing boundaries and questioning the teacher all the time) wasn't sensible, and that his attempts to attract attention weren't working with the other students.

Right up to the end of his practicum Bruce attended to behaviour management, learning from his own experiences and from reflecting on the experiences of others during video discussion meetings:

> "I just thought, with David, rather than highlighting what he was doing wrong (and I can't remember exactly what you said), saying something like "*I can't hear you if you don't put your hand up*" would reinforce the appropriate behaviour." (Video discussion meeting 7/11/2011, 47:45).

As Bruce's view of behaviour management broadened and deepened, he became increasingly able to recognise broad antecedents of undesirable behaviour like noise and fidgeting. Bruce demonstrated a concern for students as individuals, seeking opportunities to affirm positive behaviour. His empathetic approach to video discussions helped others to be open to his suggestions about behaviour management.

A few weeks later Bruce showed he was still thinking about differentiating teaching when he gave the following feedback: "The kids were pretty much all sitting there working, apart from AJ. I think he'd finished. Did you give them any instructions about what to do when they were finished?" (Video discussion meeting 7/11/2011, 7:00).

> Key finding 6.14
> Bruce's reflection on behaviour management demonstrated that he valued relationships with students and that he understood the importance of differentiating learning activities to keep students engaged and prevent misbehaviour.

Fourth video lesson: 11 November

The fourth recorded lesson also started with a spelling test. Bruce prepared students for the ways this test would be different from that of the previous week:

> "There are 70 words in this test. They will start easy and they get harder. Unlike last week, I've had the sentences to put the words in provided to me, so you won't have to put up with any of the dodgy sentences that I made last week." (Video 11/11/2011, 5:50).

After the test the class went to the mat to play the vocabulary game again. Bruce's gentle way of pulling students into line was once again evident as they settled down to start the game.

> "Hands up if you have NOT had a turn yet. You've had a turn Ashleigh! Okay, Josef, up you come. Amber, can you turn around please so you're actually facing the front, not leaning on the desk." (Video 11/11/2011, 19:10).

Bruce revised the rules, giving students turns to call out a rule. He was able to keep the atmosphere supportive and used gentle humour to show students that it was okay to make mistakes. When one student said: *"giving the definition without giving the actual word"* Bruce said *"Yes, that's right. Jamie isn't here today so we should be okay with that"* (Video 11/11/2011, 20:15).

Bruce also used gentle humour to remind students of their responsibilities, as in this example when Boyd couldn't guess the word after receiving three definitions, so the class called out "sedentary". Boyd said "Never heard of it". Bruce responded with "Never heard of it Boyd? It's been in your spelling list all week!" (Video 11/11/2011, 26:12).

Bruce was quite tuned in to how students felt, as illustrated in this example when Bruce called Jade up for her turn in the vocabulary game. She said she'd already had a turn and he responded that they were starting again because everyone had already had one turn. As she sat down at the front to play the game he said "it's okay Jade, look happy" (Video 11/11/2011, 31:30).

Bruce acknowledged students' feelings, but encouraged them to participate in class activities despite how they felt. He taught students that the way they felt did not need to determine their actions, and encouraged them to venture beyond their comfort zones.

Bruce frequently had to deal with his mentor interrupting the class and wanting to be part of it. This was something which he handled carefully and reflected on after the event. The clip he chose from this lesson was an extended interruption where his mentor became a player in the vocabulary game. After that episode he had to settle the students down before moving to the next group of activities.

Introducing the next activities, Bruce showed his sensitivity to his mentor's desire to participate in the lesson. He seemed to know which of the range of activities his mentor would most enjoy and offered that to him:

> Bruce: "Okay, eyes back to the front. It is time for guided reading and it is time for the roles of the reader. Today I will do guided reading with Group 4, unless, Mr. Wayne, you'd like to do the guided reading?"
> Mentor: "Uummm… I'd be happy to do any of the activities."
> Bruce: "Yep, okay, you do the guided reading. Mr. Wayne's going to do the guided reading with Group 4."
> Mentor: "Have you got the books?"
> Bruce, handing the bag over: "Yes, here you go." (Video 11/11/2011, 38:10).

Bruce understood his mentor well enough that he did not feel a need to tip toe around him. He was confident in his ability to reflect his mentor's sense of humour back at him. After organising the other groups into their various activities, Bruce set the timer for 30 minutes, then responded to a student who had raised her hand:

Bruce: "Yes Amber?"

Amber: "We don't have any books."

Bruce, looking around at the other tables: "Aahh, looks like Mr. Wayne decided to only give the books out to his group."

Mentor: "Indeed!"

Bruce chuckles as he starts handing out the remaining books (Video 11/11/2011, 41:15).

In his written reflection on this lesson Bruce noted that, although the lesson went well, the noise level quite often bubbled a little too high. He also noted that after his mentor got involved in the game the energy levels rose substantially.

Key finding 6.15

Bruce's fourth lesson video demonstrated his ability to manage his mentor's interruptions. His awareness of individual needs and his gentle interactions with students in which he used humour, yet maintained respect, taught students that the way they felt did not need to determine their actions, and encouraged them to venture beyond their comfort zones.

Reflection, feedback and professional discourse

Bruce's third video clip also focused on behaviour management, this time in relation to how he managed energy levels in the class when his mentor stepped into the vocabulary game and entertained students. He seemed concerned about whether he should have let their laughter and whistling continue longer rather than bringing them back on task. During the video discussion meeting he asked colleagues whether moving students back to a task focus so quickly may have given the impression that he was anxious about losing control. In his journal entry for the lesson Bruce noted that he had used the vocabulary game as a way to engage and involve more students. He extended their engagement by giving students raffle tickets for coming up with good definitions as clues for the participant, and by allowing think time before calling on the first student for a definition, and also between definitions.

"The game works well because it's an assessment while they're playing. Obviously when their classroom teacher jumped into the game the excitement levels went right up. I stitched him up because I knew he hadn't been paying much attention to their spelling words during the week. I thought the kids would enjoy it more if he got it wrong than if he got it right." (Video discussion meeting 14/11/2011, 20:15).

Fifth video lesson: 16 November

At the time of his fifth video lesson Bruce had a cold and was clearly feeling very ill. He wasn't quite as organized as usual and had left some crucial resources in the other classroom. At the start of the lesson Bruce demonstrated his ability to improvise when things didn't go the way he had planned. He chose this incident as the focus for his video clip.

> Bruce: "Okay Yoda's, we will mix things up today. I'm going to have to ask you to move again. Can you come and sit on the mat for me please?"
> Once students were settled on the mat Bruce asked a student to hand the
> *Charlotte's Web* books.
> Bruce: "We are going to continue reading through Charlotte's Web today, so we're going to do our lesson in a little bit of a different order. Yesterday we watched a portion of the DVD. What happened in that portion of the DVD? Who can remember? Natalia." (Video 16/11/2011, 2:30).

Bruce clearly acknowledged to the students that the lesson wasn't quite 'normal', yet he indicated by his actions (moving straight into the activity) that he expected them to cope and to rise to the challenge of working well even though the context (different classroom) and the lesson sequence were unusual.

Bruce didn't accept excuses from students. He made his expectations clear and then observed students carefully so that he could step in before they got too far behind:

> Bruce: "How many examples do you have so far?"
> Student: "I haven't finished reading yet."
> Bruce: "Well, write some down on what you've read so far. You've only got seven minutes to go. Most of it is in the first part of the chapter, which I'm guessing you've probably read anyway." (Video 16/11/2011, 51:40).

Bruce frequently found opportunities to connect what students were learning to their daily lives, and he often did so in a way that provoked laughter and helped them remember. Students had finished reading a section of the book and Bruce asked them if there were any

unfamiliar words they'd like to discuss. One student said 'mercilessly'. After getting a few student suggestions on the meaning of the word, Bruce said:

> "So, if you've been in W1 at lunchtime and you've seen Mr. Wayne whip out his magic decks and he might take… Jayden, I'm sure you've been on the end of a couple of merciless beatings by Mr. Wayne at magic cards… Ooh, it's the other way around, you reckon? Bit of dissension in the ranks… Okay, so mercilessly is to keep going and not stop (Video 16/11/2011, 18:00).

Bruce tried to get students to think about the answers to questions themselves, rather than just turning to him.

> Student: "Why does the book talk about creatures instead of animals?"
> Bruce: "You tell me. Why do you think the book says creatures instead of animals?"
> Student: "Umm… Charlotte's a creature, but she's not an animal."
> (Video 16/11/2011, 53:30).

Key finding 6.17

In his fifth recorded lesson Bruce demonstrated by his own behaviour and his expectations that circumstances and feelings were sometimes challenges to be overcome and should not get in the way of learning. He encouraged broad student participation and higher level thinking by using student questions to lead discussions.

Bruce had excellent interpersonal skills that he was able to use to advantage in managing the students in his classroom as well as his mentor. He understood the value of connecting with individual students, and of connecting learning activities to their daily lives in order to increase their relevance. He spent a great deal of time reflecting on his lessons and discussing them with his mentor, and demonstrated that he valued his mentor's feedback by acting on it. Bruce was open to learning from his experiences.

Reflection, feedback and professional discourse

Bruce's behaviour management and engagement strategies became broader and more sophisticated as his teaching practice developed. He chose to focus his final video clip on how he managed the class when he had to change the sequence of activities from what they'd expected. He wanted to look at how well he'd moved the class along with him, engaging them in a learning activity quickly and thereby not allowing room for misbehaviour.

The clip started just after Bruce had let students into class and then realized that he hadn't brought the appropriate resources. He had to improvise quickly and decided to change the order of the lesson. He gave a quick verbal cue, saying "we're going to mix it up a bit today" and then went straight into the changed plan, physically positioning himself for a mat activity and asking students to join him. He ignored the students who were still walking around the class and moved straight into the activity. Students who had been handing out resources hurried to join the group on the mat.

During the video discussion Bruce showed that he understood the value of teachers knowing their students and what they were capable of. He said:

> "That's the only class this would have worked with. In my normal class, or even my streamed Maths class, that amount of busy-ness in the first few minutes would just have descended into chaos." (Video discussion meeting 16/11/2011, 9:40).

Key finding 6.18

Bruce understood the benefits of knowing his students well and knew how to keep their focus on learning, even when his initial plans for a lesson fell through.

What Changed?

Bruce's mentor's perspective

Bruce got to know his students well during his final practicum. His mentor rated him at the highest level *Distinguished* in relation to the understanding he displayed of individual students' skills and knowledge, as well as their interests and cultural backgrounds. He was aware of the individual learning needs of all his students and of the need to differentiate teaching to suit diverse student needs. Wayne said that during the practicum Bruce had developed a very good understanding of where students were in their learning and was very good at scaffolding their learning from there. He also noted that he was very good at "developing those relationships with the kids, spending that extra time with them, getting to know them better" (Interview 29/11/2011, 16:35).

Key finding 6.19

Bruce got to know his students well and differentiated his teaching to suit their needs.

Wayne felt that Bruce displayed sound knowledge of the content and demonstrated pedagogical practices consistent with how students learn. He selected topics and activities that

provided many opportunities to learn and reinforce important concepts, connecting to the prior knowledge and interests of his students. He planned learning experiences that offered opportunities for deep exploration of a topic, demanding the use of higher-order and critical thinking skills (Interview 29/11/2011).

Wayne noted that Bruce quickly established clear standards of conduct in his classroom. He responded to student misbehaviour using increasingly refined skill and his classroom interactions reflected warmth and respect for all members of the class. He rated Bruce as *Proficient* in this area, and also in his ability to use a range of approaches to assessment, integrating it into the instructional process (for example, the vocabulary game). He monitored student understanding of key concepts (such as in the science lesson) and used questioning effectively to scaffold student learning and facilitate the testing and validation of their learning.

Bruce was constantly reflecting on his learning and seeking to improve his teaching practice. His mentor rated him as Distinguished in this area, noting that he made accurate and insightful assessment of the effectiveness of his lessons and the extent to which learning goals were achieved (Interview 29/11/2011).

Key finding 6.20

As the practicum progressed Bruce was increasingly able to accurately assess the effectiveness of his lessons in relation to learning goals.

He identified areas for improvement in his own lessons and in the lessons of others, based on the video clips viewed during video discussion meetings. He was an active contributor to collegial discussions, particularly in the video discussion, and applied feedback from colleagues and his mentor to improve his professional practice.

Colleagues and peers appreciated Bruce's willingness to engage with them and to work collaboratively to achieve good learning outcomes for students. He prepared lesson plans that he shared with a peer who was teaching the same year group and participated in school extra-curricular activities such as after-school sporting events.

Bruce related well to individuals, whether they were students, his mentor, his peers or the extended school community. As his pedagogical content knowledge developed he showed increasing ability to plan for higher order learning. During his practicum he refined his

behaviour management strategies and reflected on his own teaching experiences and those of others with a view to informing his future professional practice.

Key finding 6.21

Bruce used his interpersonal skills to develop good relationships with students, his mentor, colleagues and other teachers at the School.

Students' perspective

The 31 item questionnaire used at the beginning of the practicum was used gain at the end to gather students' perceptions of the effectiveness of their pre-service teacher's teaching. Responses to the question: *How often does your teacher do these things?* were sought using a four point scale: *Never, Sometimes, Often, All the time.* The reliability of the instrument used for this concluding survey was .95 (Cronbach's alpha).
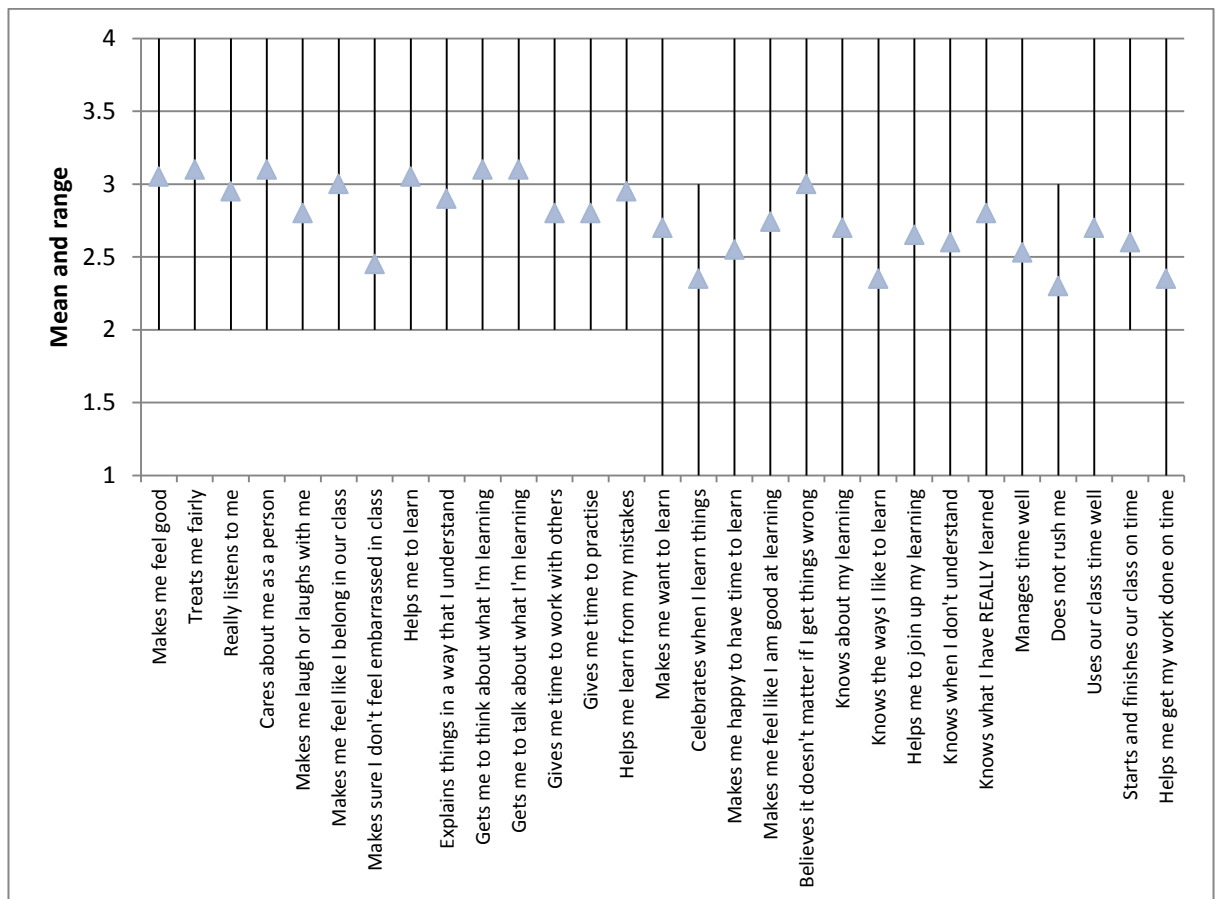
Figure 6.2: Students' rating of Bruce's teaching at the end of the practicum

The variables rated most highly by the students were:

- Gets me to think about what I'm learning
- Gets me to talk about what I'm learning

- Cares about me as a person

- Treats me fairly

- Makes me feel good

- Helps me to learn

The above ratings reflect Bruce's student-centred approach to teaching and learning. The students were actively constructing their learning in a safe and supportive classroom environment which made them feel good. The lessons were more about what they were doing than what Bruce was doing and their talking and thinking happened more frequently than Bruce's explaining. Bruce had been trying out a range of strategies during the practicum, all designed to extend and challenge students, encouraging them to think deeply about topics and to relate those topics to their daily lives.

Key finding 6.22

Bruce's students noticed that he encouraged them to think and talk about their learning, while at the same time helping them and making them feel that he cared.

The Researcher's perspective

Bruce's teaching practice at the end of his practicum was richer and more refined than at the beginning. His professional vision had broadened considerably and he was able to notice and address small indicators of disengagement before they turned into behaviour management issues. This was evident in the way Bruce moved around the classroom during his last few lessons, attending to student queries, encouraging them and moving closer to look at their work and offer assistance (usually in the form of a question) to get them back on task if they appeared to be stuck or disengaged.

Bruce's student-centred approach to teaching was a good fit with that of his mentor and other teachers at the school. He quickly adopted the school focus and priority of behaviour management and became proficient at using the system that was in place throughout the school. Bruce's selection of video clips reflected his focus on behaviour management, which he conceived broadly to encompass the way he set up activities, the nature of the activity itself (engagement), the physical arrangement of students during activities and the general atmosphere created by his expectations, in addition to application of the school's behaviour management system. He used his knowledge of the school's behaviour management system to improve his own teaching practice and to give feedback to colleagues.

Bruce's pedagogical reasoning grew exponentially during the practicum as he had opportunities to reflect and engage in professional discourse, not only in relation to his own teaching, but also the teaching of his peers. Bruce's attention throughout the practicum was very much on how to get students to learn, how to extend them and stretch their thinking, and how to know how much he could push them. He realised that he needed to build strong relationships with individuals as well as a safe and supportive classroom environment where students could take risks and make mistakes while they learned.

As the practicum progressed Bruce developed his ability to use questioning to scaffold learning and engage students in higher level thinking; to maintain focus on learning outcomes while allowing diverse contributions; and to be flexible and adaptable during lessons. Bruce also learned to assess student learning informally during discussions and other learning activities. He became adept at reflecting on his teaching practice and identifying strategies for improvement.

By the end of his final practicum Bruce had mastered a broad range of strategies for engaging students in their learning and had increased his understanding of students as part of a classroom community and as individuals with individual learning needs. He also demonstrated expanded professional vision and enhanced pedagogical reasoning in the classroom. He incorporated humour more often, leading to greater student enjoyment of learning. Bruce had a good understanding of the link between enjoyment, engagement and behaviour, broadening his understanding of learning as a cognitive process to incorporate emotional aspects. He became confident enough to let students enjoy learning and have a laugh while still challenging students to extend themselves beyond their comfort zone.

Key finding 6.23

Bruce's penchant for reflection led to increasingly refined and diverse strategies and a high standard of teaching and learning. He expanded his professional vision and improved his pedagogical reasoning so that his lessons provided effective environments for student learning.

Perspectives on the Experience Itself

Wayne's perspective

Wayne felt that Bruce had enjoyed his final practicum, although he did notice that he was frustrated at times. Those frustrations were usually about the way a particular lesson was

going in relation to student learning, or sometimes about behaviour management. From Wayne' perspective Bruce was good at reflecting on his lessons and working out how he could do better next time.

Wayne believed that Bruce had set very high standards for himself, particularly in relation to student learning. He observed that Bruce didn't try to learn everything on his own, but reflected on his lessons both before and after extensive conversations with Wayne and also after the video discussion meetings. This made Bruce a very good mentee and very rewarding to work with (Interview 6/2/2012). It seemed to Wayne that Bruce attended to all the feedback he received: from Wayne himself, from the video discussion meetings, from watching the videos, from Wayne's collaborative partner and from other staff members (Interview 29/11/2011).

> Key finding 6.24
>
> Bruce's mentor found him to be a pleasure to work with as he was highly responsive to feedback and keen to engage in professional discourse. He saw Bruce develop into a confident and mature teacher who would continue to grow.

What Role Did the *Seeing to Learn* Project Play?

Bruce embraced the *Seeing to Learn* project with enthusiasm and energy. Right from the start he took his full lesson videos home to watch, thought about the aspects of his practice that he wanted to improve, and discussed what he had seen with his mentor. He put considerable thought into selecting video clips to share in the video discussion meetings, and listened carefully to the feedback from his peers. He also discussed the video discussions with his mentor (Mentor interview 29/11/2011) and made decisions about how to implement the feedback in subsequent lessons. His awareness of what he is not seeing was developed through this process, leading to a broadening of his vision in the classroom and a deeper understanding of antecedents to significant events.

Bruce also learned from the vicarious experiences of watching his peers' video clips and discussing their teaching and learning dilemmas. He compared their experiences to his own, including experiences from his previous practicum, and asked questions to probe more deeply into the issues that challenged his current knowledge and beliefs. Bruce particularly enjoyed discussing the theory underpinning practical teaching strategies with his mentor. Wayne also enjoyed those conversations and the opportunity to link what Bruce was doing in the classroom with theoretical knowledge and philosophies. It helped him to explain "what I do,

why I do it, how I go about it, what language do I use" (Interview 29/11/2011, 7:50). In closing, Wayne observed that:

"One of the best things that Bruce got out of this project was an awareness of all the things that go on in a classroom. He came, as all pre-service teachers do, with a fairly narrow field of vision and that was broadened, I think, quite significantly. I think the videos helped with that because it's one thing for me to say 'this is going on when you back is turned' but if he sees that it's a lot more powerful, and I think he addressed a lot of those things really well." (Interview 29/11/2011, 32:50).

Bruce used feedback obtained from multiple sources, including video evidence, to reflect on his teaching and to implement changes to his practice. He not only learned to see during his practicum, he also used what he saw to change what he did.

> Key finding 6.25
>
> The multiple perspectives obtained through participation in the *Seeing to Learn* project helped Bruce to triangulate evidence and interpret events in a way that continually refined his understanding of teaching and learning, and improved his professional practice.

Chapter Summary

Bruce was quick to pick up the focus of the school in which he was teaching, and his mentor's priorities and preferences. During the practicum he developed and refined his behaviour management strategies and became increasingly skilled at picking up cues that indicated potential disengagement and misbehaviour. Bruce also developed a clear understanding of the connection between enjoyable learning activities and engagement in learning. He realised that assessment could be done during class time while students were having fun, such as in the vocabulary game.

Bruce valued and pro-actively sought feedback from multiple sources, using it to constantly refine and expand his teaching skills and strategies. He was always careful to implement his mentor's feedback in subsequent lessons. Bruce's mentor was quick to give positive reinforcement of strategies that mirrored his own. This may have helped develop Bruce's understanding that enjoyable and entertaining activities helped engagement and assisted behaviour management. During his practicum Bruce prepared well for his lessons, worked hard to build interest, and learned to use questioning to develop engagement. His willingness to copy his mentor's good strategies helped to ensure a positive relationship between them.

Seeing the practice of peers often raised questions for Bruce as he compared their experiences with his own and tried to explain the differences. He formulated his feedback carefully and displayed empathy with the frustrations of his peers while offering suggestions grounded in his own experiences of what worked. Bruce also understood the value of reflection for students, using immediate informal feedback and formal whole class opportunities for reflection to foster student learning. He encouraged students to become independent thinkers and generally avoided giving quick answers to student questions, preferring to lead students to finding the answers themselves.

Bruce's participation in the *Seeing to Learn* video discussion meetings gave him opportunities to test his knowledge and understanding of effective teaching against the evidence presented in his own videos and in the videos of his peers. That gave him something concrete to review and reflect upon, increasing his awareness of the connections between behaviour, engagement, enjoyment and learning. Bruce put a great deal of thought into interpreting what he saw and developing his own strategies and approaches in order to achieve desired learning outcomes. The video discussion meetings gave him the opportunity to ask questions and test his ideas, enhancing his professional growth.

Chapter 7: Case 3 (Lee)

Introduction

This chapter describes the development of Lee's (pseudonym) teaching practice during her final teaching practicum. Her experience during the practicum is viewed through her own eyes as well as those of her mentor teacher, the students in her classroom and the Researcher. In addition, Lee's practice is viewed through the eyes of participants in the video discussions created for the *Seeing to Learn* project: other pre-service teachers; other mentor teachers; and, university representatives.

The chapter includes an introduction to Lee, her students and her mentor. It describes Lee's practicum experience and her teaching practice, highlighting what she was attending to, and what changed. The chapter concludes with a discussion of the impact of participating in the *Seeing to Learn* project for Lee.

Introducing Lee

This section outlines background information relevant to Lee's case study. Contextual factors that relate to Lee's prior teaching and learning experiences and her practice are described as they may have influenced the development of her teaching practice and her professional growth in this final practicum.

Lee's professional and personal background

Lee's first degree was in Exercise and Sports Science. She had worked at a water tank company prior to embarking on her Graduate Diploma of Education. At 27, Lee was younger than the other pre-service teachers at the School.

Lee's teaching background included her previous teaching practicum and some exercise and sports coaching (as a volunteer). Lee described her first practicum as "very cruisy". The curriculum and teaching resources were provided, "it was all set up", and she was given "lots of help" if she wanted to deviate from pre-planned lessons. Lee described her Year 4/5 students as well-drilled and well-behaved (Preliminary interview 28/7/2011).

Pre-service teachers were graded on their first practicum as either a pass or a fail. Lee passed her practicum with a mentor who gave her everything she required and helped her when she wanted to change anything. The students she worked with were well-behaved mainstream

students from socio-economic backgrounds similar to her own. They did not stretch her behaviour management skills or extend her in relation to catering to cultural and cognitive diversity. Lee did not learn much about all the preparation that went into well-developed lesson plans and resources as these had been given to her. Lee's first practicum was later regarded by her as poor preparation for working with Barbara and her mentoring style (Closing interview, 24/11/2011).

Key finding 7.1

Lee's mentor on her first practicum gave her fully prepared lessons and helped her if she wanted to make changes. She taught well-behaved mainstream students from socio-economic backgrounds similar to her own.

In reflecting on her first practicum, Lee noted that she had largely depended on her mentor's written and verbal feedback to judge her effectiveness as a teacher. She acknowledged that written reflection was a weak point for her:

> "I did very, very little [reflection]. I pretty much just got the written feedback from my mentor, read it, filed it away. I didn't think about my lessons or my responses to mentor feedback, which my university supervisor noticed. It was only on her last visit that I'd finally written a couple of things. " (Preliminary interview 28/7/2011, 5:20).

Lee also acknowledged that she sometimes needed pressure to improve, saying that she found the comments on negative aspects of her teaching practice more useful than positives because: "knowing that you have to work on something makes you work harder" (Preliminary interview 28/7/2011, 6:25).

Lee was looking forward to opportunities for reflection using video because she believed she was more of a visual learner. She explained that she had found it easier to understand her mentor's feedback during her first practicum when she walked her around the classroom and pointed out where critical incidents had taken place (Preliminary interview 28/7/2011).

Key finding 7.2

Lee concluded from her prior experiences that she was a visual learner. She struggled with written reflection and feedback and sometimes needed external pressure to improve.

During her preliminary interview Lee spoke enthusiastically about an opportunity to watch some other physical education classes during her first practicum:

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"I saw a couple of phys ed classes and I actually got asked by the phys edder at the other side of the class, saying 'okay I need you to really watch what's going on and I want you to kind of analyse it, because it's another set of eyes'. I found that giving the feedback, well I found being asked to give the feedback was hugely important and beneficial, because it makes you see the class from a, not necessarily from a teacher's perspective, but from an outsider's perspective, and it makes you gauge what the kids are like when they think no-one's watching them. So you get that different aspect, so you might be teaching the kids and then something might happen and you think 'oh it's about that' then all of a sudden there's something else and you think, as a teacher, 'Oh Jeez, this is the sort of thing what I'm not picking up, this is what's happening, this is how, if I nip it in the bud as an early kind of thing it doesn't create a big, huge problem' so that's what you have to do, so there was, in that instance, a couple of occasions where really big spot fires happened in a class I watched and I said 'so-and-so did this, so-and-so did that, you might not have seen it, but it kept on growing and growing and growing until it got to that situation when you came in and had to put a stop to it'. So I actually think if you really, really get it so early it's a really big advantage." (Preliminary interview 28/7/2011, 7:55 – 10:05).

That experience confirmed for Lee the importance of learning to see, to notice what's happening in the classroom. She noted that a lot of the feedback she received on her first practicum was about missing things happening in the whole class. She realised that she was inclined to respond to inappropriate behaviour based on the last thing she'd seen, but had often not seen the lead-up to the incident. Her first teaching experience taught her the value of learning to see, particularly in regard to early signs of disengagement or misbehaviour.

Lee also discovered during her first practicum that she couldn't assume student knowledge. She learned that she had to ensure basics were understood before adding more. She noticed, by the fact that students' verbal responses didn't always match their facial expressions or behaviour, that students "sometimes pretend they understand when they don't" (Preliminary interview 28/7/2011, 11:20). She began to understand the importance of reading students' body language.

Key finding 7.3

During her first practicum Lee's observation of other teachers led her to conclude that it was important to develop professional vision and judgement.

Lee's beliefs about teaching at the inception of the project

Lee believed that a teacher's role was to manage student behaviour in order to teach them. She saw the teacher as a source of knowledge for students.

Lee's general belief about students was that they tended towards misbehaviour whenever the opportunity arose. In her preliminary interview she spoke about the way students behaved "when they thought the teacher wasn't looking" (Preliminary interview, 28/7/2011, 8:40) and noted that the 'spot fires' often started at those times. Lee also believed that students tended to present what they thought the teacher wanted to see or hear. She noted that students "sometimes pretend they understand when they don't" (Preliminary interview, 28/7/2011, 11:20).

Lee believed a teacher's role was to pass knowledge on to students. She said that when students asked her more questions they were more likely to be learning was happening (Preliminary interview 28/7/2011, 11:35). She also noted that they needed very explicit instructions in order to learn and were dependent on her as the source of their learning.

> Key finding 7.4
> Lee believed students needed to be carefully watched for early signs of misbehaviour, and a teacher's role was to manage student behaviour and be the source of their learning.

Introducing Lee's Mentor (Barbara)

Barbara was a diligent teacher who was passionate about her teaching. She was very well organized and spent considerable time and effort preparing resources and planning learning activities for her students. Barbara felt a sense of responsibility for her children and their learning. Barbara also felt a responsibility in relation to the support she gave Lee as a student teacher, putting considerable time and effort into writing feedback for her. Barbara's extensive written feedback on Lee's lessons averaged one typewritten A4 page per lesson. Some lessons, such as Maths on 21/10/2011 and English on 21/11/2011, received almost two pages of written feedback each. Barbara's feedback was descriptive and detailed, containing both approval and disapproval. Many positive comments were tagged on the end of a negative, or followed by a "but".

> Key finding 7.5
> One of Barbara's strengths was writing. She diligently did written preparation for her own teaching and gave Lee extensive written feedback on her teaching.

Introducing Lee's Students

The students in Lee's Year 6/7 practicum class were quite different from the Year 4/5 students at her first practicum school, with a far greater proportion of students at the School drawn from the bottom quarter of the Index of Community Socio-educational Advantage (62% vs. 21%). Thirty-seven percent of the students from Lee's first school came from non-English language backgrounds, compared with 30% at the final School. The School also had more indigenous students (20% compared with 2%) (MySchools website).

NAPLAN results showed substantial differences in academic achievement between the two schools with students in the first school achieving results close to or above the Australian schools' average, whereas those in the final school achieved results substantially below the Australian schools' average in all measured areas: reading, persuasive writing, spelling, grammar and punctuation, and numeracy (MySchools website).

Key finding 7.6

The students Lee taught during her first practicum were mostly mainstream students, whereas her final practicum students were socio-educationally disadvantaged and culturally diverse.

First Impressions

Lee's perspective

Lee's initial impression of the School was that the Year 6/7 class was completely different from her Year 4/5 class at her previous school, "a completely different class, mentor, rules". She felt the observation time at the start of the semester was valuable to work out "what is going on here". Her first practicum had reinforced the importance of knowing what's going on before you start teaching, as well as the need to know students' names and the level they were working at, because she couldn't assume all were at the same level (Preliminary interview, 28/7/2011).

Lee knew she had considerable adjustments to make coming into her final practicum. Her first contact with the new school left her with the strong impression that this experience would be much more challenging than her first practicum. She anticipated that the slightly older students in her final practicum school would be more difficult to manage and to teach, and noted that the Year 4/5 students at her previous school were all well drilled and well behaved and a nice age "just before that rat bag Year 6/7 stage" (Preliminary interview, 28/7/2011).

Students' perspective

One of the perspectives sought on pre-service teachers' professional practice was that of the students. A 31 item questionnaire was used to gather students' perceptions of the effectiveness of their pre-service teacher's teaching on two occasions: once near the beginning of their practicum; then again at the end. Responses to the question: *How often does your teacher do these things?* were sought using a four point scale: *Never, Sometimes, Often, All the time.* The reliability of the instrument used for the preliminary survey was .95 (Cronbach's alpha).

Figure 7.1: Students' rating of Lee's teaching at the start of the practicum

Variables with the highest ratings were:

- makes me feel like I belong in our class;
- helps me to learn;
- explains things in a way that I can understand;
- makes me want to learn;
- does not rush me; and,

- starts and finishes our class on time.

These data indicate that Lee's students felt included and valued in their classroom community. The effort she put into learning all their names and finding out something about each of them appears to have paid off. The positive feelings generated by their sense of belonging made them want to learn and they felt that Lee was able to help them to learn in a way that worked for them.

Key finding 7.8

Students responded positively to Lee's efforts to get to know them at the start of her final practicum, feeling a sense of belonging and a desire to learn.

Mentor's perspective

Barbara said she didn't believe Lee was mentally prepared for what her final practicum entailed. She noted that it was as if this final practicum was her first real practicum.

> "I felt as if she didn't have previous prac experience. So when she came to me she still hadn't taken a full class, she still hadn't planned a full lesson. She'd been in another school and she'd been in a classroom, but she'd never been given full rein of a class and had to deal with planning and implementing and assessing. She'd never done that on her first prac, so by the time she got to me I was thinking: well, you should know how to use a checklist and those sorts of things." (Interview 6/2/2012, 2:20-3:20).

Key finding 7.9

Barbara had expected Lee to be more capable when she started her final practicum and believed she was unprepared for the challenges her final practicum would bring.

Barbara's perception of Lee at the start of her practicum was that she wasn't confident in front of the whole class, although she was confident when relating one-on-one with students. She said that she made the students feel good because she tried really hard at the start to be their friend (Interview 6/2/2012).

Although Barbara tried to be positive and encouraging, her frustration tended to show in the week before Lee's first video lesson:

> "You forgot the part about the poem. But you did realise this when the children were getting lost and rethought the lesson and went back to it. You did a really

good job here. It shows that you were reflecting on the lesson as it was going and monitoring the children's understandings. *Once again*, on the floor: make sure you have all the class' attention before you start. It was a great close to the activity. I am glad you moved Blake so he didn't talk *but* there were a few more." (Written feedback 11/8/2011, italics added).

Key finding 7.10

Barbara tried to be positive and encouraging, but was frustrated by the fact that Lee didn't do what she would have done, leaving Barbara to remedy the situation later.

Lee's Teaching Practice During the Practicum

This section views Lee's teaching practice as it developed during her final practicum, using evidence from the lessons that were recorded, and viewing those lessons from multiple perspectives: through Lee's own eyes, the eyes of her mentor, the eyes of colleagues in the *Seeing to Learn* project, and the eyes of the Researcher. The views of the students in Lee's class on her teaching practice at the beginning and end of her practicum add a further perspective.

First video lesson: August 16

Lee's first lesson in the video room started with Barbara settling children as they came into class while Lee waited for them near the front. Lee deferred to her twice in the first few minutes: "Ms Barbara, he doesn't have a pencil case" and then turning to her because she couldn't find a whiteboard marker (Video 16/8/2011, 8:00). Barbara solved both problems for Lee.

This was a literacy lesson which started with a revision of morphographs. Literacy was not one of Lee's strengths and she did not seem confident about her lesson, frequently referring to lesson notes as she moved the class through exercises in the workbook. Barbara was an active presence in the classroom, constantly moving around the room, monitoring student behaviour, interacting with individuals and with table groups, and interjecting as she assisted Lee with curriculum ideas and behaviour management. Students appeared to pay at least as much attention to her as to Lee. Lee did not move around the room much, standing at the front while Barbara moved around the perimeter.

After revising morphographs and administering a quick spelling test, Lee moved on to introducing students to acrostic poems. She scaffolded their learning by first asking them to

brainstorm adjectives and phrases, using herself as an example. When Lee asked the class to come up with phrases to describe her, Barbara interjected with the suggestion: "always looking around the classroom for naughty people". Lee seemed surprised, "well I guess that could be used to describe me" (Video 16/8/2011, 29:35). Although perhaps well meant, Barbara's comment portrayed Lee in a negative light to students.

Lee introduced acrostic poems in two phases, first getting students to brainstorm descriptions of themselves, then bringing them back together to show how those descriptions could be used to develop an acrostic poem. Students seemed positive and enthusiastic about the lesson and about Lee: for example, when brainstorming phrases Lee could use for the 'E' in her name a student suggested "Excited to teach" (Video 16/8/2011, 48:25).

When students went back to their desks to work on their own acrostic poems, Barbara sat down at one of the tables and worked with a few students. Lee used the opportunity to move around the room, checking on work and praising students, using general phrases like "very good" or "nice work".

During the course of the lesson Barbara undermined Lee's authority when she directly contradicted her response to students on two separate occasions. The first was when a student told her she'd left her literacy book in the other classroom. Lee told her to go and get it, but Barbara stopped the student on the way out and gave her a piece of paper instead (Video 16/8/2011, 13:30). Later in the lesson a student asked if she could use her surname 'Po' instead of her first name. Lee said to use her first name 'Deb' and Barbara interjected 'Debra, you can use your whole name!" (Video 16/8/2011, 33:12).

Lee made a comment towards the end of the lesson that showed Barbara's opinion was still what students should consider: "Quickly and quietly come to the mat, Ms Barbara is looking for table points." (Video 16/8/2011, 46:10). She then asked students to share their work. The way she phrased the question: "Is anyone brave enough to say what they wrote?" (Video 16/8/2011, 47:50) betrayed her sense that Barbara's classroom was not a very safe place for sharing.

An incident happened in the last few minutes of the lesson which was not picked up on the recording, but it culminated in Barbara sending a student to time out. An uncomfortable silence descended on the class and Lee whistled quietly under her breath.

> Key finding 7.11
>
> In her first lesson Lee used carefully scaffolded activities to introduce a new concept. For most of the lesson Lee stood near the front while Barbara moved around tables, interacting with students. In the face of Barbara's direct interdictions and her willingness to solve her problems, Lee did not take on the authority and role of teacher in this lesson.

Reflection, feedback and professional discourse

Lee started recording lessons earlier than the other pre-service teachers. This meant that the video discussion meetings had not yet started. However, Lee did receive written feedback from Barbara on this first video lesson. The feedback followed a 'good, but' pattern, as in the example below:

> "I like how the lesson ran and *even though* I noticed you looking at your lesson plan the children didn't." … "You started off the writing *well. I would have* started with only phrases rather than the children just writing down words. If you were to focus on this when you were brainstorming about yourself the children would have copied this modelling when they were doing theirs. The children also commented on how you used the interactive whiteboard. This was done really well. *I would have* liked a little more comparison to what you did the week before but *we covered this after you left*. *Even though* this was a relatively easy aspect of poetry for the children to grasp, you related adjectives and describing oneself very well." (Written feedback, 16/8/2011, italics added).

Barbara's feedback also outlined strengths of the lesson (content covered; use of interactive whiteboard) and areas to work on (cue to attention; monitoring the children's progress; transitions).

> Key finding 7.12
>
> Barbara's feedback showed approval of some of Lee's actions, suggestions about what she could have done better and a reminder that Barbara had to step in to remedy the effects of what Lee had not done.

Second video lesson: August 25

This was a literacy lesson that started with a spelling test. It took nearly six minutes to settle the class so that the spelling test could start. Barbara assisted by moving around tables and

getting spare pencils for students who didn't have any, while Lee concentrated on checking her resources and her notes for the lesson.

In this lesson Lee starting to try out some new strategies: for example, she used positive behaviour reinforcement when, after calling for attention, she quickly complimented a student, saying "thank you very much Rochelle, it's good to have your undivided attention" (Video 2011/08/25, 4:45). Lee was trying to spot problems and learning some simple behaviour management techniques. She also used a strategy to connect classroom activities to students' daily lives by building some spelling words into sentences like 'your school uniforms are *washable*', and 'at the end of the term you will be getting *reports'.*

However, Barbara still owned the room and the children. During the test Lee circled around the centre of the room while Barbara moved around the perimeter and between desks and groups of students. Barbara put two students in time-out, had a chat with them at around eight minutes, then let them back to their seats. During the test Lee went over to Barbara twice and asked her a question. She covered the microphone so we couldn't hear what she said.

Barbara seemed to feel that she needed to intervene and the students picked up on her cue, as illustrated below:

> Lee had just finished introducing the next activity: "Okay, you guys have got… I'd say fif… [Barbara interjects with 'time's up there'] and Lee turns around to the interactive whiteboard, repeating to himself 'time's up there', okay, [turns to face the whiteboard and access the mouse] just wait one sec, I [Barbara: it's down the bottom] Lee: yeah I know, but it wasn't on the other one. Okay, I'd say I'm gonna be generous and give you guys… m…m…m…m I'm gonna give you guys (loud intake of breath… student suggests 10 minutes) yeah, 10 minutes. So I'm giving you ample time because you've already got your list of fears – things you're afraid of - so you just need to come up with phrases and rhyming words. Okay guys, you've got 10 minutes" (Video 2011/08/25, 37:45).

Lee didn't need to solve problems in the classroom because Barbara continued to solve them for her: for example, when the poem activity started and a student said she didn't have her book, Lee responded with "You don't have your book? Okay, we might need a piece of paper for you" and immediately walked over to Barbara and said "Linda doesn't have her book, so,

we're gonna need a piece of paper". She left the problem in Barbara's hands while she walked over to another student (Video 2011/08/25, 38:55).

Barbara kept stepping in to help, so Lee didn't suffer the consequences of her lack of preparation: for example, when she couldn't operate the interactive whiteboard without Barbara's assistance she muttered: "Probably need to go and do a PD on this" (Video 2011/08/25, 41:20). In fact she didn't really need to because Barbara was always there to help out.

Lee's 'cue to attention', hands on head, worked well in this lesson. She didn't need to wait long for total silence. Lee also noticed when students were off task more quickly in this lesson than the previous one. She would walk over to the group that appeared to be off task and ask how things were going (Video 2011/08/25, 49:30).

While we could clearly see Lee responding to Barbara's feedback and trying to implement some of her suggestions, we also began to see the impact of Barbara's "good, but" style of mentoring. The general message conveyed in the written feedback Lee received was that nothing she was doing was quite good enough. This seemed to make her feel quite defensive: for example, when the beeper to signal the end of the activity went off quite loudly Lee said "Jeez that's loud! I didn't put that up guys. It wasn't my fault." (Video 2011/08/25, 50:20). This defensive state of mind would have made it difficult for her to be open and notice what was happening in the classroom.

Lee recognized that Barbara was still in control in the classroom. At the end of a session on the mat, where students had been sharing their work, Lee said:

> "Okay guys, what I would like everyone on the mat to do is to quietly go back to
> their tables and drop off their literacy books and then come back to the mat.
> Make nice neat piles guys. Ms Barbara, look for table points please." (Video
> 2011/08/25, 59:30).

By leaving Barbara in control (with her allocating rewards) Lee was able to deflect responsibility to Barbara for how tidy the piles of books were. If they were not tidy it couldn't be Lee's fault.

 Lee seemed to run out of things to do with students in the last few minutes of the lesson. Barbara stepped in with a suggestion that she might like to talk about the awards. Lee asked

the class "who got their awards? Hmmm… Would you like to start us off Ms Barbara?" (Video 2011/08/25, 1:02:45).

Key finding 7.13

In this lesson Lee connected with students and demonstrated greater ability to see and respond to potential behaviour problems. She modelled her feedback to students on the feedback she received from her mentor and turned to her mentor when things did not go as planned, in effect deflecting responsibility for student behaviour and learning outcomes to Barbara.

Reflection, feedback and professional discourse

Lee showed significant growth in her ability to notice potential triggers for misbehaviour when watching the video clips of her peers as well as her own videos: for example, her feedback to a peer on a handwriting lesson was:

> "When writing on the interactive smartboard , I find that sometimes, if you write something this way (standing up and demonstrating) it's hard to keep track of the kids. It's very, very hard and you lose control, sometimes, or at least you lose focus and lose the kids' attention." (Video discussion meeting 7/9/2011, 18:30).

Lee was very engaged in the video discussion meetings and appeared to enjoy sharing ideas with her peers. However, it appears that this enthusiasm was not apparent in interactions with her mentor as it was during this week that she contacted the University Colleague to flag her concerns about Lee: "I am a little concerned about Lee and her planning, lesson plans and overall attitude. Can you please ring me to discuss?" (Email 8/9/2011).

Key finding 7.14

When viewing video clips, Lee noticed teacher actions that might cause students to lose focus and become inattentive. She recognised that focus and attentiveness were important for ensuring good behaviour.

Third video lesson: September 21

Lee appeared to be very nervous at the start of this lesson, indicated by her shortness of breath. The room had been used for a morning tea just prior to the lesson and was not arranged in the normal fashion. Lee's attitude towards students seemed quite apologetic. She started the lesson with:

"Those of you that don't have a seat, I think you guys are just going to have to sit on the floor and do your work. I know it's an inconvenience, but normally we do have more tables, okay? Okay, so… (waiting for silence) okay, last week we did, or we glossed over, what a summary is and I think that we may have gone a little bit too quickly. Some of you guys didn't really get the point of what a summary is okay? So what, um, so what we're going to do for this bit right here is I want you guys to tell me, hands up, to tell me what you guys did this morning before you came to school, in between when you woke up and when you came to school." (Video 21/09/2011, 12:25).

Barbara was there to help straight away, settling the students while Lee went to get her microphone. Then Lee couldn't get the interactive whiteboard to come on. Ten minutes into the lesson Barbara suggested something quietly to Lee and she responded with "I don't have any questions" (Video 21/09/2011, 9:10). At that point Barbara stepped in and took control of the class, getting students to move back to their desks for another activity. As students started moving the whiteboard lit up and Lee said "Oh, hold on a minute, it's working" and then, looking at the computer "Ms Barbara, what's the password?" (Video 21/09/2011, 12:15).

After sharing examples of summaries, Lee asked students to tell her where they were up to in the *Rowan of Rin* (Rodda, 1993) story, using their descriptions of what had happened as an example of what a summary was: "so what you've just told me, the key points of what's happened in the book so far." (Video 21/09/2011, 17:45). Students then moved to their desks to write up their summaries.

While students started, Lee went to set up the timer. She then walked over to Barbara: "How do you get the timer up again?" Barbara: "Sorry, what did you say?" Lee: "How do you get the timer up again?" Barbara: "You go into the gallery, which is the second tab down, and then you …" Lee, interrupting, "Ah, I got ya, yeah I got ya" hurried back to the front desk, muttering "I remember now", past a student with a raised hand "hold on one sec". Barbara watched as she opened the gallery tab and then said "You can type in 'timer' at the top". Lee said "ah yeah" and typed it in. She found the timer and set it "Okay guys, you've got 15 minutes" (Video 21/09/2011, 21:30).

Once again in this lesson we see that problem-solving is deferred to Barbara and even to the students, as demonstrated in the next incident. A few minutes into the writing activity a student raised her hand "there's no pencils" Lee: "there's no pencils, hmmm, Ms Barbara

might be able to let you have some of hers" Another student at the table suggests: "there might be some in the library" Lee: "actually, yeah… there might be some in the library, if you want to run very quickly and see" (Video 21/09/2011, 23:53).

During the next section of the lesson Lee had students working on their summaries. She walked around the room while students were working, checking how they were doing, prompting them when they seemed stuck and encouraging them to keep going. Lee practiced some of the positive behaviour management strategies she was learning during her practicum, trying to be specific about the good qualities of the work rather than just handing out general praise: "Lisa, fantastic, that's a huge paragraph, I like it" (Video 21/09/2011, 34:05).

At the end of the allocated task time Lee chose some students to share their summaries. While the second student read out her summary a girl was talking. Lee said "Shhh" twice, to little effect, then Barbara stepped in and said "Rochelle, can you please go to time out". Lee ignored Barbara's interaction with Rochelle (Video 21/09/2011, 41:30). It was obvious to students, and to Lee, that Barbara was the real authority in the room.

Lee was learning from her mentor, picking up on her way of doing things. In the following extract we saw Lee's feedback to students starting to resemble the style of feedback she was receiving from Barbara. Lee had just finished listening to Dylan's summary: "Dylan that was good, but probably a bit too in depth to be a summary. Some of those things could have been left out. But I like the way you were going okay?" (Video 21/09/2011, 44:25).

The next activity was a comprehension test. Barbara was sitting at one of the student tables and appeared to be helping students. Lee said "Ms Barbara, this is a test!" and then a few seconds later "I know the back right hand table will be doing well because they've got a smarty-pants in the group, an older kind of student." (Video 21/09/2011, 1:06:10). Lee tried to use humour to disguise her irritation with Barbara. Their relationship at this stage did not seem to be very positive.

Key finding 7.15

In this lesson Lee demonstrated good scaffolding and development of the key lesson concept and implemented more positive behaviour management strategies. However, her mentor still stepped in to save both Lee and the students from the natural consequences of Lee's mistakes.

Reflection, feedback and professional discourse

The section of the lesson Lee chose for discussion in the video discussion meeting that week was the transition from the mat back to their tables for an activity. Transitions were an area that her mentor had suggested she should attend to (Written feedback 16/8/2011). The video clip included Lee giving instructions for the activity while students were on the mat, the use of her 'cue to attention' squeaky toy, responses to individual student queries and settling students down to work. The clip showed how Lee felt obliged to respond when a student asked a question, even interrupting herself in issuing instructions to another student in order to do so: "Okay, so Michael, if you want to give everyone out, those who weren't … yes Denver?" (Clip 21/9/2011; 00:48).

After answering a series of individual questions from students queuing up to see her, Lee used her squeaky toy to call for attention and addressed the whole class:

> "Thank you to those who stopped. Okay, what I forgot to tell you guys was that,
> if you do not know what has happened in, throughout the story, um, in the steps
> in the story so far, you can quietly ask the person next to you. The person next to
> you, do not give them the summary word for word, just tell 'em briefly what has
> happened to jog their memories okay? So you guys can talk, but it's gotta be
> 30cm inside voices, okay? If that table's working I should not be able to hear you
> from over here. Okay? So you guys have got about 20 minutes, so start now."
> (Clip 21/9/2011; 1:30).

When introducing her clip for discussion in the meeting, Lee explained that she wanted to look at how she managed transitions because she felt that she'd concentrated a bit too much on responding to individuals queuing up to see her. She said that she found it tricky to balance attention to individuals with attention to the whole class (Video discussion meeting 28/9/2011; 38:15).

Key finding 7.16

In the video discussion meeting, Lee reflected on underlying reasons for transitions not going smoothly and noticed what effect her habit of responding to individual students during transitions might be having on the other students' behaviour.

Lee was curious about the strategies her peers used to manage student behaviour, demonstrating her growing awareness of the range of strategies available: for example, a

peer's video clip showed her starting an interactive sharing session while students were at their desks, and then moving students to the mat to finish the session. Lee asked:

> "You know how you started with everyone in their seats and you started actually picking people, then you got everyone to come down to the mat? Was that because the kids were fidgeting with the manipulatives at their desks?" (Video discussion meeting 28/9/2011, 8:30).

In the video discussion meeting we could also see that Lee thought about the classroom environment and how that might affect student learning. In discussing a peer's video, where normally 'good' students had unexpectedly misbehaved, Lee said:

> "There's no sense of ownership for the students when they're in that room (the video classroom). It's hard for kids to try to learn in an environment that's cold." (Video discussion meeting 24/10/2011, 8:30)

Key finding 7.17
During the video discussion meeting, Lee was trying to understand underlying reasons for student and teacher behaviours in relation to classroom management and student engagement.

Fourth video lesson: October 26

This was a Science lesson. The recording started with students working at tables researching the allocated topic of global warming. Lee had given them five questions to which to find answers. She had brought a number of books from the library into the classroom as sources of information. Lee moved between tables observing students as they worked and answering queries. As she walked over to the table Barbara was sitting at she said:

> "Fantastic guys! Love the way you're all working! Very good Mrs Barbara, I like the way you're writing notes. Do you want a raffle ticket?" (laughs and moves off) (Video 2011/10/26, 1:00).

Barbara's style of giving feedback was continuing to influence the way Lee gave feedback to students: "I like the way you're interpreting what happens in a movie to global warming, but I'd rather you concentrate on this." (Video 2011/10/26, 3:15).

The students did not relate to Lee the way they related to their teacher, as illustrated below:

Student: "Why are you standing there?"

Lee: "Because my leg's getting sore so I just stopped here. I trained last night; it's very sore."

Student: "Can't you go somewhere else where you can sit down?"

Lee: "No I can't."

Student: "Why?"

Lee: "Because I've got to make sure everyone's on task." (Video 2011/10/26, 7:45).

Towards the end of the lesson we again saw Lee practising her positive behaviour management strategies when issuing 'tidying up' instructions:

"Okay, what I would like you guys to do is to quietly pack up, sorry, firstly, any books that were property of the library that you didn't already have loaned out, can I please have them brought quietly to the front and put in this tray please. Just do that now quickly." (Video 26/10/2011; 17:15).

Lee watched as students quietly brought books to the front. When they were done she said: "Okay, can you please now collect up your notes and any spare pieces of paper and your pencil cases and come and sit quietly on the mat please. Thank you."

Lee sat down at the front, box of raffle tickets in hand. As the first student sat down in front of her, she said: "Thank you very much Jordan! I don't know how many raffle tickets that is, but you deserve all of them okay? Well done."   (Video 26/10/2011; 18:25).

At the end of the lesson Lee congratulated students on their behaviour and on how well they had worked, but failed to anticipate the logistical difficulty involved in doing what she intended:

"Okay, I believe that we all, every single one of you guys, deserves a dot for this morning's lesson because, as I was walking around, every single person was on task, writing down notes, you were reading, you were including information and taking notes, which I think is fantastic, okay. So… how am I gonna do this… mmm… I think throughout the day I'm gonna have to get everyone their dots 'cause I can't physically do it right now, I don't think. Might be a bit hard. Okay, so it's up to you guys to remind me because throughout the day I'll be giving out these dots. Okay. With all… ooh sorry (turning around to organise resources on

the desk behind him) okay, can you all please quietly stand and make two lines at the door. Thank you." (Video 2011/10/26, 19:40 – 20:35).

Lee couldn't anticipate that it wasn't going to work to hand out dots then.

Key finding 7.18

Overall this lesson was well planned and resulted in students staying on task and remaining engaged. Lee continued to develop her positive behaviour management strategies, but seemed unwilling to fully accept the responsibility and authority of teacher in her interactions with students.

Reflection, feedback and professional discourse

The section that Lee chose to share from this Science lesson was around a transition from tables to the mat. That she chose to focus on a transition again in itself demonstrates her growing awareness of the importance of this element of teaching and her curiosity about how to make transitions smoother. The clip showed Lee stopping the activity and issuing 'tidying up' instructions. A few students were taking their time with the tidying up and Lee applied the positive behaviour management strategies she had learned by giving raffle tickets to the first student who finished and sat quietly on the mat in front of her, making sure other students saw what she was doing and heard her congratulating the student.

Lee's focus on the finer aspects of behaviour management continued during this video discussion meeting. After watching a peer's video clip depicting a sequence of misbehaviour that culminated in a student being sent to the office with a 'red file', Lee said:

> "Again, it's about putting out the spot fires before they turn into bushfires, as they did just then. When you got him back in after the time-out you could, instead of just saying he could come back now, you could have said: 'Lachlan, you're a good student. Your behaviour was unacceptable, but you can change your behaviour. You're a good student, come back now, you can do this.' That's probably the only thing I would have done different." (Video discussion meeting 7/11/2011, 21:45).

Lee continued to focus on using the behaviour management language she had learned during her induction into the School's behaviour management system, as demonstrated in this response to another peer's video when some students were calling out rather than raising their hands:

"Then, if David did put his hand up the next time, you could respond quickly, and also reinforce the appropriate behaviour by saying: 'David, I love the way you put your hand up and you're ready to share.'" (Video discussion meeting 7/11/2011, 48:00).

> Key finding 7.19
> Lee's deeper understanding of the complexities of behaviour management was demonstrated by her improved professional vision and pedagogical reasoning during this fourth video discussion meeting.

Fifth video lesson: November 9

At this stage Lee was not feeling good about her teaching. She had been told that she was at risk of failing and her shortness of breath indicated her nervousness. Her self-esteem was quite low and this manifested itself in behaviours like apologising to students: for example, while students were coming into the classroom and looking for somewhere to sit, Lee said: "Guys, we have a very cramped little room. I apologise for this. Brenda and Ken, you're over here. Sorry about it being so cramped for room, but it's a very small class." (Video 2011/11/09, 1:50).

Students settled much more quickly in this lesson, with Lee employing the raffle ticket strategy to encourage on-task behaviour: "Raffle tickets (holding them up). Who is sitting up quietly with their book in front of them?" (Video 2011/11/09, 2:15).

Some students didn't have pencils and Lee had forgotten their blue files in their normal classroom, so she sent a student to get them. She told the class to read through a lesson in their workbook (lesson 88) while they waited. After giving them some reading time she asked students what, from their reading, they expected to be doing in the lesson. Unlike in previous lessons, this time Lee waited until a number of hands went up before choosing a student to respond:

> "For part A of lesson 88, hands up, what do you think you might be asked to do?"
> (pause, looking around) "Lisa? Writing? Yeah, what particular writing do you
> think you will be doing?" Lisa doesn't respond, so Lee waits, looking around the
> room. "Bruce? A sentence, okay, what about the sentence?" Bruce: "Write it"
> Lee: "Rewrite it, do you reckon?" Bruce: "Yes." Lee: "Okay, good." (Video
> 2011/11/09, 6:20).

Finally, the student who had been sent to get the blue file returned, saying it was not there. Lee switched off her microphone, then walked over to Barbara. Their brief conversation was unintelligible without the microphone, but when Lee turned back to the class she started a different activity that no longer required the blue file (Video 2011/11/09, 7:55).

Lee practised using an engagement strategy after a student came up to the interactive whiteboard and edited 'althogh' by adding the u:

> "Hands up if you think that's the correct way to spell 'although'. Hands straight up! Okay, now hands up if you think that's incorrect, in other words if you think it was correct the first time." Four students raised their hands. "Okay, that's interesting… Okay, next person" (Video 2011/11/09, 14:45).

Although Lee was keen to engage all students, she was quite sensitive in the way she went about encouraging a reluctant student to participate in the editing activity on the smartboard:

> "Three to go. Cheryl, would you like to come up and do one please."
> Cheryl shook her head. "Cheryl, I would really like you to get up and do one please." Waits a few seconds. "Thank you Cheryl."
> Cheryl: "I'm thinking."
> Lee: "Okay then, while you're thinking – Micale." (Video 2011/11/09, 19:35).

> Micale changed a word on the smartboard and sat down again.
> Lee: "hands up if you think Micale made the correct decision to change that"
> A few hands went up. "Okay, hands up if you think Micale made the incorrect decision"
> A lot more hands go up "Okay, Dylan: why?" (Video 2011/11/09, 20:55).

> Lee checked with Cheryl whether she is ready yet: "Cheryl, still thinking?"
> Cheryl nodded. "Okay, keep thinking because you're up next okay? Go on Tony, you do one." (Video 2011/11/09, 21:40).

At the end of the editing activity Lee congratulated students, and we saw more of Barbara's feedback style in the "even though":

> "Thank you very much for all those people who participated. That was done very, very well and it's evident to see where you guys have come from when you first did that activity to where you've come now. Even though it is the same bit of

writing, it still means you have to memorise and you still have to use all your

skills, so I'm very impressed with that." (Video 2011/11/09, 25:20).

Lee got better at classroom management, issuing movement instructions and remembering to start with "when I say" before giving instructions:

"What I'd like you guys to do is, when I say, go quietly back to your seats and

continue with your autobiography writing. This is to be done silently and half

way through the activity I'll be stopping and I'll be looking for people to share

some of their autobiography so that people know they're on the right track.

Okay? Are there any questions?" (Video 2011/11/09, 25:55).

A few minutes later the class was chatty and restless as they moved back to their desks. Lee picked up the raffle ticket container and wandered around, saying: "Okay, looking for people that are starting to write already…" (Video 2011/11/09, 27:50). She then got distracted helping individual students and forgot to hand out raffle tickets as the class gradually got noisier again.

After a student shared her autobiography, Lee asked the class to identify what she had done to make it so good. With patient questioning and coaxing from Lee, students were eventually able to identify that the key factor was how descriptive her writing was (Video 2011/11/09, 47.50).

Key finding 7.20

This lesson illustrated Lee's shift towards a more social-constructivist approach. Her questioning strategies included re-direction, wait-time, commitment to a position and giving time for extended responses. She applied gentle pressure to reluctant students, increasingly taking on the role of teacher. When she struggled to respond to unforeseen situations her mentor still stepped in to rescue her.

Reflection, feedback and professional discourse

This video lesson showed Lee encouraging a reluctant student to stand up in front of the class to participate in the editing activity. This was something she had seen Bruce do in an earlier lesson. She had also seen Bruce asking students to commit to a position about what they thought the result of a science experiment might be. Lee used the same technique to engage the whole class when one student made an incorrect edit on the smartboard.

Lee's attention to behaviour management continued in this week's video discussion meeting, where a peer's video clip depicted a sharing session with an undercurrent of 'bubbling noise':

> "When you were questioning you could, instead of saying *"What do you think…"* or *"Does anyone have something to say about…"* you could say something like *"Put your hands up if you think…"* or *"Raise your hand if…"* so you don't have people calling out over the top of other people, which happened a couple of times. It reaches a point where you have to go *"Guys!"* which is what you had to do." (Video discussion meeting 14/11/2011, 8:10).

The video clip Lee chose from this lesson demonstrated how much her ability to manage transitions had improved. The clip showed a quiet transition from tables to the mat that only took about 30 seconds.

Key finding 7.21

By viewing teaching situations captured on video, Lee was able to notice and enhance her understanding of what worked, improve her questioning and engagement strategies, and manage smooth transitions in the classroom.

What Changed?

Lee's perspective

In an interview at the end of her final practicum (24/11/2011) Lee was asked to rate her teaching practice in relation to the progress map developed for the *Seeing to Learn* project. Lee rated herself at a Basic level of proficiency in all aspects of knowing students and how they learn, although she felt that perhaps she was weaker (Unsatisfactory) in relation to how well she understood students' prior knowledge and skill. She also rated herself at a Basic level in relation to demonstrating understanding of the content/skills being taught, and in relation to selecting appropriate teaching and learning resources, but felt her understanding of how students learn was Unsatisfactory as she did not feel she had sufficient knowledge about students' learning needs, prior knowledge and interests to inform planning of learning goals and experiences. She noted that the element related to selecting topics was not applicable as topics were selected for her by her mentor. As a consequence she was not confident about her ability to plan for and implement effective teaching and learning.

Lee believed that she was able to create and maintain supportive and safe learning environments. During her practicum she felt that students adhered to reasonable standards of conduct and interacted respectfully with each other on most occasions. She valued student views and used the physical environment and available technologies to support learning.

Lee felt that she only had a basic knowledge of assessment. She had gone into her final practicum with the understanding that she needed to get better at determining what students had really learned (as opposed to what they said they had learned). During her practicum she worked on improving her questioning and really listening to student responses in order to get a better understanding of them as individuals and of their learning.

Lee was pleased with the way she had engaged in professional learning opportunities through the *Seeing to Learn* project and felt she had made useful contributions to the video discussion meetings. She had confessed to doing minimal reflection during her first practicum, but at the end of her final practicum Lee rated herself as Proficient at reflecting critically on her professional practice.

> Key finding 7.22
>
> From Lee's perspective her practice had improved in the two areas she'd identified as important at the start of her practicum: noticing antecedents of misbehaviour; and, identifying what students had really learned. She was happy with her relationship with students and with the way students related to each other in the classroom. Although she was still not confident about her lesson planning, Lee had enjoyed reflecting on her teaching and felt confident about her ability to learn.

Lee's mentor's perspective

Lee's mentor, Barbara, was interviewed about her perception of Lee's teaching practice at the end of the practicum. She said that Lee was bordering on Unsatisfactory in all aspects of knowing students and how they learn, with the possible exception of students' interests and cultural backgrounds. Barbara acknowledged that Lee had put in a big effort to learn students' names and to find out something about each of them before she even started to teach. However, she felt that Lee didn't follow through by building relationships with them. She observed that Lee was unable to engage some children and struggled to identify what to teach the children and how to develop a better understanding of a given topic (Interview, 1/12/2011).

Barbara also rated Lee's practice as bordering on Unsatisfactory in all aspects of knowing content and how to teach it, and also in all aspects of planning for and implementing effective teaching and learning (Interview 1/12/2011). She said Lee had started out not being able to plan a lesson or run a class, and she ended up still not being able to do those things without Barbara's guidance:

> "I had to pretty much guide her right through with assessment and planning, every step of the way. Even in her final few weeks she was still unable to come up with ideas. There was just no imagination there. I'd give her books with heaps of ideas in them and she'd say 'So, what do I do with that? How do I run that lesson?' Her mindset just wasn't right to become a teacher. She didn't seem to realise the amount of work that was required." (Interview 6/2/2012, 2.38).

When asked about Lee's ability to create and maintain a supportive and safe learning environment, Barbara said that, while Lee did value students' views and became reasonably adept at using technology, she continued to perform at an Unsatisfactory level in relation to ensuring respectful interactions and establishing efficient classroom routines. Barbara went on to explain: "I felt that if she were in charge of the class, the class wouldn't be engaged and learning." (Interview 6/2/2012, 1.46).

Lee's ability and willingness to engage in professional learning was one of the greatest points of difference between herself and her mentor. Lee rated herself as Proficient at reflecting critically on professional practice, as well as engaging with colleagues to improve practice. Barbara felt that Lee's ability to reflect critically on professional practice was Unsatisfactory, as was her engagement with colleagues to improve practice. Barbara believed that, while Lee appeared to be open to feedback, she had a great deal of difficulty implementing it and, therefore, had difficulty improving the quality of her teaching practice (Teaching Practice Evaluation, 22/11/2011).

Key finding 7.23

Barbara's perspective on Lee's professional practice was that she had started from a low base and had shown minimal improvement. While she noted that Lee liked the students and valued their views, she felt Lee had not engaged in professional learning and was not ready to be a teacher.

The University Colleague's perspective

The University Colleague brought in to provide a second opinion on Lee's teaching practice reported that she observed Lee teach on two occasions. On both occasions she noted that the class was well behaved and that Lee was organised, utilised the smart board, took lessons that the students were engaged in, and kept the students on task. She further noted that there was a strong improvement in the areas that she gave Lee advice on. These were in relation to increasing the pace of her lessons, creating more interesting lessons and praising students

more. In her opinion this demonstrated that Lee was able to implement feedback that was specific, focussed on a few key priorities and at an appropriate level for a beginning teacher. Overall she felt that Lee was competent in managing teaching and learning, and competent in undertaking her professional responsibilities (Teaching evaluation report 26/11/2011).

Key finding 7.24

The University Colleague's perspective on Lee's practicum was that she was responsive to feedback and competent at managing students and engaging them in learning.

Students' perspective

The 31 item questionnaire used at the beginning of the practicum was used again at the end to gather students' perceptions of the effectiveness of their pre-service teacher's teaching. Responses to the question: *How often does your teacher do these things?* were sought using a four point scale: *Never, Sometimes, Often, All the time.* The reliability of the instrument used for this concluding survey was .95 (Cronbach's alpha).
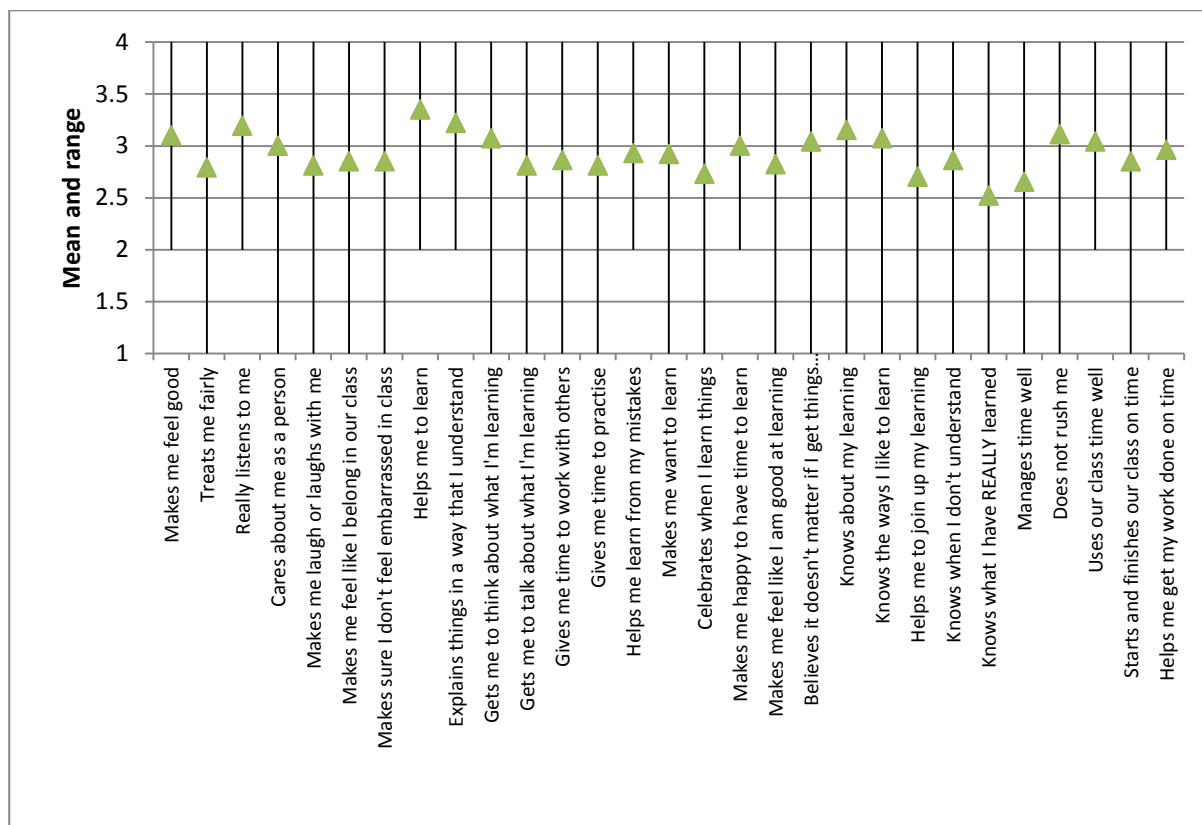
Figure 7.2: Students' rating of Lee's teaching at the end of the practicum

The top six variables as rated by the students were:

- Makes me feel good
- Really listens to me

- Helps me to learn
- Explains things in a way that I can understand
- Knows about my learning
- Does not rush me

Lee had been attending to her behaviour management strategies, and had put considerable effort into using more positive strategies, affirming students when they behaved appropriately. This appears to have translated into making them feel good. Students also felt that Lee helped them to learn and explained things in a way that they could understand. They did not feel rushed with their learning so it appears that Lee was able to set a pace that worked for them.

During the practicum we saw Lee shift from a teacher-centred to a more student-centred approach. She took the time to listen to students, to get to know them better and to understand more about their learning. The effort that Lee put into using more positive behaviour management strategies and becoming more student-centred seems to be reflected in the student responses to the final survey questions. The shift in her teaching practice was affirmed by them.

Key finding 7.25

Lee's focus on behaviour management and the positive strategies she learned during her practicum translated into making her students feel positive about themselves, about their learning and about Lee. They also noticed that she knew about their learning.

The Researcher's perspective

Lee's teaching practice at the end of her practicum was noticeably different from her practice at the beginning. Lee demonstrated, both through her own practice and in feedback on the practice of peers, awareness of a greater range of behaviour management strategies, and a good understanding of the importance of both language and rewards in effective behaviour management. Her questioning skills improved and she learned the value of questioning to ascertain what students had learned. Lee also showed a good understanding of, and sensitivity towards, individual students which would improve her ability to engage them in their learning. She was able to use whole class engagement strategies that she had learned through participation in the video club, such as getting students to commit to a position by raising their hands rather than only asking one individual for an answer. She started the practicum by learning all her students' names and by the end of the practicum she knew a lot more about each of them, particularly in relation to their learning needs.

During the practicum Lee also improved her ability to manage student movement and to communicate task instructions clearly. She was better able to notice what was happening in a classroom, to listen to students and to understand their learning needs. Her ability to develop concepts and scaffold learning improved, and her use of questioning to ascertain learning helped her to be more responsive and adaptive during lessons. She had a new appreciation for reflection after experiencing video as a tool for reflection. Reviewing and discussing video helped her learn to notice what was happening in her classroom and respond appropriately. On several occasions Lee had difficulty thinking on her feet during a lesson and this limited her ability to be flexible and responsive to the situation at hand. Her mentor rescued her on such occasions so she had little need or opportunity to develop facets of pedagogical tact.

Key finding 7.26

Lee became increasingly student centred as her practicum progressed, employed more positive and affirming strategies, listened more carefully and showed increasing ability to know and understand her students and their learning.

Lee's beliefs at the end of her practicum

In her concluding interview, Lee's response to the question about how she knew if her teaching was effective, demonstrated that she still held a belief that teaching was a basically transmissive activity:

> "Effective teaching practice is if you can sit a class down, begin the class and explicitly instruct them and tell them what it is they're going to be learning about, and then actually teach them, have them do group work and individual activities during the lesson and then have them come down and ask them "What did you learn?" and for them to raise their hand and pretty much have them give back exactly what they have learned, exactly what you have taught them, then I think that would be classed as effective teaching, absolutely." (Closing interview, 24/11/2011, 4:00).

Even though Lee had learned to value questioning and listening during her practicum, and had become more student-centred in her daily teaching activities, her basic understanding of the role of a teacher did not appear to have shifted much. Nevertheless, Lee's teaching practice and her contributions to video discussion meetings demonstrated that she no longer believed students were determined to do the wrong thing as soon as her back was turned. She practised positive behaviour management strategies, shifting from seeing her role as having to

prevent misbehaviour to one of encouragement and positive feedback which would improve students' self-esteem and lead to better learning.

Lee believed that the best way for her to improve her teaching practice was to get feedback from others and then reflect on it: "So I might think: 'Ah, that's right, that's what I did bad', and then I reflect on it" (Closing interview, 24/11/2011, 5:05). When asked how she defined a bad lesson, Lee said it was one where the things she'd wanted students to learn had not really sunk in. She also liked getting suggestions from others "not necessarily your mentor, but someone, saying: 'remember this, what happened here, you probably could have done this'." (Closing interview, 24/11/2011, 5:25).

By the end of her practicum Lee had a working classroom routine and a process for continuing her own learning using video and professional discourse. She understood the importance of feedback and reflection and, while her written reflection was still minimal, she was enthusiastic about using visual stimuli for reflection, such as her own videos and those of her peers.

Key finding 7.27

While Lee's teaching practice became more student-centred during her final practicum, her stated belief about learning remained that students should be able to give back what she taught them.

Perspectives on the Experience Itself

Lee's perspective

Overall, Lee found her practicum experience to be quite different from her previous experiences of teaching, more so than she had anticipated. Lee particularly noted how unprepared she felt for dealing with students who were unlike any she had previously encountered:

> Students in my first school came from a fairly normal, stable family environment
> so they didn't have many behavioural issues. On this prac I had low socio-
> economic, mum and dad possibly in jail, high ESL, low English knowledge.
> Behaviour management was a huge, huge issue at the school, so the schools
> were pretty much complete opposites. Having what was deemed to have been
> an easier prac placement first was probably to my detriment. Having had such a
> quiet, easy prac to begin with, and then being thrust into a school environment

like this; I felt very much not prepared and ill-equipped to deal with some of the
things I had to deal with (Closing interview, 24/11/2011, 0:36).

While support structures (including mentoring) were plentiful, Lee felt they were quite formal,
with no real sense of camaraderie. She missed feeling "part of a team" the way she had during
her first placement, where student teachers were included in the social club and invited to
Friday drinks after work (Closing interview, 24/11/2011, 2:05).

> "It's a lot easier knowing you're part of a team and being comfortable in your
> surroundings and in the school. You can be a lot more stress-free, a lot more
> relaxed when you teach if you feel like, um, knowing someone's got your back
> and that they're all behind you." (Closing interview, 24/11/2011, 3:08).

Towards the end of her practicum Lee's mentor flagged her as at risk of failing. Lee did not feel
that her mentor's evaluation of her teaching practice was accurate. She said that the
opportunity to view video clips of her peer's teaching practice made it clear to her that her
teaching was not all that different from theirs, and certainly not, in her opinion, different
enough to warrant failure. Lee believed that her mentor had allowed personal issues with her
to get in the way of her professional judgement. She noted that Barbara was particularly
annoyed that she had gone to Bali for a family event during the mid-semester break of her
practicum and had missed a few days of final term, returning a day later than scheduled
because she was ill on her return. Lee pointed out that the school had been aware from the
start that she was going away and there had been no objections prior to her starting the final
practicum (Interview 28/11/2011).

Lee's sense of belonging during her final practicum came from informal sources rather than
from her mentor or her practicum school. She did not perceive much collegiality at the school
and found the mentoring to be quite formal and evaluative rather than supportive. Lee's self-
esteem and self-efficacy were both at a low ebb by the end of her practicum.

Key finding 7.28
Lee felt stressed and anxious during her final practicum, believing that her mentor didn't
approve of her actions. She did not feel ready to step up into a full teaching role.

Barbara's perspective

In her interview at the end of the practicum Barbara reported that Lee had quite a "slack"
approach to her final practicum, demonstrated by her lack of commitment to paperwork

throughout her placement (Interview, 1/12/2011). She said that Lee's decision to go away on holiday during the mid-semester break was to her detriment: "Her forward-planning documents were not up to scratch so, once she started, she fell behind really easily and really quickly." (Interview 6/2/2012, 1.07).

Barbara said that Lee started her teaching practice well, putting in a big effort to learn students' names and to find out something about each of them. However, she saw this as Lee making an effort to befriend the students and commented that one of the challenges Lee had was differentiating between being a friend to students and being their teacher (Interview 6/2/2012).

Barbara's response to Lee's inadequacies was to step in and take over. She described Lee's behaviour management strategies as "in need of continued reflection" and noted that behaviour management of two students in particular was left to her as Lee felt she could not relate to them and didn't know how to deal with them. Her response was to solve the problem for Lee by managing the students herself (Interview, 1/12/2011).

In her written feedback, Barbara frequently pointed out what she would have done and how she would have done it by comparison with what Lee did. This highlighted the differences between her teaching and Lee's, making Lee feel inadequate, particularly as she struggled to process Barbara's written feedback. It seemed that Barbara was using her teaching as a model or standard for Lee, demonstrating a lack of understanding of the level of teaching development of near graduate teachers. Barbara's actions underscored her belief that Lee would not be able to manage on her own.

> Key finding 7.29
> Barbara felt unable to trust Lee to manage and teach her students. She did her best to guide Lee, but often had to step in when Lee failed. She believed that Lee lacked the commitment and maturity required to become a teacher.

What Role Did the *Seeing to Learn* Project Play?

In her concluding interview Lee reflected on the value of participating in the *Seeing to Learn* project. She observed that, in her case, it was the final factor in her decision to "stick with it" rather than withdraw. She felt that Barbara's standards and expectations were very high and that it was only by watching the video clips of others and comparing them with her own that she realised that she wasn't all that different from other student teachers.

> "I think the video discussions highlighted how different people view different aspects of what makes a successful lesson. Having a video was so advantageous, especially looking at it that same night when you still have a quite a good memory of that lesson, and you see all the things you didn't notice. And then having someone else go through and getting different schools of thought and ideas about what they would do made you think "ok, I might try that" so it just gave you different ways in which to teach." (Interview, 24/11/2011, 9:00).

Lee commented that the feedback from her mentor was predominantly negative, so it was great having discussions with the other pre-service teachers that were going through the same experiences she was. In her mind it gave her reassurance that her teaching practice was not all that different from that of her peers.

The video discussion meetings helped Lee to develop a deepening understanding of behaviour management. Her initial efforts at behaviour management were a direct application of the school's behaviour management system. Through her video discussion meetings she became increasingly aware of the relationship between student engagement and behaviour management and began to implement strategies that would prevent misbehaviour rather than manage it.

Key finding 7.30

The video discussion meetings gave Lee an opportunity to compare her practice with that of her peers. It improved her ability to reflect on her practice and to implement changes that were noticed by the University Colleague and the students in her class.

Chapter Summary

Lee started her final practicum with a strong desire to improve her ability to see in her classroom. Her first teaching experience had taught her the value of learning to see, particularly in regard to noticing early signs of disengagement or misbehaviour. She knew she had to teach from where the students were and test understandings before moving on.

Lee struggled to learn from her mentor, who did not appear to have a realistic picture of a near graduate's ability. Barbara diligently provided extensive written feedback that tended to leave Lee overwhelmed, with the effect that she sometimes did not act on Barbara's feedback. Barbara was not willing to let Lee make mistakes with her students. Consequently, Lee was quite disempowered in her own development and in the students' eyes.

Lee's mentor's perspective, her lack of sensitivity to Lee's development, and her constant intervention in classes, reinforced Lee's feelings of inadequacy, particularly as Lee knew she had considerable adjustments to make coming into her final practicum. Lee's anxiety levels rose during her practicum and especially towards the end, when she was flagged by her mentor as being at risk of failing. This anxiety directly inhibited her ability to see in the classroom when her mentor was present. The University Colleague who viewed two of Lee's lessons towards the end of her practicum formed a different view of her teaching and of her ability to learn. Lee seemed better able to see in the classroom when the University Colleague was present.

Lee was, by her own definition, a visual learner. The *Seeing to Learn* project gave her an opportunity to understand, using a visual perspective as the entry point, what was happening in her classroom and the classrooms of her peers. Her attentiveness to transitions (from the desks to the mat, or the mat to the desks), observed in her own video clips and in the video clips of others, directly translated into improved transition management in her classroom. Lee's self-esteem improved when she was able to see the effect her changing practice was having on students, and also when she was able to offer suggestions to her peers about their student management. The video discussion meetings helped Lee to learn to see in her classroom, and improved her ability to reflect on her practice and to implement changes that were noticed by the University Colleague and by her students. The perspective of her students supported Lee's dwindling self-esteem as she developed deeper and more positive relationships with them. At the end of her practicum Lee's students reported that she made them feel good, really listened to them, knew about their learning, and helped them to learn.

Lee's teaching practice at the end of her practicum was noticeably different from her practice at the beginning. She shifted from a teacher-centred to a more student-centred approach, employed more positive and affirming strategies, listened more carefully and showed increasing ability to know and understand her students and their learning. She started the practicum by learning all her students' names and by the end of the practicum she knew a great deal more about each of them, particularly in relation to their learning needs.

Looking at video clips of her own teaching practice, and that of her peers, improved Lee's ability to understand what was required of her and to reflect on her practice. After comparing her practice with that of her peers, Lee felt empowered to challenge the evaluation of her mentor, to refrain from pulling out of the practicum, and to request a second evaluation of her practice by a University Colleague.

For Lee, her professional growth appeared to be constrained by her emotional state. She felt unsupported by the official structures at the school and overwhelmed by the volume and tone of the feedback provided by her mentor, and by her mentor's direct contradiction of her directives to students. This induced a state of anxiety which made it difficult for Lee to be receptive to advice and open to learning. Her mentor's constant interventions in her lessons, and her eagerness to take over when she felt Lee was not coping, reinforced Lee's feelings of inadequacy and reluctance to step up into the role of teacher.

The opportunity to view her own teaching practice, and that of her peers, seemed to work well for Lee, who had identified herself as a visual learner at the beginning of her practicum. The video discussion meetings helped her to develop an ability to see potential behaviour problems. The relaxed and supportive atmosphere of the video discussion meetings allowed Lee to be open to learning other teaching strategies, beyond the formal behaviour management system that was in place at the school. Her self-esteem grew when she was able to see ways of contributing positively to her peers' growth. Lee's participation in the *Seeing to Learn* project was a key factor in her decision to remain on the practicum.

Chapter 8: Cross-case Analysis and Discussion

Introduction

Pre-service teachers usually learn to teach by teaching under the direct supervision of an experienced teacher, who becomes their major source of feedback and guides their reflection and professional development. The *Seeing to Learn* project set out to investigate the impact of a multiple perspective environment on pre-service teacher professional development and growth. The additional perspectives on classroom practice were obtained through reflection on video of pre-service teachers' lessons, peer feedback, feedback from experienced university educators, feedback from other mentor teachers, and classroom student perspectives. Each perspective had an effect on the formation of pre-service teachers' professional teaching identity and the development of their teaching practice.

This chapter presents and discusses the higher level themes emerging from a cross-case analysis of the rich data in this study. The themes relate to the personal and contextual variables affecting professional growth; and, the direct and indirect impacts of multiple perspectives and professional discourse on professional growth. The chapter also relates the findings to the conceptual framework guiding this study. This conceptual framework highlights the complexity of learning to teach, combining socio-cultural development with activity theory in a system in which the subject (the pre-service teacher) is influenced by the context within which he/she learns to teach, and in turn influences that context; the object (the goal or purpose); and the mediating tools available for appropriation (Dang, 2013; Engeström, 2001, 2008; Smagorinsky, Cook, Jackson, Moore & Fry, 2004). The cross-case analysis and discussion illustrates how learning involves meaning making and arises from contradiction, as well as the affective aspects of social interactions within a learning community. The discussion draws on two of Vygotsky's concepts: the cognitive ZPD and the affective *perezhivanie,* the emotional experience that influences how interactions are interpreted (Vygotsky, 1994).

Context and Challenges

Pre-service teachers are under intense pressure during their final practicum, not least because the grade obtained on this practicum determines, to a large extent, their employment opportunities upon graduation. While institutional guidelines were in place to regulate the

exposure of pre-service teachers in this study to undue pressure, the practice of mentors essentially determining the pre-service teachers' final practicum grades meant that the relationship a pre-service teacher established and maintained with his/her mentor was of paramount importance. The challenges arising from mentors taking on the role of both coach and assessor have since been recognised by the institution. In 2013 the University changed the grading process so that pre-service teachers are no longer graded by their mentor, but by assessors from the University. This was implemented to facilitate a focus on the coaching role of mentors.

Personal and Contextual Variables Affecting Professional Growth

Pre-service teachers were influenced by a range of factors during their final practicum. These factors have been broadly classified into two types: personal factors and contextual factors. Data about these factors were reported in Chapters 5 to 7. Key findings are summarised in Appendix B.

Personal attributes, identities, beliefs and experiences

Pre-service teachers were influenced in their approach to the final practicum by their personal attributes and circumstances, their beliefs about teaching and about students, their prior experiences, and their professional identities. Thus Lee's belief, that students needed to be carefully watched for early signs of misbehaviour (KF 7.4), was reflected in her focus on behaviour management (KF 7.14, 7.16, 7.17 & 7.22). Paul's belief, that a teacher is the primary source of knowledge for students, was reflected in his focus on preparing resources and delivering content (KF 5.3). Bruce's belief, that students' knowledge is socially constructed (KF 6.3), was reflected in the way he structured lessons so that students had time to work together. This link between beliefs and actions accords with the findings of Fitzgerald (2013) and Pajares (1992) that teachers' beliefs strongly influence their classroom practice.

Beliefs are deeply internalised tacit knowledge that drive instinctive actions and reactions (Daniel, Schwier & McCalla, 2003). Pre-service teachers experiencing the intense pressure of their final practicum often acted and reacted quite instinctively ("you don't even realise you're doing it", Paul). Their perception of pressure was affected by how prepared they felt for the challenges of their final practicum, as well as by their professional identities. Their prior teaching experiences helped to form their teaching identity and set the scene for the trajectory of their professional growth during their final practicum: for example, Bruce's prior

teaching experiences and professional identity as a coach predisposed him to adapt the curriculum to the learning needs of individuals (KF 6.1). During his first practicum he practised adapting the curriculum and developing his ability to notice a range of indicators of student learning in the classroom (KF 6.2).

Paul had extensive teaching experience in an adult training environment where delivery of content was paramount (KF 5.1). His professional identity as a teacher was informed by his perception that the role of a teacher is to be the primary source of knowledge and to ensure transfer of that knowledge to students (KF 5.3). Paul's first teaching practicum did not trigger many tensions for him between the role he'd expected to play as a teacher and the approach that seemed to work for his students. The mainstream students he taught did not require adaptation of established lessons to cater for differing cultural and socio-economic backgrounds (KF 5.5), so this allowed him to continue the approach of delivering prescribed content. Paul, therefore, entered his final practicum with an established teaching identity that was quite didactic and transmissive. When he began his final practicum, teaching a full load from the first week, Paul was immediately confronted with contradictions between what had worked before and did not seem to be working in the new multi-cultural setting with students from educationally disadvantaged backgrounds. His initial response, triggered by his beliefs about teaching, was to put even more effort into preparing well-resourced lesson plans (KF 5.19 & 5.22).

Lee was the most inexperienced of the three pre-service teachers in this study. Her only prior classroom teaching experience was her first practicum, where she had a very supportive mentor who helped her to do everything (KF 7.1). As a result the first practicum did not challenge or extend Lee and left her ill-prepared for her final practicum (KF 7.7 & 7.9). In particular, her final practicum mentor had expectations about what Lee should have done during her first practicum that were not met, leading her to the conclusion that Lee's preparation for the final practicum was inadequate (KF 7.9).

The differences between the pre-service teachers' personal attributes and circumstances, beliefs, prior experiences and professional identities contributed to magnifying the differences between their practicum experiences in terms of how they taught, even though they were at the same school and teaching similar students. This accords with the findings of other researchers (Fitzgerald, 2013; Hackling & Prain, 2005; Keys, 2007; Olafson & Schraw, 2006) that teachers' beliefs influence their teaching practice and that identity formation is a dynamic

process that is social in origin and has inherent tensions in its construction (Akkerman & Meijer, 2011).

Beyond the impact on teaching practice, this study found that pre-service teachers' prior teaching experiences, their professional identity and their beliefs about teaching also influenced their approach to learning during their final practicum. This could be seen in the way Paul did not ask for assistance, but coped by being selective about what elements of feedback he attended to (KF 5.30 & 5.31). From his perspective as a learner, he was receiving content (feedback from multiple sources) and his task was to learn what he could from it. Lee believed that students pretended to understand when they didn't, and that they were inclined to misbehave when the opportunity arose (KF 7.4). During her pre-interview with the Researcher, Lee said that she was not good at the written aspects of her previous practicum (KF 7.2), referring in particular to the fact that she had not done any written reflection at all until the University Colleague placed pressure on her to do so towards the end of her practicum, and also saying that she found it easier to understand feedback when her mentor walked around the classroom pointing out where incidents had occurred, rather than reading what the mentor had written about her lesson. However, she did not communicate to her mentor in any way that she had difficulty processing the detailed written feedback she received. On one particular occasion Lee's mentor discovered that she had not even read her feedback. This contributed to her conclusion that Lee was not committed to teaching. Bruce's student-centred approach to teaching meant he encouraged students to reflect on their learning (KF 6.12), to ask questions and be pro-active about solving their own problems (KF 6.11 & 6.22). He approached his final practicum in the same reflective frame of mind he expected of his students and was pro-active about seeking feedback beyond the minimum required (KF 6.6, 6.12 & 6.23). He sought to understand what he was doing rather than just learning how to do it (KF 6.25).

Pre-service teachers fluctuate between seeing themselves as students and as teachers during their teacher training. Their identities are shaped and reshaped within systems and settings through relationships. Thus the individuals with whom pre-service teachers interact motivate them to develop in specific directions (Akkerman & Meijer, 2011). The impact of those interactions is discussed below.

Contextual variables

The final practicum teaching experiences of pre-service teachers in this study were affected by the school environment and culture, by the students they taught, and by their mentors'

expectations and beliefs. In a Vygotskian view of socio-cultural learning the learner's task is seen as coming to know the wider community, its ways of working and its cultural tools. Induction into the language of a discipline and/or a professional community is an important part of socialisation into that community (Lemke, 2001; Lingard, Reznick, DeVito & Espin, 2002; Vygotsky, 1962).

The school in which the pre-service teachers did their final practicum had a particular way of working that included a specific behaviour management system. Pre-service teachers, and new teachers to the school, were formally inducted into the behaviour management system. Behaviour management became a key focus for the pre-service teachers during their practicum as they took their cues from their mentors and quickly adopted the school community's behaviour management strategies such as issuing raffle tickets to reward and reinforce desired behaviour (KF 5.14, 6.4 & 7.18).

Another aspect of the pre-service teachers' enculturation into the school included coming to terms with the expectations of their mentors and the constraints on their mentoring (KF 5.4, 6.4 & 7.5). The extent of their enculturation into their mentor's world was illustrated by the relationship that developed between mentor and mentee. Interpersonal skills were critical to the development of productive mentoring relationships, as demonstrated by Bruce (KF 6.21). The feedback received from mentors also differed in the tone and underlying/implicit message. Paul and Bruce's mentors treated the pre-service teachers as autonomous adults who they trusted to make good decisions about their teaching. They conveyed this message by encouraging them to seek feedback from multiple sources, including other teachers at the school, and not expecting them to blindly follow their recommendations about teaching or to model themselves solely on them. Lee's mentor reached a conclusion fairly early in her relationship with Lee that she would need constant guidance and supervision and could not be left alone, perhaps concerned that her lack of skill and preparation would have a negative impact on her students (KF 7.29). The mentee in this case was also the youngest of the pre-service teachers. A dependent relationship was established early and it seems that the cycle of dependency was exacerbated by the classroom actions and feedback of the mentor and by the mentee's response (KF 7.15 & 7.29). The degree of perceived equality in the relationship established between mentor and mentee in this study appeared to affect pre-service teachers' learning. This is supported by adult learning theory which holds a set of assumptions about how adults learn. Andragogic approaches to learning are problem-based and collaborative

rather than didactic, and emphasise greater equality between the teacher and learner (Knowles, 1990). This approach occurred in two of the three cases.

Ambrosetti, Knight and Dekkers (2014) propose a framework for mentoring that recognises the complexity of mentoring in pre-service teacher education. The framework addresses three elements of mentoring: the relationship; the outcomes to be achieved; and, the context or situation in which the mentoring takes place. Relationships are more productive where there is an element of reciprocity, even though the contribution of mentor and mentee may be asymmetrical. Outcomes are more likely to be achieved where both mentee and mentor have goals to work toward, and where they work collaboratively towards achieving those goals. The context goes beyond the setting to include how workplace culture is communicated and professional behaviour modelled. Ambrosetti, et al. (2014) note that "a relationship that is based on hierarchy and power rarely cultivates connectedness and/or productive outcomes" (p. 225). A layer of complexity is added to the mentoring process when the mentor is also the supervisor and, as in this study, the person responsible for determining the pre-service teacher's practicum grade. This leads to mentors using supervisory strategies from a position of power, such as when Barbara's feedback contained a great many evaluative statements that identified gaps between Lee's current and desired performance (KF 7.5, 7.9 & 7.29). Bruce's mentor took a more collaborative approach, which led to a more enjoyable and productive mentoring relationship (KF 6.8, 6.10 & 6.24).

The differences in mentor-mentee relationships affected the degree to which pre-service teachers formed their teaching identities. Learning to teach entails taking on a different identity and the responsibilities enabled by the accrediting system (Lave & Wenger, 1991). For Bruce the transition from coach to teacher took place during his first practicum, so he entered the final practicum with a clear teaching identity (KF 6.8). For Paul too, the transition from trainer to teacher began during his first practicum. At the start of his final practicum he saw himself as a teacher, albeit a didactic one still struggling to move away from the mindset of his training days (KF 5.1, 5.3, 5.16, 5.20 & 5.29). In Lee's case, she entered her final practicum still struggling to form her teaching identity. Unlike Bruce and Paul, she seemed to see herself as a student during most of her practicum. This was illustrated by her concern about being blamed for things that went wrong, and by her dependence on her mentor for decisions about lesson planning and resources. She had a transmissive view of the role of teachers (KF 7.27) so, as a student, she expected to be told what to do by her teacher (mentor) and was extrinsically motivated, depending on external pressure to change (KF 7.2). The pre-service teachers'

identities had an impact on how they cognitively and affectively experienced their final practicum. The concepts of identity and *perezhivanie* together help to explain the lens through which their experiences were viewed. Their cognitive and affective responses to those experiences in turn affected their identity formation.

The practice of mentors undertaking the role of both coach and assessor had the potential to place pressure on pre-service teachers to engage in mentor-pleasing behaviours (KF 5.31). The pre-service teacher's relationship with their mentor, and whether they felt their mentor believed they would be good teachers, affected their readiness to take risks and therefore affected their development (KF 7.9). The mentor beliefs were not explicitly stated, but were conveyed by their actions and by cues that indicated the degree of equality they perceived between themselves and the mentee. In Bruce's case the mentor joked and laughed with him in class, treating him as an equal in front of the students and thereby according him the status of a teacher. Paul's mentor went into the observation room when lessons were being recorded, leaving the classroom space for Paul to occupy as the only teacher in the room. In Lee's case her mentor stayed in the room, countered her responses to students, and stepped in as the real teacher when she appeared to not be coping. The pre-service teachers' practicum experiences were affected by much of what their mentors did, but perhaps even more by what their mentors thought and believed about them, whether explicitly stated or implicitly conveyed through actions. For the pre-service teachers in this study the quality of the relationship with their mentors, and the expectations of their mentors, had a significant impact on their practicum experience (KF 5.31, 6.10, 6.24 & 7.28).

During the study it became clear that a significant constraint on the development of productive mentoring relationships was a lack of time, particularly time for reflection and discussion. At the end of the *Seeing to Learn* project mentors expressed regret that they had been unable to spend much time contributing to discussions about the pre-service teachers' video clips on the *Seeing to Learn* discussion board. This lack of time is a commonly stated constraint on mentoring in schools (Ure, Gough & Newton, 2009). The time pressures experienced by mentor teachers influenced the mentoring strategies they used. One strategy to overcome the constraint was to dedicate time to feedback at night or over the weekend. That meant feedback was in written form which was given to the mentee with little discussion and scant opportunity to ascertain how it was being received by the mentee and a consequent risk of imposing "focus and perspective from outside and above" (Paris & Gespass, 2001, p. 400). The fact that the mentor was also the assessor reinforced the disparity in power between

the mentor and mentee. Nicol (2010) emphasised the merit of taking a dialogical approach to feedback, claiming that written feedback, which is essentially a monologue, does not support student-teacher interaction effectively.

Relationships with significant others are key to the formation of teacher identity. Learning to teach, or learning to be a teacher, is learning to think, to know, to feel and to act like a teacher (Beauchamp & Thomas, 2009; Feiman-Nemser, 2008). Teaching identity formation is challenging because teacher identity is constructed within activity settings that often provide conflicting feedback (Smagorinsky et al., 2004). Pre-service teachers' prior experiences, beliefs, personal attributes and emerging identities affected their approach to learning and teaching and their relationships. The combination and interaction of these factors positioned them for quite different learning journeys and learning outcomes. The conceptual framework incorporates theories that can encapsulate and explain the above phenomena. In addition to the concept of ZPD, which elucidates the role of social conditions in the development of thinking (Moll, 1990; Tudge & Winterhoff, 1993), Vygotsky (1994) developed the interrelated concept of *perezhivanie*, broadly translated as an emotional experience. He described such emotional experiences as the lens through which the person becomes aware of, and interprets, events. He noted that the same event can have completely different meanings for different people. Their responses are affected by differing emotional experiences, which in turn relate to the cognitive meaning they make of the situation (Dang, 2013; Vygotsky, 1994). Smagorinsky (2011) refers to the concept of meta-experience, noting that "people frame and interpret their experiences through interdependent emotional and cognitive means, which in turn are related to the setting of new experiences" (p. 337). These concepts offer some explanation of the lens through which the cognitive development of the pre-service teachers' teaching practice prior to their final practicum was experienced. All pre-service teachers came into their final practicum with quite different viewpoints and expectations of their teaching. Clearly this affected their growth and perhaps the way they were treated. *Perezhivanie* helps us to understand how their perception of experiences during the final practicum affected individual growth. As described above, Paul and Bruce were given considerable autonomy in the classroom as they stepped into the role of teacher and took on the authority and responsibilities of that role. They were able, at least to some extent, to set their own directions for professional growth, and generally had positive emotional experiences during their practicum that confirmed their emerging professional identities and enhanced their self-efficacy.

Summary of personal and contextual variables

The professional growth of pre-service teachers on their final practicum was affected by both personal and contextual variables. They had differing beliefs about teaching (whether it means transmitting knowledge to a group or coaching individuals within a group), about learning (whether students should absorb knowledge from the teacher or construct their own knowledge), and about themselves (their self-efficacy and professional identity). The impact of those beliefs played out in the way they responded to the school environment and culture, to their mentors, and to the students they taught. Their personal attributes and beliefs also influenced the coping mechanisms they employed in response to pressure, their capacity to interpret and act on mentor feedback, and the relationship they built with their mentor. That relationship was further influenced by the mentors' own beliefs about teaching, and about their mentees, and by their role as both coach and assessor. A significant contextual variable that affected the development of the mentor/mentee relationship was the lack of time for dialectical conversations in which assumptions could be tested, biases exposed and collaborative decisions made. *Perezhivanie* explains how the emotional aspect of the relationship affected the interpretation of interactions and professional growth. This was most noticeable in the case of Lee, who struggled to respond constructively to mentor feedback because she felt undermined by her mentor and lacked emotional support.

Impacts of Multiple Perspectives and Professional Discourse on Professional Growth

Pre-service teachers in the *Seeing to Learn* project received feedback from multiple sources. The multiplicity of feedback sources meant that the type and complexity of the feedback varied. Research data about feedback, reflection and professional discourse were reported in Chapters 5 to 7. Key findings are summarised in Appendix B.

Mentor feedback and relationship

Mentoring pre-service teachers is a complex and difficult task. The findings of this thesis point to the need for mentor teachers to not only know their classroom students and how they learn, but also to know their mentees and how they learn. The Australian Professional Standards for Teachers do not yet adequately recognise the specialised skills required of mentor teachers. Although there is some recognition that Highly Accomplished teachers should be able to "support pre-service teachers to improve classroom practice" (AITSL

Professional Standard 6), the focus of resources and support is on the supervisory role, rather than on the development of effective mentoring relationships.

Effective mentoring requires time to build a relationship (Coombs & Goodwin, 2013). Mentors need expert knowledge of the skills and strategies required for good teaching, and an explicit understanding of pre-service teachers and the developmental stages they go through (knowing mentees and how they learn). Mentor teachers need to be aware of what their pre-service teacher mentees are ready to see and respond to (Nilsson, 2009). This is easier to do when an open, respectful and positive relationship is developed, such as that between Bruce and his mentor (KF 6.21 & 6.24).

One of the inhibitors of effective teacher education, in the United States and in Australia, is that pre-service teachers do not necessarily get access to the thinking and decision-making processes of their experienced mentors (Hammerness et al., 2005; Zeichner, 1996). Consequently this inhibits the development of their pedagogical reasoning, which influences approaches to teaching (Shulman, 1987). In this study those participants that most actively and deliberately sought access to their mentors' thinking showed the highest levels of pedagogical reasoning. For example, Bruce tended to look for the reasons behind teaching decisions and sought to understand student responses to those decisions (KF 6.10 & 6.16). During the video discussion meetings he was explicit in explaining the principles underpinning his own strategies and it was clear that his pedagogical reasoning was developing rapidly (KF 6.23, 6.24 & 6.25). However, Lee, who had low levels of self-efficacy and emotional maturity, tended to perceive feedback from her mentor as a personal criticism (KF 7.28). Because of this perception, she withdrew from engaging with Barbara's feedback and acting upon it. If the mentor is not sensitised to this they may continue to expend energy on feedback that is wasted as it is not received or acted upon. Indeed, this was evident in Barbara's feedback to Lee: "Once again, on the floor, make sure you have all the class' attention before you start." (Written feedback, 11/8/2011); "As I have said before, the whole block rule is that no one goes for a drink or a toilet trip during class." (Written feedback, 21/10/2011); and "As far as Maths goes, as I have said before, I think it is important to start at the start with this group of children." (Written feedback, 4/11/2011). These are all indicators of a message not received.

The initially more confident and able pre-service teacher in this study (Bruce) was passionate about reflection and mostly directed his own learning, actively seeking feedback in addition to carefully considering feedback provided by others, including his mentor (KF 6.23). In contrast, Paul was selective in his use of feedback (KF 5.31). Some students, like Paul, can feel

overwhelmed when trying to assimilate all feedback and so make a conscious decision about which feedback to respond to and which to ignore or withdraw from. This study found that pre-service teachers' levels of self-esteem and self-efficacy affected the relationship with their mentor and the extent to which they could make effective use of feedback to improve their performance.

The keys to establishing a successful mentoring relationship include creating a relationship of trust, using open and supportive communication, and collaboratively solving problems (Byington, 2010). In cases where those factors were not present the quality of the relationship was compromised, and then, almost as a consequence, the self-efficacy and professional identity of the pre-service teachers involved was affected. There is a complex interplay of relationships and settings that combine to form teacher identity. Identity is not merely a cognitive construct, but involves elements of *perezhivanie* and this emotional component was affected by the mentor/mentee relationship.

Sharing of video and video discussion meetings

Pre-service teachers participating in the *Seeing to Learn* project alternated between two main roles: that of student and of teacher. One of the benefits of video is that it allows pre-service teachers to immerse themselves in the role and experience of being a teacher, whether in their own classroom or that of a peer. Harlin (2013) noted that teachers who saw themselves teaching were surprised by certain habits, resulting in reflection about these and often an intention to change. This accords with findings that the potential for reflection increases with the use of video (Goldman, Pea, Barron, & Derry, 2014; Hauge & Norenes, 2009; Wright, 2008). Watching themselves on video gave pre-service teachers in this study the opportunity to immerse or re-immerse themselves in their teaching experience, stimulating Schön's (1983) reflection-in-action and reflection-on-action (Säljö, 2009).

Clark and Peterson (1986) proposed a model of teacher thought and action to explain that how teachers think, act and react ultimately determines the effectiveness of their teaching. Ahmad (2008) pointed out that teachers think differently during interactive teaching compared to their thinking while not interacting with students, and that teachers' knowledge affects their planning (their pre-active thoughts) and their interactive thoughts and decisions. During video discussion meetings pre-service teachers had the opportunity to recall their interactive thoughts as they re-immersed themselves in the experience of teaching. Such recall would enhance their capacity to notice and understand salient events, and ultimately enhance their teaching effectiveness (Ahmad, 2008; Clark & Peterson, 1986).

Watching video also created cognitive dissonance for the pre-service teachers in this study. The opportunity to replay the video and begin to notice what was happening, combined with professional discourse involving pedagogical reasoning, led to an expansion of pre-service teachers' cognitive structures about their teaching (KF 5.20, 5.24, 6.10, 6.18, 7.19 & 7.21). As a result they were better able to accommodate and assimilate significant classroom events and to integrate them into their developing professional vision. Even the process of selecting their video clip required analysis and editing, which in itself facilitates deeper reflection on teaching and learning (Darling-Hammond & Bransford, 2005; MacLean & White, 2007).

Watching their own video enabled pre-service teachers to construct their own feedback using immediate, visual primary data. Personal reflection on what they saw in the videos, combined with video discussion meetings, gave them the opportunity to compare their practice with that of others who were also beginning teachers (KF 5.9). This allowed them to calibrate their judgement as to their effectiveness as a teacher. Video discussion meetings also gave them opportunities to identify and discuss strategies that could improve their practice, and to deepen their understanding of the principles underpinning effective teaching. This offered another view, and sometimes a counterpoint to mentor feedback, and encouraged a larger frame of reference better able to accommodate multiple perspectives, leading to engagement in a professional discourse that promoted professional growth.

Knowles (1990) identified adult learners as being mostly intrinsically motivated and goal oriented. Their orientation to learning is problem-centred and they seek practical, relevant knowledge at the point of need. Adult learners bring both knowledge and life experiences to their learning experiences. They like their opinions to be heard and respected and the video discussion meetings provided time and space for this to occur. This resulted in the pre-service teachers showed greater inclination and capacity to learn, as Knowles would predict. This study also draws on situated learning theory which suggests that skills should be acquired through authentic contexts and by communicating with peers and experts about and within those contexts (McLoughlin & Luca, 2002). Oliver (1999) found that students can process concepts and information more thoroughly when multiple opinions, perspectives, or beliefs must be accounted for across a group. Video recordings, combined with participants' reconstructive accounts of classroom events, facilitate detailed analysis (Clarke, et al., 2007). The importance of professional learning communities (allowing multiple opinions and perspectives) in sustaining capacity building of continuing teachers has been well documented (Stoll, Bolam, McMahon, Wallace & Thomas, 2006; Stoll & Louis, 2007; Vescio, Ross & Adams,

2008; Warren Little, 2002), and this study demonstrates the significant contribution of being a member of a professional learning community to the professional growth of pre-service teachers.

During video discussion meetings, feedback on teaching practice was no longer a monologue as it sometimes was from a mentor, particularly in the case of written feedback. Pre-service teachers were exposed to a rich pool of experiences and ideas that they could analyse, evaluate and adapt to suit their own needs. This social process of the professional learning community that developed during the *Seeing to Learn* project, helped turn information into knowledge (Hargreaves, 2007). During this process students used feedback to calibrate their own judgement of their performance and to engage in professional discourse which clarified standards and helped to develop the pedagogical reasoning and professional judgement required for future development in their discipline (Boud & Molloy, 2013; Sadler, 2013). Video was also a compelling factor in bringing about the internal contradictions necessary for growth. For example, Paul thought he had used questioning to lead students to the learning he wanted to achieve, but when he saw the video he realised that he had still answered most of his own questions, so could no longer sustain this view and had to reconcile the contradiction (KF 5.22).

Feedback needs to be within a students' zone of proximal development (Vygotsky, 1978) in order for it to be used to change practice. Pre-service teachers were aware of distinct differences in the complexity of the feedback they received and noted that it was useful to receive both simple and complex feedback, but that feedback received from their peers was usually more accessible (KF 5.33) meaning it was more likely to be within their ZPD. Pre-service teachers noted that being involved in the *Seeing to Learn* project gave them an opportunity to see that their own practice was not all that different from that of their peers, and that others experienced many of the same issues they did (KF 7.30). This increased their sense that they were legitimate members of a teaching community, all attempting to cope with similar problems (initially around behaviour management). Finally it was clear in this study that the professional discourse around collaborative video analysis gave pre-service teachers opportunities to make previously implicit beliefs and practices much more explicit and transparent.

Capacity to see and understand salient features of practice

All participants found that viewing the practice of peers was helpful. The way it was helpful was idiosyncratic and related to their stage of teacher development. For example, Bruce

wanted to understand the reasons various strategies worked, or did not work. He compared peers' experiences with his own and tried to explain the differences. When he shared his own experiences he carefully explained why he had chosen particular strategies or activities (KF 6.16). He put considerable thought into selecting video clips to share in the video discussion meetings, and listened carefully to the feedback from his peers. He also discussed the video discussion meetings with his mentor and made decisions about how to implement the feedback in subsequent lessons (KF 6.24). His awareness of what he was not seeing was developed through this process, leading to a broadening of his vision in the classroom and a deeper understanding of antecedents to significant events (KF 6.25).

Bruce also learned from the vicarious experiences of watching his peers' video clips and discussing their teaching and learning dilemmas. He compared their experiences to his own, including experiences from his previous practicum, and asked questions to probe more deeply into the issues that challenged his current knowledge and beliefs. The multiple perspectives helped Bruce to triangulate evidence and interpret events in a way that continually refined his understanding of teaching and learning, and improved his professional practice (KF 6.12 & 6.20). He could bring a deeper understanding to subsequent classroom events.

Looking at video clips of her own teaching practice, and that of her peers, improved Lee's ability to understand what was required of her and to reflect on her practice (KF 7.14). Unver (2014) found that pre-service teachers prefer verbal group discussions over individual written reflection, and that feedback from other pre-service teachers improves teaching performance. Lee's attentiveness to classroom movement (from the desks to the mat, or the mat to the desks), observed in her own video clips and in the video clips of others, directly translated into improved management of student movement in her classroom (KF 7.13). Lee's self-esteem improved when she was able to see the effect her changing practice was having on students, and even more when she was able to offer suggestions to others about their student management (KF 7.19). The video discussion meetings helped Lee to learn to see in her classroom, and improved her ability to reflect on her practice and to implement changes that were noticed by the University Colleague and by her students (KF 7.24 & 7.25).

By viewing the practice of his peers, Paul realised that they were experiencing much the same issues as he was, and that his practice wasn't too far off the mark. Broader vicarious experiences helped him think about behaviour management antecedents. He learned different ways of managing student movement and of engaging students, gradually moving towards a more student centred view of learning (KF 5.11, 5.16 & 5.34).

Informed professional judgement requires understanding of why a particular strategy is chosen in a particular situation, an understanding of the merits of one strategy over another, and an acknowledgement of circumstances in which there is no 'right' answer (Tripp, 1993). Professional judgement also requires professional vision, an ability to notice and interpret significant features of classroom interactions (Sherin & van Es, 2005). The pre-service teachers in this study all commented on how much they had not noticed during their lessons. They were moving along a developmental path that was gradually developing their ability to see. This was evident when they also realised that they could be watching exactly the same video and yet see different things. The presence of the facilitator (highly experienced teacher and observer), who noticed a lot more on the videos than they did, helped them to understand that learning to see is a lifelong process, and helped them to learn to see. Their learning was enhanced by interaction with more knowledgeable peers. Hogan and Tudge (1999) found that it is important for learners to be exposed to a higher level of reasoning than the current level for their cognitive growth. For the pre-service teachers in this study, video offered a window into how an experienced other viewed the complexity of classroom teaching and this supported the development of their professional vision. Video recording of the lessons took place in a room which had four cameras filming from different positions in the room. Each camera could be zoomed in or out. The resulting videos and video clips therefore portrayed the lesson through four windows, helping viewers to appreciate the myriad of interactions that represent typical classroom situations. The act of reviewing, analysing and discussing critical incidents depicted on video helped pre-service teachers to expand their professional vision. This finding accords with the findings of Sherin and van Es (2009) in relation to the use of video clubs for the professional development of practicing teachers.

The benefits of video could arise because the pre-service teachers were given agency in controlling the aspects of their teaching to be discussed. Lipponen and Kumpalainen (2011) found that agency can be transformative when it involves stepping away from a given frame of action. For pre-service teachers that given frame of action is responding to mentor teacher feedback. In the *Seeing to Learn* project, pre-service teachers were able to take some ownership of their own professional development. They were able to use video to have a second look at their practice, leading to what Charteris and Smardon (2013) called a second think: an opportunity to think deeply and gain additional insights into their practice. The video discussion meetings incorporated a key feature of successful learning communities; that of time and space to engage in learning relationships characterised by trust and reciprocity (Le Cornu & Ewing, 2008). Learning conversations provided a dialogic learning culture which

facilitates participation in professional learning (Lipponen & Kumpalainen, 2011; Youens, Smethem & Sullivan, 2014). Effective learning is transformative, leading to changed actions and beliefs. Beliefs are often revealed by actions. By reflecting on their actions during video discussion meetings, the pre-service teachers gradually adjusted their beliefs, broadened their cultural understandings, acknowledged their feelings and developed new insights into effective teaching.

Adaptation of practice and professional growth

Morehead and Shedd (1997) found that the use of constructive, formative processes of peer review of teaching, that included the use of video, increased the quality of teaching practice. For the pre-service teachers in this study, such constructive, formative processes were enacted through the professional discourse of their video discussion meetings, as well as and to a lesser extent, through dialogue with their mentor. The outcomes of these processes (in this study) support the contention that teaching identity is socially constructed (Atkinson, 2004; De Ruyter & Conroy, 2002). Structured reflection, particularly where it moves through stages of analysis, evaluation, reconceptualisation, and changes in teaching philosophy and vision, is a key part of the social processes that support the development of professional identity (Cattley, 2007).

The extent to which reflection affected teaching philosophy and vision and ultimately tacit beliefs and professional identity, was different for each pre-service teacher in this study. However, it was clear that the changes to their practice stemmed from their emerging teacher identities. For example, in Lee's first video lesson she stood near the front of the room throughout the lesson, making little use of proximity as a behaviour management technique and leaving Barbara in control of most of the physical space in the room (KF 7.11). Her professional identity was still grounded in that of a student, yet by her second lesson this was changing and she began to demonstrate more teacher-like behaviour. In the video discussion meeting that week Lee showed significant growth in her ability to notice potential triggers for misbehaviour in the video clips of her peers (KF 7.14). In her subsequent lesson her 'cue to attention' worked well, she noticed when students were off task and responded more quickly, demonstrating evidence of changing professional vision and pedagogical reasoning. By reflecting on teaching through discussions, Lee had improved her teaching performance, growing and strengthening her teaching identity.

However, pre-service teachers' identity is particularly vulnerable, fluctuating from one practicum experience to the next (Cattley, 2007) and, as shown in in this study, even from one

week to the next. Coldron and Smith (1999) explain that teacher professional identity is about seeing oneself as a teacher and being seen by others as a teacher. During video discussion meetings pre-service teachers were able to see themselves as teachers, and were seen by their peers as teachers. Lee's sense of teaching competence improved when she compared her teaching performance with those of her peers, and when she was able to offer constructive suggestions to peers. This sense of competence is an important element of professional identity that can easily be undermined if there is an over-abundance of negative feedback (Cattley, 2007).

In this study it was found that the mentee's perception of negativity and criticism became their reality and affected the extent to which they engaged with feedback. For example, Paul, noting that the amount of feedback was quite overwhelming and also that there seemed to be a focus on negative incidents, rather than reflecting on and celebrating the positive, became selective about which feedback he then responded to . Teaching is a relational profession (Connelly & Clandinin, 1999) and this study found that a pre-service teacher's perception that mentor expectations had not been met, affected the mentor/mentee relationship. In Lee's case her response was to distance herself from Barbara and consequently she was no longer open and receptive to Barbara's feedback. Lee became anxious about being judged, and this affected her professional vision and pedagogical reasoning when Barbara was in the classroom. Her capacity to learn from Barbara was compromised by his *perezhivanie*.

Pre-service teachers' capacity to learn is reified through the pedagogical tools they appropriate. This appropriation of pedagogical tools was particularly evident in the video discussion meetings, such as when Paul, after noticing how Bruce used questions to probe for deeper learning in one of his video clips, gradually incorporated more and better questioning techniques, encouraging students to contribute more and trying to lead them to the ideas he wanted to get across (KF 5.15 & 5.22). Paul's concept of engagement had expanded from equating it with attention to considering active contributions to class discussions as a significant indicator of engagement. Paul gradually learned to let go of his compulsion to control the pace of the lesson so that he could deliver content according to a pre-planned timeline, and began to focus more on his students. The video discussion meetings assisted in giving him a new lens through which to view his teaching and this resulted in a shift away from his old teacher-centric practice as he began to focus on what the students were doing (KF 5.16). The finding that participants in the *Seeing to Learn* project became more student-centred accords with the findings of Dunne, Nave and Lewis (2000) that practices of teachers

who participated in a professional learning community became more student-centred over time.

Lee's final lesson also showed a shift from a teacher-centred to a more student-centred approach and illustrated the effect of the *Seeing to Learn* project on teaching performance. In a previous video discussion meeting she had seen Bruce use sophisticated questioning techniques that included re-direction and wait time, giving time for extended responses, and getting all students to commit to a position on a question. Lee's questioning strategies in her final lesson showed evidence of all those elements. She also applied gentle pressure to reluctant students, appropriating another pedagogical tool she had seen Bruce use in a previous lesson (KF 7.26).

By viewing Lee's capacity for growth through the theoretical lens of Cultural Historical Activity Theory (CHAT) (Engeström, 1987), we can gain some insight into the complexities of the factors, and of the interactions between these factors, that affected her growth. In CHAT the activities of an individual (subject), working towards his/her goals (object), are subject to mediating factors, in this case video, pedagogical strategies, skills and symbols (tools). The activities of the subject are also shaped by the community in which the activities take place. The relationship between the community and the subject is bounded by the rules, conventions and codes of the community, and the division of labour within the community affects the activities of individuals in relation to achieving the desired goals (Engeström, 1987; Grossman, Smagorinsky & Valencia, 1999). This helps us understand how pre-service teachers (as subjects) and mentors (members of the community) interrelate and how various tools and signs (such as video), conventions, and roles can influence relations and affect growth. In Lee's case (as with the other pre-service teachers) the video reflection operating within her ZPD (the benefit of reflecting with peers) enhanced her capacity for growth. The *perezhivanie* within this activity system positively affected her appropriation of pedagogical tools from her peers.

The *Seeing to Learn* project created a setting for cognitive apprenticeship (referred to in Chapter 2) and the video discussion meetings helped make thinking visible (reification), an important part of cognitive apprenticeship (Collins, Brown & Holum, 1991). A mechanism that helps explain how this occurs is provided by Vygotsky (1962). In a Vygotskyian view of how thinking develops, a key process is that of external speech becoming internalised thinking. The video discussion meetings helped these participants to talk about their thinking, thus helping them to internalise their own thinking, and that of others. Bruce had looked forward to participating in the video discussions (KF 6.6) and he enjoyed the opportunity to discuss why

he had chosen particular strategies, sharing his thinking with peers and his mentor, which peers did internalize and then act upon. This was an enjoyable experience for the *Seeing to Learn* project participants, resulting in a very warm and positive *perezhivanie.*

Pre-service teachers need to be both students and teachers. Ideally they become more self-directed learners during their practicums, preparing them for lifelong learning when they become professional teachers and need to be able to hold the paradox of being proficient, skilled and knowledgeable professionals while continuing to reflect, learn and grow through questioning their assumptions and engaging in action research (Bloomfield, 2004; Hargreaves, 1998). The *Seeing to Learn* project assisted with this development. For example, Bruce already had elements of being a self-directed learner with a student-centred approach to teaching when he began his final practicum. His main focus and direction for learning for his final practicum was on understanding the underlying reasons why some strategies were more effective than others. From the beginning he used questioning, redirecting and probing to reach for deeper thinking and learning (KF 6.9). During the video discussion meetings, Bruce showed awareness of possible antecedents to poor behaviour and shared how he had used his mentor's feedback to adapt a previous lesson (KF 610). As the practicum proceeded he developed his ability to engage students in high level thinking, and could manage students working on different tasks at the same time (KF 6.17). Bruce also shared his understanding of engagement and of a mistake he had made in positioning himself poorly for one of the activities, which had made behaviour management difficult. He was developing and refining his knowledge of behaviour management, moving to getting students to take responsibility for their own behaviour. By the end of the practicum Bruce had learned the value of having fun while learning and had turned his attention to differentiating teaching, linking the absence of differentiated activities to disengagement and potential misbehaviour (KF 6.14). In his final lesson he connected learning to students' daily lives in a way that often provoked laughter and helped students to learn (KF 6.16). This was a pedagogical tool he had appropriated from his mentor. During his practicum Bruce continually adapted his own practice, appropriating new pedagogical tools as he deepened his understanding of how students learn.

Change in teaching practice is influenced by many factors that produce both intended and unintended responses, some of which may be conflicting and may in turn trigger other responses. The complexity of change means it is often messy, interwoven and multifaceted (Jones, 2014). The change pre-service teachers exhibited was sociocultural in nature in that individual change was affected by the culture, context, and structures in which it took place, as

well as by the individuals' needs, perceptions, relationships and personal learning journeys. Part of this context was participation in the *Seeing to Learn* project.

Summary of multiple perspectives and professional discourse

The ability to adapt practice, and to grow as a teacher, requires development of the cognitive abilities of professional vision (noticing) and meaning making (pedagogical reasoning). Pre-service teachers' cognitive development is filtered through the affective lens of self-efficacy. Multiple perspectives on practice can change this lens as they positively or negatively affect self-efficacy. Video offers an opportunity to ground perspectives in a more objective reality. Agency in selecting areas of focus for professional discourse has the potential to improve self-efficacy as learners (the pre-service teachers) tend to identify areas for improvement of practice that are within their zone of proximal development. All the cases in this study were able to develop their professional vision and pedagogical reasoning. This development was affected by the mentor relationship. Pre-service teacher confidence, maturity and in general their self-efficacy affected whether they were able to build a productive relationship with their mentor, and consequently affected their ability to see and grow. Multiple perspectives and professional discourse offer opportunities to positively influence self-efficacy and therefore the capacity for professional growth. Sharing video allowed pre-service teachers to alternate between roles of teacher and learner, to compare practice, develop different ways of thinking and develop a wider vision of teaching. Within the video discussion meetings the professional discourse was dialogical and encouraged cognitive growth, deeper reflection, more refined understandings, greater awareness and a sense of a professional learning community. Implicit beliefs were often made explicit as pre-service teachers struggled to explain and understand their own teaching and that of their peers. Selecting and introducing their own video clips gave pre-service teachers stronger agency, and the opportunity to focus on their area of interest meant they were ready to learn, were more likely to see the effects of their practice, more likely to change their practice, and more likely to see the effect of their changing practice. This helped to move them towards more student centred practice.

The Emerging Theoretical Model

During their final practicum experience, the pre-service teachers in this study operated in a context where they were impacted by both personal and contextual variables. Personal variables included elements such as prior experiences, beliefs, knowledge and skills which all mediated their teaching and personal self-efficacy. These personal variables had a significant impact on the way they approached the learning experience of their final practicum and on

their ability to adjust to a school environment and students that were considerably different from those they had previously experienced. The contextual variables such as the grading system and the expectations of mentors also mediated and challenged both their intrapersonal and interpersonal skills.

Participation in the *Seeing to Learn* project gave pre-service teachers a lens through which to view their practice, a lens that was different from that of their mentor. This lens evolved during the practicum, partly through the process of reflection. Reflection on their own lesson videos, and reflection on those of peers, utilised similar levels and patterns of cognition and mostly occurred within their zone of proximal development. It was what Paul referred to as simple feedback. The conversations with peers gave them a common language to assist with meaning making about their teaching. Vicariously sharing experiences extended the practicum experience for them, offering a broader range of contexts in which they could consider how principles might be more/most effectively applied in practice. In summary, the participants developed their ability to reflect, a language for reflection and a process for reflection. The sometimes negative affect of a particular contextual factor (mentor/mentee relationships) was ameliorated by the use of video and peer conversations, leading to improved personal and teaching self-efficacy. Video provided a realistic context in which to ground pre-service teachers' feelings about their lessons. Reference to what they actually saw happening in the lesson videos provided objective evidence on which to base judgements about their own practice and that of their peers. The video discussions provided a potential strategy participants could use for ongoing professional development throughout their careers.

Each participant's set of personal and contextual variables meant that each pre-service teacher used the support provided by the *Seeing to Learn* project in different ways, in part depending on the stage of their own learning journey. For example, Bruce used it to test theories about how students learn while Lee used it to affirm her own knowledge of teaching. Research findings of this study suggest that the pre-service teachers' individual behaviours were not simply defined by external or internal forces, but by the meaning attributed to those forces (Meltzer, Petras & Reynolds, 1975). Herbert Blumer (1969) explained that people respond to events and social interactions by interpreting them, in essence ascribing meaning to them. During the professional discourse afforded by the video discussion meetings, pre-service teachers interpreted multiple perspectives on their teaching practice, ascribing meaning to events and interactions as they improved their capacity to see, broadened their professional vision and improved their pedagogical reasoning. This translated into improved teaching

practice. The increased self-efficacy experienced during video discussion meetings also often provided an incentive to continue a difficult learning journey, to challenge personal beliefs, to develop knowledge and skills, and to use video as a tool for learning whenever the opportunity arose in the future.

Chapter Summary

Consideration of personal and contextual factors means that the initial conceptual framework needs to be revisited so as to adequately incorporate these variables. Below is the theoretical model that is based on the findings of this study (Figure 8.3).

In this study the pre-service teachers experienced growth as evidenced by a change in consciousness and a change in action. None of these changes can be explained by just one single factor or incident, but can only be explained by considering the whole activity system with its complex interplays between subjects and objects, mediated by tools and the community in which the learning is situated. Many of these elements were discussed in the contextual factors above. This thesis has consistently sought to explain change in pre-service teachers by looking at a range of factors and their possible impact. Activity theory lens shows that this multitude of factors can be viewed as interacting elements within an activity system where each element responds to others and is impacted by others.

Of great importance is that the use of video was a compelling factor in bringing about the internal contradictions necessary for growth. Pre-service teacher's mental picture or memory of what happened was compared with objective video evidence, making it impossible to sustain a view for which there was no evidence, and forcing pre-service teacher's to reconcile the contradiction between their perception and reality. This led to greater awareness of actions and responses in classrooms and a desire to explore how his peers' acted or responded in similar situations. In the practical social setting of this study video mediated the development of professional vision and pedagogical reasoning in a similar way to which language mediates learning. A person adopts pedagogical tools for use in particular situations and through this appropriation internalises the ways of thinking that are part of that setting (Dang, 2013). After viewing peers employing particular strategies with considerable success, pre-service teachers tried those strategies for themselves. However, there are different levels of appropriation of tools according to each individual and much depends on *perezhivanie;* the affective processes through which interactions in the ZPD are individually perceived, appropriated and represented by the participants (Mahn & John-Steiner, 2008). In cases where

pre-service teachers felt a strong emotional attachment to a particular teaching approach, it was difficult for them to fully appropriate and internalise new pedagogical tools that arose out of a different approach or set of beliefs.

The concept of *perezhivanie* helps us understand the emotional setting around the interactions between mentors and mentees. The affective processes that formed part of the relationship were perceived by each participant in a particular way, resulting in the appropriation of various pedagogical tools in a very individual way. This means that if the mentor or mentee had been different, the appropriation of feedback would also have been quite different. Individual pre-service teachers construct different meanings from the same event and these meanings need to be skilfully and sensitively discussed. Understanding *perezhivanie* opens up the possibility of predicting the direction of change in terms of which pedagogical tools may be appropriated in various situations. It underscores the importance of video as an agent for raising contradictions and contributing to growth.

Figure 8.3 presents the theoretical model that emerged from this study. Pre-service teachers' professional growth during their final practicum was situated within a particular community and the pedagogical tools of that community were appropriated to varying degrees. Pre-service teachers' teaching experiences and capacity for learning were affected by variables related to the School, the University, and their mentors. Professional discourse was central to the process of professional growth, and was informed by viewing practice through multiple perspectives (including video). The elements of the professional discourse included processes that took place both within and outside the video club itself. The growth in pre-service teachers' attributes from the inception of the practicum to the conclusion was visible in their capacity to see and understand salient aspects of their practice.
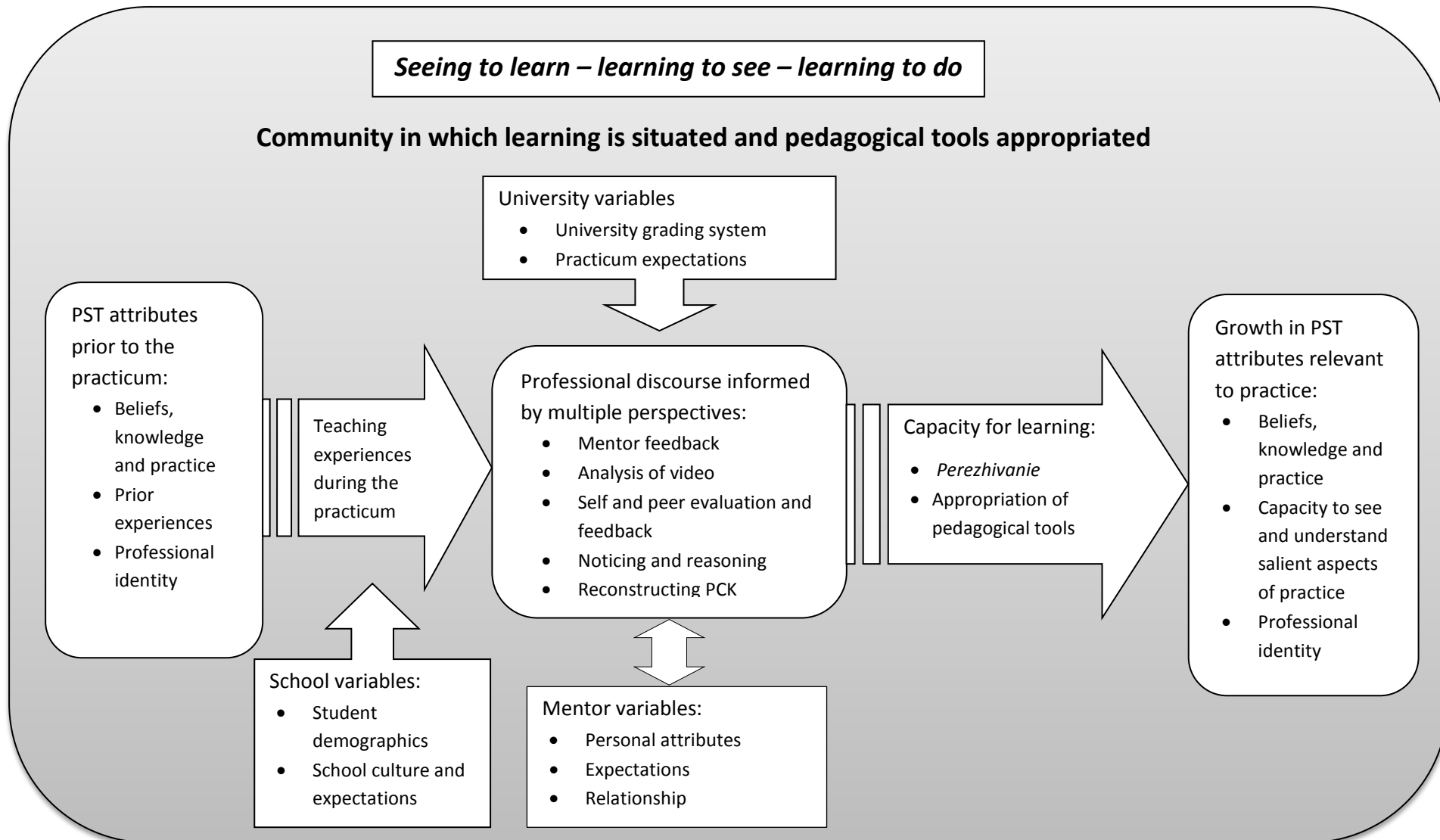
Figure 8.3: Emerging theoretical model of pre-service teachers' professional growth during their final practicum

Each of the elements in the theoretical model are now briefly expanded.

Pre-service teacher attributes prior to the practicum

All of these attributes were variables that pre-service teachers brought with them into the context of their final practicum.

- Beliefs, knowledge and practice

  These included beliefs and knowledge about learning and teaching, about themselves and about students.

- Prior experiences

  Prior experiences relate to prior teaching experiences, both formal and informal, inside and outside of schools.

- Professional identity

  Professional identity is their concept of themselves as a teacher.

Teaching experiences during the practicum

Experiences with mentor, other staff, school administration and students, both inside and outside the classroom, were part of each pre-service teachers learning journey.

School variables

- Student demographics

  Pre-service teachers' teaching experiences were affected by the extent to which they understood students' backgrounds and were able to adapt their teaching to meet student needs.

- School culture and expectations

  This variable includes behaviour management systems and extra-curricular expectations that were in place at the School.

University variables

- University grading system

  Pre-service teachers were graded by their mentors. This affected the professional discourse between mentor and mentee.

- Practicum expectations

  The University's practicum expectations were interpreted in different ways by

mentors, which affected pre-service teachers' capacity to engage in professional discourse.

Professional discourse informed by multiple perspectives

- Mentor teacher feedback on lessons involved varying amounts of professional discourse, depending on time available and mentor/mentee preference

- Analysis of video refers to pre-service teachers viewing their own lesson, selecting a clip to share with peers, and viewing the clips of peers, analysing what was happening

- Self and peer evaluation refers to the pre-service teachers evaluating their own lesson video, sharing their evaluation of the clip and lesson context with peers, and giving feedback to peers on their video clips during the video discussion meetings

- Noticing and reasoning involved viewing video clips, describing what was happening and reasoning about incidents and their impact on students and student learning. This process gave pre-service teachers an opportunity to compare their own teaching with that of peers and reflect on what they might have done differently

- Reconstructing PCK refers to the process in which pre-service teachers seek to accommodate expanded vision and pedagogical reasoning arising from cognitive dissonance and contradiction, resulting in reshaped PCK

Capacity for learning

- *Perezhivanie* refers to the emotional experiences that influenced how events were interpreted

- Appropriation of pedagogical tools refers to the adoption and internalising of tools through which pre-service teachers constructed and carried out teaching practices. Pedagogical tools include conceptual, symbolic and physical tools that are used to accomplish an activity. Appropriation of pedagogical tools included tools appropriated by mentors to guide pre-service teachers' learning, as well as tools appropriated by the pre-service teachers for their own learning and that of others.

Chapter 9: Conclusion

Introduction

The *Seeing to Learn* project set out to investigate how participation in structured reflection with peers, based on video and multiple perspectives on teaching practice, affected pre-service teachers' professional vision and growth during their final practicum. The study used a phenomenological approach within a case of teacher education at a particular school to: illuminate the process of a pre-service teacher becoming a teacher; develop a deeper understanding of the phenomenon of professional growth in the early stages of teacher development; and, disclose how the inclusion of video and peer evaluation within a learning community influences professional growth. Data were gathered from semi-structured interviews with the pre-service teachers and their mentors; written mentor feedback; video recordings of lessons; selection and discussion of video clips; and, student questionnaires. These data were open-coded and the results used to generate key findings in the construction of three individual cases. Further cross-case analysis was conducted from which a number of themes were generated. Drawing on the literature to shed light on the themes, assertions have been made about personal, contextual and process variables which enabled or constrained pre-service teachers' engagement with, and capacity to benefit from, the learning opportunities available to them during their final practicum. These assertions form the basis of the theoretical model developed in Chapter 8 and the conclusions drawn in response to the research questions.

Conclusions

Research question 1

What personal and contextual variables affect pre-service teachers' professional growth during their final practicum in a primary school?

The professional growth of pre-service teachers during their final practicum in this primary school setting was affected by both personal and contextual factors. Pre-service teachers' personal attributes included prior experiences that shaped their beliefs and affected their self-efficacy. The pre-service teachers' beliefs about the role of teachers and learners were of particular significance as these beliefs influenced their approach to teaching during their final practicum, their approach to the use of feedback for their own learning, and the actions they

took in response to pressure during their practicum. One pre-service teacher, who saw teaching as a transmissive activity, had a more passive approach to learning, waiting for feedback to be given rather than actively seeking it, whereas another pre-service teacher, with beliefs about teaching as the purposeful facilitation of socially constructed learning, demonstrated a more pro-active, self-directed approach to learning. When pre-service teachers felt intense pressure during their practicum they acted in accordance with their beliefs about teaching and learning. One pre-service teacher, who highly valued transmission of content, redoubled his efforts to devise resources that would present the content in interesting ways. Personal attributes also include the knowledge and skills, deliberately or unconsciously built from prior experiences, which, together with beliefs, shaped pre-service teachers' approach to teaching, and their professional identity. This identity fluctuated between that of a teacher and a student, until, for at least one of the pre-service teachers, the roles of teacher and learner became integrated into an identity as a professional teacher engaged in lifelong learning.

The pre-service teachers' personal attributes affected their response to the school environment and culture and to the students in their classroom. The success of the pre-service teachers' teaching was influenced by their prior experience, knowledge and understanding of student demographics, school culture and expectations. The particular school environment for pre-service teachers included the University's expectations for their practicum and the use of mentors to determine pre-service teachers' practicum grades. The conflation of mentoring and evaluation roles compromised the effectiveness of the mentoring relationship and to some extent the autonomy and agency of the professional learning of pre-service teachers.

Mentor beliefs about their role as teacher-mentors, their expectations of their mentees, and beliefs about their mentees, are important factors in shaping the relationship between mentors and pre-service teachers. This relationship was a pivotal influence on the incentive/capacity of pre-service teachers to interpret and act on mentor feedback. Opportunities for feedback as dialogue between mentor and mentee were affected by the limited amount of time available and also the beliefs of the mentor and mentee about their roles.

Research question 2

How do multiple perspectives on teaching practice provided by video, peers, classroom students, mentor teacher and university colleague, reflection and professional discourse

help pre-service teachers come to know the quality of their professional practice and inform their professional growth?

The process of using multiple perspectives to inform reflection and professional discourse gave pre-service teachers an opportunity to view their teaching practice through different lenses. This decreased their reliance on mentor feedback, improved their ability to recognise differences in mentor expectations, and gave them an opportunity to triangulate evidence about their practice and interpret that evidence in a way that continually refined their understanding of teaching and learning. The inclusion of video as a tool for reflection made it easier to relive their experiences, to remember the affective factors that influenced their interactive thoughts and actions, as they were brought back into the moment of noticing, reasoning and acting. Pre-service teachers had agency in selecting which aspect of their teaching practice they would like to share with peers. This made them more comfortable and confident about engaging in professional discourse about their focus area. This confidence then extended to engaging in professional discourse about aspects of teaching practice their peers' were attending to, particularly when there was some commonality in their focus and in their experiences. Their ability to evaluate teaching practice was enhanced as they viewed their own videos and those of peers, described what they saw happening, identified and interpreted significant events, and tried to explain them to others. This process broadened their professional vision and developed pedagogical reasoning. The opportunity to make useful contributions to professional discourse also enhanced pre-service teachers' confidence and self-efficacy, increasing their desire to engage in further professional development opportunities involving video and professional learning communities.

Implications

Implications for the conduct of teaching practice

Good teachers are not necessarily good mentors, just as subject/content experts are not necessarily good teachers. This may be particularly true for primary school mentors whose pedagogical content knowledge is built around the needs of young children. Mentoring, while perhaps more closely aligned to coaching than to classroom teaching, nevertheless requires knowledge of the content (teaching principles and strategies) and pedagogical/andragogical knowledge (how pre-service teachers learn). Teachers who take on the role of mentor are often passionate, dedicated and exemplary teachers who are keen to induct others into a profession that means so much to them. Yet sometimes their best efforts at offering feedback

to pre-service teachers don't seem to get the results they hoped for. We do not certify pre-service teachers as competent without first assuring ourselves that they have enough pedagogical content knowledge to ensure some modicum of success. It is imperative that those who coach our future teachers during their vital final practicum should also have the pedagogical content knowledge that will prepare them to undertake this complex and greatly undervalued role. The *Seeing to Learn* project suggests a way forward. Mentors were able to view the videos of all mentees in their school and spontaneously engaged in conversations with each other which one of the mentors described as being almost like a moderation session. With a little forethought and structure these unplanned conversations could be transformed into high level professional discourse, with potential to make mentoring of pre-service teachers more effective and rewarding, while at the same time enhancing the professional growth of pre-service teachers during their final practicum.

This research also has implications for the structure of pre-service teacher education. The video discussion meetings proved to be a powerful tool for reflection, offering opportunities for re-immersion in the moment of teaching, yet also facilitating reviewing of teaching practice from a distance. The benefits are multiplied by vicariously experiencing the lessons of peers, and further increased by the professional discourses structured around video in a safe and supportive learning community, where power is equalised and all contributions valued. An important aspect of the *Seeing to Learn* model in this context was the exclusion of mentors because mentors were also assessors.

Implications for the current debate on teacher education in Australia

This thesis began by referencing the findings of Jensen's 2010 Grattan Institute Report, entitled *Investing in our Teachers, Investing in our Economy*, in which the claim was made that improving teacher effectiveness is the single most profound economic transformation open to Australian governments. The report recommends a focus on improving the quality of teachers' initial education and training, and a further focus on continuing professional development.

Since that time the debate around the quality of teachers, and particularly teacher preparation, has intensified. The issue of how to select individuals for entry to teacher preparation programs has also been canvassed, with the suggestion that suitable candidates need more than cognitive skills (Hattie & Bowles, 2013). As clearly demonstrated in this thesis, teaching requires a combination of skills in both the cognitive and affective domains, and the impact of the affective domain on the learning outcomes of pre-service teachers cannot be ignored.

In 2014 the Teacher Education Ministerial Advisory Group (TEMAG) was established to provide advice on how teacher education could be improved. The recommendations include calls for the Australian Institute for Teaching and School Leadership (AITSL) to undertake a stronger role in ensuring high standards of teacher education in Australia (Department of Education and Training, 2015). They also recognise the importance of mentoring, but this thesis demonstrates that highly skilled teachers do not automatically make good mentors: "Recommendation 32: Schools identify highly skilled teachers to mentor, assess and guide beginning teachers from provisional registration to full registration." (Department of Education and Training, 2015, p. 45). More work needs to be done to support those expert teachers in our schools who take on the important role of mentoring (not simply supervising) both pre-service and beginning teachers.

Implications for research

Further research is required to better understand the impact of beliefs about the role of teachers and learners on pre-service teachers as they switch between teacher and learner during their final practicum. Does a pre-service teacher with a didactic, content-focussed, teacher-centred view also approach learning more passively, expecting to be told what to do and how to do it rather than working it out for themselves? Conversely, does a student-centred, social constructivist approach to teaching go hand in hand with a pro-active, problem-solving approach to learning? Such research might also investigate whether an intervention aimed at changing individuals' beliefs about themselves as learners also changes their beliefs about the role of teachers, and therefore their approach to teaching, and their identity.

References

Ahmad, F. (2008). Presage, context, process and product: Influencing variables in literature instruction in an ESL Context. *GEMA: Online Journal of Language Studies, 8*(1), 1-21.

Akkerman, S. F., & Meijer, P. C. (2011). A dialogical approach to conceptualizing teacher identity. *Teaching and Teacher Education, 27*(2), 308-319.

Ambrosetti, A., Knight, B. A., & Dekkers, J. (2014). Maximizing the potential of mentoring: A framework for pre-service teacher education. *Mentoring & Tutoring: Partnership in Learning, 22*(3), 224-239. doi: 10.1080/13611267.2014.926662

Ambrosetti, A., & Dekkers, J. (2010). The interconnectedness of the roles of mentors and mentees in pre-service teacher education mentoring relationships. *Australian Journal of Teacher Education, 35,* 42–55.

Andrich, D. (2009). *Review of the Curriculum Framework for curriculum, assessment and reporting purposes in Western Australian schools, with particular reference to years Kindergarten to Year 10*. Report commissioned by the Minister for Education in Western Australia, Dr Elizabeth Constable.

Atkinson, D. (2004). Theorizing how student teachers form their identities in initial teacher education. *British Educational Research Journal, 30*(3), 379-394.

Attard, A., Di Ioio, E. Geven, K., & Santa, R. (2010). *Student centered learning: An insight into theory and practice.* Bucharest: Partos Timisoara.

Australian Council of Deans of Education (2004). *New teaching, new learning: A vision for Australian education.* Canberra: ACDE.

Australian Curriculum, Assessment and Reporting Authority. (2011). *My Schools.* Retrieved from http://www.myschool.edu.au/MainPages

Australian Institute for Teaching and School Leadership (AITSL). (2011). *National professional standards for teachers*. Retrieved from http://www.aitsl.edu.au/australian-professional-standards-for-teachers

Bain, J. D., Ballantyne, R., Mills, C., & Lester, N. C. (2002). *Reflecting on practice: Student teachers' perspectives.* Flaxton, Queensland: Post Pressed.

Ball, D., & Cohen, D. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In G. Sykes, & L. Darling-Hammond (Eds.). *Teaching as the learning profession: A handbook of policy and practice* (pp. 3-32). San Francisco: Jossey-bass.

Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education, 39*(2), 175-189.

Bergen, A., & While, A. (2000). A case for case studies: exploring the use of case study design in community nursing research. *Journal of Advanced Nursing, 31*(4), 926-934.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Education: Principles, Policy and Practice, 5*(1), 7-74.

Bloomfield, D. (2004). *Emotional journey of professional experience*. Presented at Australian Teacher Education Association Conference. July. Bathurst: Charles Sturt University.

Blumer, H. (1969). *Symbolic interactionism.* New Jersey: Prentice-Hall.

Booth, M. (1995). The effectiveness and role of the mentor in school: The students' view. In K. Trevor & A. Shelton Mayes (Eds.) *Issues in mentoring* (pp. 89-99). Buckingham UK: The Open University Press.

Boud, D. (1988). *Developing student autonomy in learning*. London: Kogan Page.

Boud, D. (Ed.). (2012). *Developing student autonomy in learning*. New York: Routledge.

Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: The challenge of design. *Assessment & Evaluation in Higher Education, 38*(6), 698-712.

Brookfield, S. D. (1995). *Becoming a critically reflective teacher.* San Francisco: Jossey Bass.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher, 18*(1), 32-41.

Brownlee, J. (2004). An investigation of teacher education students' epistemological beliefs: Developing a relational model of teaching. *Research in Education, 72,* 1-18.

Brownlee, J., Boulton-Lewis, G., & Purdie, N. (2002). Core beliefs about knowing and peripheral beliefs about learning: Developing a holistic conceptualization of epistemological beliefs. *Australian Journal of Educational & Developmental Psychology, 2,* 1-16.

Byington, T. (2010). Keys to successful mentoring relationships. *Journal of Extension, 48*(6). Retrieved from http://www.joe.org/joe/2010december/tt8.php

Cattley, G. (2007). Emergence of professional identity for the pre-service teacher. *International Education Journal, 8*(2), 337-347.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: SAGE Publications, Inc.

Charteris, J., & Smardon, D. (2013). Second look–second think: A fresh look at video to support dialogic feedback in peer coaching. *Professional Development in Education, 39*(2), 168-185.

Cherednichenko, B., & Kruger, T. (2001). Partnerships for collaborative research and improvement of practice: Dissolving the dichotomy of propositional and process

professional knowledge. In *Proceedings of Australian Teacher Education Conference*, Melbourne. 7-23.

Cherednichenko, B., & Kruger, T. (2002). *Those who can, do! Teacher education as an act of personal and institutional reflexivity*. Paper presented at the Australian Association for Research in Education, Brisbane.

Clark, C., & Lampert, M. (1986). The study of teacher thinking: Implications for teacher education. *Journal of Teacher Education, 37*(5), 27-31.

Clark, C. M., & Peterson, P. L. (1986). Teachers' thought processes. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (pp. 255-296). New York: Macmillan.

Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education, 18*(8), 947-967.

Clarke, D., Mesiti, C., O'Keefe, C., Jablonka, E., Mok, I. A. C., & Shimizu, Y. (2007). Addressing the challenge of legitimate international comparisons of classroom practice. *International Journal of Educational Research, 46*, 280-293.

Coffey, A. (2014). Using video to develop skills in reflection in teacher education students. *Australian Journal of Teacher Education 39*(9), 87-97.

Coldron, J., & Smith, R. (1999). Active location in teachers' construction of their professional identities. *Journal of Curriculum Studies, 31*(6), 711-726.

Cole, P., & Wilson, B. (1990). A review of cognitive teaching models. *Educational Technology Research and Development, 39*(4), 47-64.

Coleman, J. S. (1988). Social capital in the creation of human capital. *The American Journal of Sociology.* Retrieved from http://www.jstor.org/stable/2780243

Collett, P. (2007). Initial preparation of secondary teachers: Implications for Australia. *Australian Journal of Teacher Education, 32*(2), 1-12.

Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator, 15*(3), 38-46.

Connelly, F. D., & Clandinin, D. J. (1999). (Eds). Shaping a professional identity. *Stories of Educational Practice*. New York: Teachers College Press.

Coombs, D., & Goodwin, K. (2013). Give them something to talk about: The role of dialogue in mentoring relationships. *English Journal, 102*(3), 58-64.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed method approaches* (3rd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Curriculum Council. (1998). *Curriculum framework*. Osborne Park, Western Australia.

Dang, T. K. A. (2013). Identity in activity: Examining teacher professional identity formation in the paired-placement of student teachers. *Teaching and Teacher Education, 30*, 47-59. http://dx.doi.org/10.1016/j.tate.2012.10.00

Daniel, B., Schwier, R. A., & McCalla, G. (2003). Social capital in virtual learning communities and distributed communities of practice. *Canadian Journal of Learning and Technology, 29*(3)*.* Retrieved from http://www.cjlt.ca/content/vol29.3/cjlt29-3_art7.html

Darling-Hammond, L. (2000). Constructing 21st-century teacher education. *Journal of Teacher Education. 57*(3) 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: Jossey-Bass.

Darling-Hammond, L., & Richardson, N. (2009). Teacher learning: What matters? *Educational Leadership, 66*(5), 46-53.

Denzin, N. K. (1970). *The research act: A theoretical introduction to sociological methods*. London: Butterworth.

Department of Education. (2011). *Schools Online.* Government of Western Australia, Retrieved from http://www.det.wa.edu.au/schoolsonline

Department of Education and Training (Australia). (2015). *Action now: classroom ready teachers.* Department of Education and Training (Australia). Retrieved from http://apo.org.au/node/53020.

De Ruyter, D., & Conroy, J. (2002). The formation of identity: The importance of ideals. *Oxford Review of Education, 28*(4), 509-522.

DEST. (2002). *Employability skills for the future: A report by the Australian Chamber of Commerce and Industry and the Business Council of Australia for the Department of Education, Science and Training*, Canberra.

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston: DC Heath and Company.

Dunne, F., Nave, B., & Lewis, A. (2000). Critical friends groups: Teachers helping teachers to improve student learning. *Phi Delta Kappan, 28*(4), 31-37.

Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit.

Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of Education and Work, 14*(1), 133-156.

Engeström, Y. (2005). *Developmental work research: Expanding activity theory in practice*. Berlin: Lehmanns Media.

Engeström, Y. (2008). *From teams to knots: Activity-theoretical studies of collaboration and learning at work*. Cambridge & New York: Cambridge University Press.

Entwistle, N., Skinner, D., Entwistle, D., & Orr, S. (2000). Conceptions and beliefs about good teaching: An integration of contrasting research areas. *Higher Education Research and Development, 19*(1). doi: 10.1080/07294360050020444

Feiman-Nemser, S. (2008). Teacher learning: How do teachers learn to teach? In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. Demers (Eds.). *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed.). (pp. 697-705) New York: Routledge and the Association of Teacher Educators.

Fetherston, T. (2009). *Evaluation of an internship*. Perth, Western Australia: Edith Cowan University

Fetherston, T. (2010). *Effective teaching survey.* Unpublished questionnaire, Edith Cowan University, Perth, Australia.

Fetherston, T. (2011). *Artichoke.* Video analysis software downloaded from http://www.artichokesoftware.com

Fitzgerald, A. (2010). *Beliefs, knowledge and practices of effective primary science teachers*. (Doctoral dissertation). Perth, Western Australia: Edith Cowan University.

Fitzgerald, A. (2013). (Ed.). *Learning and teaching primary science*. Port Melbourne: Cambridge University Press.

Fransson, G. (2010). Mentors assessing mentees? An overview and analyses of the mentorship role concerning newly qualified teachers. *European Journal of Teacher Education, 33,* 375-390.

Frykholm, J. A. (1996). Preservice teachers in mathematics: Struggling with the standards. *Teaching and Teacher Education, 12*(4), 665–681.

Gadamer, H. G. (1975). *Truth and method*. New York: The Seabury Press.

Garrison, R., & Anderson, T. (2003). *E-learning in the 21st century: A framework for research and practice*. New York: Rutledge Flamer.

Geen, A., & Harris, C. (2002). Student perceptions of collaborative teaching in initial teacher education and training. *UWIC Education Papers, 1,* 1-11.

Geen, A. (2002). *A practical guide to mentoring: Developing initial teacher education and training in schools.* Cardiff: UWIC Press.

Ghaye, A., & Ghaye, K. (1998). *Teaching and learning through critical reflective practice*. London: David Fulton Publishers.

Goldman, R., Pea, R., Barron, B., & Derry, S. J. (Eds.). (2014). *Video research in the learning sciences.* New York: Routledge.

Gorodetsky, M., & Barak, J. (2008). The educational-cultural edge: A participative learning environment for co-emergence of personal and institutional growth. *Teaching and Teacher Education, 24,* 1907-1918.

Griffin, M. L. (2003). Using critical incidents to promote and assess reflective thinking in preservice teachers. *Reflective Practice, 4*(2), 207-220.

Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining teaching, re-imagining teacher education. *Teachers and Teaching: Theory and Practice, 15*(2), 273-289.

Grossman, P. L., Smagorinsky, P., & Valencia, S. (1999). Appropriating tools for teaching English: A theoretical framework for research on learning to teach. *American Journal of Education*, *108*(1), 1-29.

Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed., pp.191-215). Thousand Oaks, CA: SAGE Publications, Inc.

Haberman, M. (2004) Can star teachers create learning communities? *Educational Leadership 61*(8) 52-56.

Hackling, M. W., & Prain, V. (2005). *Primary connections – Stage 2 Trial: Research Report*. A Research Report prepared for the Australian Academy of Science, Canberra.

Hammerness, K., Darling-Hammond, L., & Bransford, J. (with Berliner, D., Cochran-Smith, M., McDonald, M., & Zeichner, K.). (2005). How teachers learn and develop. 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: Jossey-Bass.

Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. London: Cassell .

Hargreaves, A. (1998). The emotional practice of teaching. *Teaching and Teacher Education, 14*(8), 835-854.

Hargreaves, A. (2007). Sustainable Professional Learning Communities. In L. Stoll and K. S. Louis (Eds.), *Professional learning communities: Divergence, depth and dilemmas*, (pp. 181-195). Maidenhead: Open University Press.

Harlin, E. M. (2013). Watching oneself teach–long-term effects of teachers' reflections on their video-recorded teaching. *Technology, Pedagogy and Education*, (ahead-of-print), 1-15.

Hartley, D. (2002). Global influences on teacher education in Scotland. *Journal of Education for Teaching, 28*(3) pp. 251-255.

Hattie, J., & Bowles, T. (2013), 'A Winning Formula: How to Pick the Best Teachers', *The Conversation*. Retrieved from http://theconversation.com/a-winning-formula-how-to-pick-the-best-teachers-20721

Hatton, N., & Smith, D. (2006). *Reflection in teacher education: Towards definition and implementation.* Retrieved from http://alex.edfac.usyd.edu.au/localresource/

Hauge, T. E., & Norenes, S. O. (2009). Changing teamwork practices: Videopaper as a mediating means for teacher professional development. *Technology, Pedagogy and Education, 18*(3), 279-297.

Hogan, D. M., & Tudge, J. R. H. (1999). Implications of Vygotsky's theory for peer learning. In A. M. O'Donnell & A. King (Eds.), *Cognitive perspectives on peer learning* (pp. 39-65). Mahwah, New Jersey: Lawrence Erlbaum.

IBM Corp. (2011). *IBM SPSS Statistics for Windows, Version 20.0*. Armonk, NY: IBM Corp.

Ilyenkov, E. V. (1977). *Dialectical logic: Essays in its history and theory*. Moscow: Progress.

Jensen, B. (2010). *Investing in our teachers, investing in our economy*. Melbourne: Grattan Institute.

Jones, A. (2014). Perspectives on change: A study of the multiple dimensions of changing teaching. *Teaching in Higher Education, 19*(2), 170-182.

Kaminski, E. (2003). Promoting pre-service teacher education students' reflective practice in mathematics. *Asia-Pacific Journal of Teacher Education, 31*(1), 21-32.

Keys, P. M. (2007). A knowledge filter model for observing and facilitating change in teachers' beliefs. *Journal of Educational Change, 8*(1), 41–60.

Kiely, R., Davis, M., & Wheeler, E. (2010). *Investigating critical learning episodes: A practical guide for continuing professional development*. Retrieved from www.cfbt.com

Kleinknecht, M., & Schneider, J. (2013). What do teachers think and feel when analyzing videos of themselves and other teachers teaching?. *Teaching and Teacher Education, 33,* 13-23.

Knowles, M. S. (1990). *The adult learner: A neglected species*. (4th ed.) Houston: Gulf Publishing.

Labaree, D. F. (2003). The peculiar problems of preparing educational researchers. *Educational Researcher, 32*(4), 13-22.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York, NY: Cambridge University.

Le Cornu, R., & Ewing, R. (2008). Reconceptualising professional experiences in pre-service teacher education… reconstructing the past to embrace the future. *Teaching and Teacher Education, 24*(7), 1799-1812.

Lemke, J. L. (2001). Articulating communities: Sociocultural perspectives on science education. *Journal of Research in Science Teaching, 38*(3), 296-316.

Li, L., Liu, X., & Steckelberg, A.L. (2010). Assessor or assessee: How student learning improves by giving and receiving peer feedback. *British Journal of Educational Technology, 41*(3), 525–536.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Lingard, L., Reznick, R., DeVito, I., & Espin, S. (2002). Forming professional identities on the health care team: Discursive constructions of the 'other'in the operating room. *Medical Education, 36*(8), 728-734.

Lipponen, L., & Kumpulainen, K. (2011). Acting as accountable authors: Creating interactional spaces for agency work in teacher education. *Teaching and Teacher Education, 27*(5), 812-819.

Maclean, R., & White, S. (2007). Video reflection and the formation of teacher identity in a team of pre-service and experienced teachers. *Reflective Practice, 8*(1), 47-60.

Mahn, H., & John-Steiner, V. (2008). The gift of confidence: A Vygotskian view of emotions. In G. Wells, & G. Claxton (Eds.), *Learning for life in the 21st century: Sociocultural perspectives on the future of education* (pp. 46-58). Oxford, UK: Blackwell Publishing Ltd. doi: 10.1002/9780470753545.ch4.

Marsh, B., Mitchell, N., & Adamczyk, P. (2010). Interactive video technology: Enhancing professional learning in initial teacher education. *Computers & Education, 54*(3), 742-748.

Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Mason, J. (2009). Teaching as a disciplined enquiry. *Teachers and Teaching: Theory and Practice, 15*(2), 205-224.

McLoughlin, C., & Luca, J. (2002). A learner-centred approach to developing team skills through web-based learning and assessment. *The British Journal of Educational Technology, 30*(5), 571-582.

McMeniman, M., Cumming, J., Wilson, J., Stevenson, J., & Sim, C. (2000). Teacher knowledge in action. In DETYA, *The impact of educational research* (pp. 375–550). Canberra: Commonwealth of Australia.

Meltzer B. N., Petras J. W., & Reynolds L. T., (1975). *Symbolic interactionism: Genesis, varieties, and criticism*. Boston: Routledge and Kegan Paul.

Menter, I., Hulme, M., Elliot, D., & Lewin, J. (2010*). Literature review on teacher education in the twenty first century*. Scottish Government Social Research. Retrieved from http://www.scotland.gov.uk/Publications/2010/09/24144019/0

Merriam, S. B. (1998). *Qualitative research and case study applications in education. Revised and Expanded from "Case study research in education".* San Francisco: Jossey-Bass.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.

Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.

Moll, L. C. (1990). Introduction. In L. C. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 1-30). Cambridge, England: Cambridge University Press.

Morehead, J. W., & Shedd, P. J. (1997). Utilizing summative evaluation through external peer review of teaching. *Innovative Higher Education, 22*(1), 37-43.

Munro, R. (1993). A case study of school-based training systems in New Zealand secondary schools. In J. Elliot (Ed.), *Reconstructing teacher education* (pp. 95–109). London: Falmer Press.

Nicol, D. (2010). From monologue to dialogue: improving written feedback processes in mass higher education. *Assessment & Evaluation in Higher Education, 35*(5), 501-517.

Nilsson, N. L. (2009). The professional development of three graduate student mentors in a university-based after-school program for struggling readers. In J. C. Richards & C. A. Lassonde (Eds.), *Literacy tutoring that works: A look at successful in-school, after-school, and summer programs* (pp. 141-158). Newark: International Reading Association.

Olafson, L., & Schraw, G. (2006). Teachers' beliefs and practices within and across domains. *International Journal of Educational Research, 45*(1), 71-84.

Oliver, K. (1999). *Situated cognition and cognitive apprenticeships*. Retrieved from http://www.edtech.vt.edu/edtech/id/models

Outcalt, C. (Ed.) 2002. *Community College Faculty: Characteristics, Practices, and Challenges. New Directions for Community Colleges.* San Francisco: Jossey-Bass.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*, 307-332.

Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review of Psychology, 49,* 345-375.

Paris, C., & Gespass, S. (2001). Examining the mismatch between learner-centered teaching and teacher-centered supervision. *Journal of Teacher Education, 52*(5), 398–412.

Peshkin, A. (2000). The nature of interpretation in qualitative research. *Educational Researcher, 29*(9), 5-9.

Peterson, R., & Treagust, D. (1995). Developing preservice teachers' pedagogical reasoning ability. *Research in Science Education, 25*(3), 291-305.

Piaget, J. (1932). *The moral judgement of the child.* New York: Routledge & Kegan Paul.

Prusak, L., & Cohen, D. (2001). *In good company: How social capital makes organizations work*. Boston, MA: Harvard Business School Press.

Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher, 29*(1), 4-15.

Rodda, E. (1993). *Rowan of Rin.* Ontario, Canada: Scholastic Inc.

Rogers, C. R. (1969). *Freedom to learn*. Columbus, Ohio: Charles E. Merrill.

Roth, W. M. (2012). Cultural-historical activity theory: Vygotsky's forgotten and suppressed legacy and its implication for mathematics education. *Mathematics Education Research Journal, 24*(1), 87-104.

Roth, W. M., & Tobin, K. (2002). Redesigning an"urban" teacher education program: An activity theory perspective. *Mind, Culture, and Activity, 9*(2), 108-131.

Rust, C., O'Donovan, B., & Price, M. (2006). A social constructivist assessment process model: How the research literature shows us this could be best practice. *Assessment and Evaluation in Higher Education, 30*(3), 233-241.

Sadler, D. R. (2013). Opening up feedback: Teaching learners to see. In S. Merry, M. Price, D. Carless, & M. Taras (Eds.), *Reconceptualising feedback in higher education: Developing dialogue with students* (pp. 54-63). New York: Routledge.

Säljö, R. (2009). Video papers and the emergence of analytical perspectives on teaching practices. *Technology, Pedagogy and Education, 18*(3), 315-323.

Schoenfeld, A. H. (1999). Looking toward the 21st century: Challenges of educational theory and practice. *Educational Researcher, 28*(7), 4-14.

Schön, D. (1983). *The reflective practitioner: How professionals think in action.* London: Temple Smith.

Schön, D. (1987). *Educating the reflective practitioner.* San Francisco: Jossey-Bass.

Schön, D. A. (1996). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.

Scott, P., Mortimer, E., & Ametller, J. (2011). Pedagogical link-making: A fundamental aspect of teaching and learning scientific conceptual knowledge. Studies in Science Education, 47(1), 3-36. doi: 10.1080/03057267.2011.549619

Seidel, T., & Stürmer, K. (2014). Modelling and measuring the structure of professional vision in pre-service teachers. *American Educational Research Journal*, 0002831214531321.

Sherin, M. G., & Linsenmeier, K. A. (2011). Pause, rewind, reflect: Video clubs throw open the classroom doors. *Journal of Staff Development, 32*(5), 38-41.

Sherin, M. G., Linsenmeier, K. A., & van Es, E. A. (2009). Issues in the design of video clubs: Selecting video clips for teacher learning. *Journal of Teacher Education, 60*(3), 213-230.

Sherin, M. G., Russ, R. S., Sherin, B. L., & Colestock, A. (2008). Professional vision in action: An exploratory study. *Issues in Teacher Education, 17*(2), 27-46.

Sherin, M. G., & van Es, E. A. (2005). Using video to support teachers' ability to notice classroom interactions. *Journal of Technology and Teacher Education, 13*(3), 475-491.

Sherin, M. G., & van Es, E. A. (2009). Effects of video club participation on teachers' professional vision. *Journal of Teacher Education, 60*(1), 20-37.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15*(4), 4-14.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, *57*(1), 1-23.

Sim, C. (2004). The personal as pedagogical practice. *Teachers and Teaching: Theory and Practice, 10*(4), 352–364.

Sim, C., Allard, A., White, S., Le Cornu, R., Carter, B., & Frieberg, J. (2012). *Using professional standards: Assessing work integrated learning in initial teacher education*. Sydney, Australia: Australian Government Office for Learning and Teaching.

Smagorinsky, P. (2011). Vygotsky's stage theory: The psychology of art and the actor under the direction of perezhivanie. *Mind, Culture, and Activity, 18*(4), 319-341.

Smagorinsky, P., Cook, L. S., Jackson, A. Y., Moore, C., & Fry, P. G. (2004). Tensions in learning to teach: Accommodation and the development of a teaching identity. *Journal of Teacher Education, 55*, 8-24.

Snoeyink, R. (2010). Using video self-analysis to improve "withitness" of student teachers. *Journal of Digital Learning in Teacher Education, 26*(3), 101-110.

Stenhouse, L. (1981). What counts as research? *British Journal of Educational Studies, 29* (2), 103-114.

Stevens, D. (2009). *A Freirean critique of the competency model of teacher education, focusing on the UK Experience*. Retrieved from http://www.eera-ecer.eu

Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change, 7*(4), 221-258.

Stoll, L., & Louis, K. S. (2007). *Professional learning communities: Divergence, depth and dilemmas.* Berkshire, UK: Open University Press.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks: SAGE Publications, Inc.

Tillema, H. H., Smith, K., & Leshem, S. (2011). Dual roles – conflicting purposes: A comparative study on perceptions on assessment in mentoring relations during practicum. *European Journal of Teacher Education, 34*, 139–159.

Tripp, D. (1993). *Critical incidents in teaching: Developing professional judgement*. London and New York: Routledge.

Tudge, J. R., & Winterhoff, P. A. (1993). Vygotsky, Piaget, and Bandura: Perspectives on the relations between the social world and cognitive development. *Human Development, 36*(2), 61-81.

Ünver, G. (2014). Connecting Theory and Practice in Teacher Education: A Case Study. *Educational Sciences: Theory & Practice, 14*(4), 1402-1407.

Ure, C., Gough, A., & Newton, R. (2009). *Practicum partnerships: Exploring models of practicum organisation in teacher education for a standards-based profession*. Retrieved from http://www.olt.gov.au/resource-practicum-partnerships-exploring-melbourne-2009

Usher, R. (1996). A critique of the neglected epistemological assumptions of educational research. In D. Scott & R. Usher (Eds.) *Understanding educational research* (pp. 9-32). New York: Routledge.

van Es, E. A. (2012). Examining the development of a teacher learning community: The case of a video club. *Teaching and Teacher Education, 28*(2), 182-192.

van Es, E. A., & Sherin, M. G. (2002). Learning to notice: Scaffolding new teachers' interpretations of classroom interactions. *Journal of Technology and Teacher Education, 10*(4), 571–596.

van Es, E. A., & Sherin, M. G. (2010). The influence of video clubs on teachers' thinking and practice. Journal of Mathematics Teacher Education, 13(2), 155-176. doi: 10.1007/s10857-009-9130-3

van Es, E. A., Tunney, J., Goldsmith, L. T., & Seago, N. (2014). A framework for the facilitation of teachers' analysis of video. *Journal of Teacher Education, 65*(4), 340-356.

van Manen, M. (1982). Phenomenological pedagogy. *Curriculum Inquiry, 12*(3), 283-299.

van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. New York: State University of New York Press.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80-91.

Victoria. (2006). *Step up, step in, step out: Inquiry into the suitability of pre-service teacher training courses.* Parliament of Victoria.

Vygotsky, L. (1962). *Thought and Language*. Cambridge, MA: MIT.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Vygotsky, L. S. (1994). The problem of the environment. In R. van der Veer, & J. Valsiner (Eds.), The Vygotsky reader (pp. 338-354). Oxford: Blackwell Publishers.

Warren Little, J. (2002). Locating learning in teachers' communities of practice: Opening up problems of analysis in records of everyday work. *Teaching and Teacher Education, 18*(8), 917-946.

Wenger, E. (1998). *Communities of practice: Learning meaning and identity*. Cambridge: Cambridge University Press.

Wild, M. (2001). *Fox.* Sydney, Australia: Allen and Unwin.

Wilson, S. M., Shulman, L. S., & Richert, A. E. (1987). '150 different ways' of knowing: Representation of knowledge in teaching. In J. Calderhead (Ed.). *Exploring teachers' thinking* (pp. 104-124). London: Cassell

Wright, G. (2008). *How does video analysis impact teacher reflection-for-action?* (Doctoral dissertation, Brigham Young University, Instructional Psychology and Technology). Retrieved from http://contentdm.lib.byu.edu/cdm/singleitem/collection/ETD/id/1366

Yin, R. (2009). *Case study research: Design and methods*. (4th ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Youens, B., Smethem, L., & Sullivan, S. (2014). Promoting collaborative practice and reciprocity in initial teacher education: Realising a 'dialogic space'through video capture analysis. *Journal of Education for Teaching, 40*(2), 101-113.

Zeichner, K. (1996). Designing educative clinical practice experiences for prospective teachers. In K. Zeichner, S. Melnick, & M.Gomez (Eds.), *Currents of reform in preservice teacher education programs*. (pp. 215-234). New York: Teachers College Press.

Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education, 61*(1), 89-99.

Appendices

Appendix A: Progress Map

1. Knows students and how they learn				
Element	*Unsatisfactory*	*Basic*	*Proficient*	*Distinguished*
1a: Knows the students' current level of proficiency in literacy or numeracy	Demonstrates little or no knowledge of students' levels of proficiency in literacy or numeracy.	Demonstrates limited knowledge of students' levels of proficiency in literacy or numeracy.	Demonstrates knowledge of groups of students' levels of proficiency in literacy or numeracy	Demonstrates thorough knowledge of individual students' levels of proficiency in literacy or numeracy.
1b: Knows the students' prior knowledge and skill in the content to be taught	Displays little knowledge of students' skills and knowledge and does not indicate that such knowledge is valuable.	Recognises the value of understanding students' skills and knowledge, but displays this knowledge only for the class as a whole.	Recognises the value of understanding students' skills and knowledge, and displays this knowledge for groups of students in the class.	Displays understanding of skills and knowledge of individual students.
1c: Knows the developmental stages of the students in the class	Displays minimal knowledge of cognitive developmental stages of the students in the class.	Displays some knowledge of the cognitive developmental stages of the students in the class.	Displays understanding of the cognitive developmental stages of groups of students in her class.	Uses understanding of cognitive developmental stages of students in diagnosing the learning needs of individual students.
1d: Knows the individual learning needs of his/her students	Is unfamiliar with the learning needs of individual students.	Displays general understanding of the learning needs of students.	Displays modest understanding of the learning needs of individual students.	Demonstrates in- depth understanding of the learning needs of individual students.
1e: Knows about students' interests and cultural backgrounds	Has little familiarity with students' interests and cultural backgrounds, and does not indicate that information is valuable.	Recognises the value of understanding interests and cultural backgrounds, but displays this knowledge only for the class as a whole.	Displays knowledge of students' interests and cultural backgrounds for groups of students in the class.	Displays knowledge of students' interests and cultural backgrounds for each student, including those with special needs.

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2. Knows the content and how to teach it				
Element	**Unsatisfactory**	**Basic**	**Proficient**	**Distinguished**
2a: Demonstrates understanding of the content/skills being taught	Makes content errors or does not correct content errors students make	Displays basic knowledge of the relevant content/skills.	Displays sound knowledge of the content and integrates some ideas, concepts and information across curriculum area	Displays deep knowledge of the content and integrates several ideas, concepts and information across curriculum areas.
2b: Demonstrates understanding of how students learn the content/skills	Demonstrates little understanding of pedagogical issues involved in student learning of the content/skills.	Demonstrates basic knowledge of pedagogy appropriate to learning the content/skills.	Demonstrates pedagogical practices consistent with research and best practice on how students learn the content/skill.	Demonstrates extensive knowledge of practice and skill in anticipating and dealing with student learning difficulties.
2c: Selects topics that enable students to develop understanding of key concepts/skills	Topics selected provide few opportunities to learn important concepts/skills in the subject.	Topics selected provide limited opportunities to learn important ideas and concepts/skills.	Topics selected provide many opportunities to learn important ideas and concepts/skills	Topics selected provide rich opportunities to learn and interrelate educationally significant concepts and/or skills
2d: Uses knowledge about students' learning needs, prior knowledge, and interests to inform planning of learning goals and experiences	There is no clear connection between the goals and learning experiences and students' learning needs, prior knowledge, or interests.	Learning goals and experiences are suitable to the learning needs, prior knowledge, and interests of some students	Learning goals and experiences are suitable to the learning needs, prior knowledge, and interests of most students	Learning goals and experiences are suitable to the learning needs, prior knowledge, and interests of virtually all students, including those with special needs
2e: Selects appropriate teaching and learning resources	Selects resources that are inappropriate to the goals and to students' stage of development in literacy and numeracy	Selects resources that are partially appropriate to the goals of the lesson and to students' stage of development in literacy and numeracy	Selects resources that are appropriate to the goals of the lesson and to the students' developmental stages in literacy/numeracy	Selects and modifies or develops resources that are appropriate to the goals of the lesson and to the students' developmental stages in literacy/numeracy

3. Plans for and implements effective teaching and learning				
Element	**Unsatisfactory**	**Basic**	**Proficient**	**Distinguished**
3a: Activities encourage the development of literacy and/or numeracy	Activities do not promote the development of students' literacy and/or numeracy skills.	Students engage in limited development of literacy and/or numeracy skills through the classroom activities.	Students engage in moderate development of literacy and/or numeracy skills through the classroom activities.	Most students engage in in-depth use or development of literacy and/or numeracy skills.
3b: Learning experiences enable students to examine the central ideas of a topic, problem or issue	Learning experiences enable only a superficial exploration of the topic	Learning experiences enable a mix of superficial and deeper means of exploring the topic.	The learning experiences enable most students to engage in examining the central ideas of the topic.	The learning experiences enable virtually all students to engage in refining and extending their understanding of the topic.
3c: Students question and share ideas and knowledge	Students have no opportunity to initiate questions and/or share their ideas and knowledge.	A few students initiate questions and/or share their ideas and knowledge.	Many students initiate questions and/or share their ideas and knowledge.	Most students initiate their own questions and/or share their ideas and knowledge.
3d: Students use higher-order and critical thinking skills to solve problems and/or construct new meanings and understandings	There is no evidence of student thinking or analysis during the lesson.	There is limited evidence of student thinking or analysis during the lesson.	There is evidence of thinking or analysis during the lesson on the part of many students.	Virtually all students engage in higher-order thinking during the lesson.
3e: Classroom questioning and discussion as a vehicle for learning	Ignores or misses opportunities to use questioning to develop understanding.	Attempts to use questioning and responses to student ideas in discussion to develop understanding, but with uneven results.	Successfully uses questioning and responses to student ideas in discussion to develop understanding, with positive results.	Encourages students to express their ideas and responds in ways that lead students to elaborate their ideas and explore the topic in greater depth.
3f: Integration of ideas, concepts and information across curriculum areas and/or with life beyond school	Learning experiences are devoted to a single idea or concept, with no attempt to broaden the content or to relate it to life beyond school.	Attempts to relate the lesson to information from other disciplines or with life beyond school, but with limited success.	Successfully relates the lesson to information from other disciplines or life beyond school.	The lesson seamlessly incorporates ideas and concepts from across disciplines and/or life beyond school.
3g: Learning experiences cater for individual differences/ students with special needs	Learning experiences are not differentiated for students with different needs.	Attempts to differentiate learning experiences for students, but with limited success.	Successfully differentiates learning experiences for different groups of students.	Differentiates learning experiences for individual students, including those with special needs.

4. Creates and maintains supportive and safe learning environments				
Element	Unsatisfactory	Basic	Proficient	Distinguished
4a: Establishes clear standards of student conduct.	No standards of conduct have been established, and student conduct is poor.	Standards of conduct have been established, but are reflected unevenly in student behaviour Teacher's response to misbehaviour is uneven.	Clear standards of conduct have been established, and students comply with the expectations for behaviour. Teacher responds successfully to student misbehaviour.	Standards of conduct are clear. Teacher's response to misbehaviour is subtle and preventive; most students assume responsibility for their own conduct.
4b: Values students' views	The learning environment is unsafe, with students not venturing their views that may not be accepted as "correct".	Teacher encourages students to express their views, but with only limited success.	Students advance their views, with no apparent fear of ridicule or criticism.	Students advance their views, with no apparent fear of ridicule or criticism. Students themselves ensure that all views are valued.
4c: Ensures respectful interactions.	Classroom interactions, both between the teacher and students and among students, are negative or inappropriate and characterized by sarcasm, put-downs, or conflict.	Classroom interactions are generally appropriate and free from conflict but may be characterized by occasional displays of insensitivity or lack of responsiveness to cultural or development differences among students.	Classroom interactions, between teacher and students and among students, reflect general warmth and caring, and are respectful of the cultural and developmental differences between groups of students.	Classroom interactions are highly respectful, reflecting genuine warmth and caring towards individuals and sensitivity to students' cultures and levels of development. Students themselves ensure maintenance of high levels of civility among members of the class.
4d: Establishes efficient classroom routines.	Classroom routines and procedures are either non-existent or inefficient, resulting in the loss of much learning time.	Classroom routines and procedures have been established but function unevenly or inconsistently, with some loss of learning time.	Classroom routines and procedures have been established and function smoothly, with little loss of learning time.	Classroom routines and procedures are seamless in their operation, and students assume considerable responsibility for their smooth functioning.
4e: Uses the physical environment (including ICT) to support learning.	The physical environment is either unsafe or inaccessible for some students, and does not support the intended learning.	Teacher's classroom is safe, and essential learning is accessible to most students, but the physical environment only partially supports the learning activities.	Teacher's classroom is safe, and learning is accessible to all students; teacher uses physical environment well to support the learning activities.	Teacher's classroom is safe, and students contribute to ensuring that the physical environment supports the learning of all students, including those with special needs.

5. Assesses, provides feedback and reports on student learning				
Element	Unsatisfactory	Basic	Proficient	Distinguished
5a: Gathers and records evidence during the lesson to determine student development in literacy or numeracy	There is no evidence that the teacher is using the lesson to gather evidence about student development in literacy or numeracy	Uses lesson activities to gather evidence about development in literacy or numeracy of a few students.	Lesson activities yield evidence about many students' development in literacy or numeracy.	Lesson activities yield evidence about most students' development in literacy or numeracy.
5b: Uses a variety of assessment strategies	Uses only a single approach to assessing student learning.	Uses more than one approach to assessment, but they are divorced from the instructional process.	Uses more than one approach to assessment, and integrates them into the instructional process.	Student assessment includes not only a range of approaches but opportunities for students to engage in self- and peer-assessment.
5c: Uses informal classroom interaction and discussion to monitor student understanding and provide feedback	Creates few opportunities during lesson activities to monitor student understanding and provide feedback.	Uses some opportunities during lesson activities monitor student understanding but misses opportunities to provide helpful feedback.	Creates several opportunities to monitor student understanding and provide helpful feedback to students.	Creates many opportunities to monitor student understanding and regularly provides rapid, accurate and helpful feedback to students.
5d: Interprets previous assessment results to connect delivery to prior learning	Makes no use of student assessment in delivery.	Makes limited use of assessment in delivery but the information is derived from only one source.	Makes good use of assessment in delivery, although this information is derived from more than one source.	Makes effective use of assessment in delivery, and this information is derived from a variety of sources.

6. Engages in professional learning				
Element	Unsatisfactory	Basic	Proficient	Distinguished
6a: Reflects critically on professional practice	Does not know if a lesson achieved its goals, or profoundly misjudges the success of a lesson	Has a generally accurate impression of a lesson's effectiveness and the extent to which learning goals were met.	Makes an accurate assessment of a lesson's effectiveness and the extent to which it achieved its goals and can cite general references to support that judgment.	Makes an accurate and insightful assessment of a lesson's effectiveness and the extent to which it achieved its goals, citing many specific examples from the lesson and weighing the relative strength of each.
6b: Identifies areas for improvement	Has no suggestion as to how the lesson could be improved.	Makes general suggestions as to how to improve the lesson.	Makes a few specific suggestions as to how the lesson could be improved	Offers specific alternative approaches, and probable successes of the different approaches
6c: Engages with colleagues to improve practice	Does not engage with feedback from colleagues.	Seeks and applies feedback from colleagues to improve teaching practice.	Contributes to collegial discussions and applies selected feedback from colleagues to improve professional practice.	Engages in professional dialogue informed by analysis of current practice and research to improve educational outcomes for students.

7. Engages professionally with work, with colleagues and with the community				
Element	**Unsatisfactory**	**Basic**	**Proficient**	**Distinguished**
7a: Sets work related goals and priorities.	Has difficulty identifying work-related goals and managing work commitments.	Identifies work related goals and meets work requirements satisfactorily.	Manages workload efficiently.	Manages workload efficiently and effectively.
7b: Contributes to the effective functioning of professional teams.	Relationships with colleagues on professional teams are negative or self-serving.	Relationships with colleagues on professional teams are characterized by support and cooperation.	Recognised for contributing useful information and ideas to the work of professional teams.	Assumes a leadership role in relationships with colleagues on professional teams.
7c: Works with other professionals, paraprofessionals, teacher aides and other community - based personnel.	Does not seek to work with other professionals, paraprofessionals, teacher aides and other community-based personnel.	Cooperates with the work of professionals, paraprofessionals, teacher aides and other community-based personnel.	Seeks to involve other professionals, paraprofessionals, teacher aides and other community - based personnel in managing and monitoring student learning.	Builds strategic partnerships with other professionals, para-professionals, teacher aides and other community-based personnel.
7d: Meets ethical and professional requirements	Actions do not comply with minimal requirements for professionalism	Adheres to the school's requirements for ethical and professional behaviour in most respects	Behaviour is consistently ethical and professional. Willingly provides accounts of professional practice and opportunities for collegial observation.	Demonstrates very high standards for professionalism. Takes a lead in opening up practice with colleagues and building a professional community in the school

Appendix B: Key findings for each case

Case 1: Paul

5.1	Paul's prior teaching experiences involved using a transmissive approach to deliver standard curriculum content to mainstream students.
5.2	Paul's awareness of the complexity of teaching, and of his inability to be aware of aspects of his own teaching, predisposed him to use feedback from others to help him select specific aspects of his teaching practice to focus on during his final practicum.
5.3	Paul believed a teacher's role was to impart knowledge using carefully planned lessons with good resources, and the students' role was to listen and learn.
5.4	Peter judged the pre-service teachers he supervised on their ability to control and manage the class, and on how well they knew individual students and the level they were working at.
5.5	Students in Paul's final practicum class required adaptation of lessons to suit individual abilities and socio-cultural backgrounds. This would require a different approach to lesson preparation from what Paul had previously used.
5.6	Paul's first impression was that his final practicum would be very different from his first practicum, with greater formality, better resourcing and expectations of a face-to-face teaching commitment that went well beyond University expectations.
5.7	Paul's students noticed that, even though he did a lot of talking, he also helped them and cared about them.
5.8	Peter's first impression was that Paul was not fully committed to his practicum as he was distracted by personal commitments.
5.9	Paul's feedback to peers reflected what he was attending to in his own practice. Watching others helped him to reflect on his own physical positioning and behaviour management, and that of others.
5.10	At the beginning of his practicum Paul had not fully assumed the role of teacher, using his mentor as back-up to exert authority over students.
5.11	Paul's focus during his first lesson was on completing planned lesson activities and managing student behaviour. He began tentative use of questioning to encourage student participation.
5.12	Paul's mentor picked up on aspects of practice that Paul was attending to and affirmed his efforts, while also offering constructive suggestions for

	further improvement.
5.13	Paul broadened his understanding of behaviour management to include a growing awareness that engagement, through questioning or a fast-paced activity, could reduce misbehaviour.
5.14	Paul responded to mentor feedback from his first lesson by applying a positive behaviour management technique in this lesson and incorporating much more questioning.
5.15	Paul started to use questioning to probe for deeper understanding. He used reward strategies that were designed for behaviour management to encourage students to come up with answers that matched the script for his lesson.
5.16	In his second lesson Paul tried to shift from a transmissive style of teaching to one that involved more active student participation. He prepared good visual stimuli, but he remained the sole resource for student learning.
5.17	Paul's lesson reflection showed the shift in his focus to deliberately connecting learning to students' lives and improving engagement, interaction and positive feedback.
5.18	Paul's reflections and actions demonstrated that his behaviour management strategies were becoming increasingly refined and effective as he put more thought into what lay behind students' behaviour.
5.19	Paul continued to work on asking questions related to carefully prepared lesson resources, but he had difficulty judging students' prior knowledge and was inexperienced at scaffolding their responses.
5.20	At this stage Paul was struggling to change his teaching approach and improve student engagement. Through video he noticed his own actions and students' responses and was able to evaluate his own progress.
5.21	During video discussion meetings Paul consolidated his knowledge of behaviour management through viewing and discussing peers' video clips.
5.22	Paul continued to put a great deal of effort into lesson preparation. He also continued to use questioning to engage students, but he lacked the skills to scaffold the discourse. He was reluctant to respond to anything that was not directly related to the content he had planned to discuss.
5.23	Paul used the video discussion meeting to ascertain whether his assessment of student engagement was accurate.
5.24	Paul's initial concept of learning, which was that students could repeat what he had taught them, had expanded to include the notion of students actively constructing their own learning by sharing ideas. He struggled to differentiate between engagement and learning.

5.25	Paul felt he had made good progress in relation to adapting curriculum to student needs, encouraging greater student participation, and noticing whether students had learned what he'd tried to teach them.
5.26	Peter felt Paul had improved his behaviour management and was getting to know students better, but still needed a lot of guidance in adapting lessons to suit the students. He was inclined to push through too much content which reduced time available for students to learn concepts well.
5.27	Students noticed that Paul's teaching changed in that he gave them more time for learning, knew more about their learning and reduced his content delivery.
5.28	During his practicum Paul moved towards a more student-centred approach to teaching. His awareness of student needs grew and he learned to be more flexible and adaptable in his teaching as he developed his professional teaching identity.
5.29	Even though Paul understood the value of adapting lessons to meet student needs, and said that students need to socially construct knowledge, he struggled to change his belief that good teaching was about delivering content and good learning was about absorbing it.
5.30	Paul allowed himself to be placed under pressure, outside of practicum guidelines, in order to please his mentor. He felt overwhelmingly tired throughout his practicum, but his pride prevented him from seeking assistance from his mentor.
5.31	While Paul valued the opportunity to see his practice from different perspectives, his overwhelming tiredness led him to focus selectively and pragmatically on aspects of his practice that he thought were most likely to influence the grade his mentor gave him.
5.32	From Peter's perspective Paul coped well with the challenges of his final practicum. He felt it was important that pre-service teachers build resilience in preparation for their real teaching the following year.
5.33	Paul appreciated simpler feedback from peers and selectively used feedback from multiple perspectives to reflect on his teaching and inform his professional growth.
5.34	The video discussion meetings gave Paul time and space to grow his ideas and move his conception of effective teaching to a more student centred view. Vicarious experiences of other classrooms helped Paul to expand his definition of engagement and his professional vision.

Case 2: Bruce

6.1	Bruce's extensive coaching experience predisposed him to focus on individual learning needs and to challenge each individual to do their best.

6.2	During his first practicum Bruce learned the value of adapting his teaching to suit diverse student needs and using a range of indicators of student learning to inform his teaching decisions.
6.3	Bruce believed learning was socially constructed. His approach was student-centred and he liked to keep his lesson plans flexible in order to respond to students' changing learning needs.
6.4	Bruce's mentor liked to feel that he was helping others to learn and was generous in sharing his knowledge with others. He was always a vibrant presence in Bruce's classroom. He valued, and helped pre-service teachers to develop good behaviour management strategies.
6.5	Bruce's students were of a different socio-economic group from those of his first practicum, although their cultural diversity was similar. Like the first school, these students would also require adaptation of lessons to their specific needs.
6.6	Bruce's first impression was that his final practicum school would offer great learning opportunities and he was looking forward to the challenge.
6.7	Bruce's classroom was a safe place for students to extend themselves and learn from their mistakes. Activities were centred learning around the students and their learning rather than on himself.
6.8	Wayne thought Bruce was well prepared for his final practicum and had personal attributes that would make him a good teacher.
6.9	In his first video lesson, Bruce used sophisticated questioning to develop and reinforce key concepts, connected learning to students' daily lives, encouraged and challenged students to extend themselves, attended to individual students and their needs, and used a range of strategies to manage student behaviour.
6.10	Bruce thought deeply about the feedback he received and was careful to implement his mentor's feedback in subsequent lessons. His understanding of behaviour management broadened to include strategies that engaged students so that they were not inclined to misbehave.
6.11	In his second lesson Bruce used the excellent resources and activities he had developed to engage students in deep learning, connecting concepts to their daily lives and prior learning. He used questioning to engage and extend students as well as manage their behaviour. He reinforced clear boundaries on behaviour with natural consequences and no anger.
6.12	Bruce's actions and words underscored his belief that engagement in learning was the key to behaviour management. His belief in the value of reflection was demonstrated by his own actions and by his practice of structuring opportunities for students to reflect.
6.13	Bruce's third lesson video showed how he encouraged students to take risks in his class and to participate even when it was difficult for them. His warm and caring relationship with students created a safe classroom environment where mistakes were accepted as part of learning.

6.14 Bruce's reflection on behaviour management demonstrated that he valued relationships with students and that he understood the importance of differentiating learning activities to keep students engaged and prevent misbehaviour.

6.15 Bruce's fourth lesson video demonstrated his ability to manage his mentor's interruptions. His awareness of individual needs and his gentle interactions with students in which he used humour, yet maintained respect, taught students that the way they felt did not need to determine their actions, and encouraged them to venture beyond their comfort zones.

6.16 Bruce understood that students are more likely to learn when they are engaged in an activity that is both challenging and enjoyable. He tried out a range of strategies to create the right combination of challenge and enjoyment.

6.17 In his fifth recorded lesson Bruce demonstrated by his own behaviour and his expectations that circumstances and feelings were sometimes challenges to be overcome and should not get in the way of learning. He encouraged broad student participation and higher level thinking by using student questions to lead discussions.

6.18 Bruce understood the benefits of knowing his students well and knew how to keep their focus on learning, even when his initial plans for a lesson fell through.

6.19 Bruce got to know his students well and differentiated his teaching to suit their needs

6.20 As the practicum progressed Bruce was increasingly able to accurately assess the effectiveness of his lessons in relation to learning goals.

6.21 Bruce used his interpersonal skills to develop good relationships with students, his mentor, colleagues and other teachers at the School.

6.22 Bruce's students noticed that he got them to think and talk about their learning, while at the same time helping them and making them feel that he cared.

6.23 Bruce's penchant for reflection led to increasingly refined and diverse strategies and a high standard of teaching and learning. He expanded his professional vision and improved his pedagogical reasoning so that his lessons provided effective environments for student learning.

6.24 Bruce's mentor found him to be a pleasure to work with as he was highly responsive to feedback and keen to engage in professional discourse. He saw Bruce develop into a confident and mature teacher who would continue to grow.

6.25 The multiple perspectives obtained through participation in the Seeing to Learn project helped Bruce to triangulate evidence and interpret events in a way that continually refined his understanding of teaching and learning, and improved his professional practice.

Case 3: Lee

7.1	Lee's mentor on her first practicum gave her fully prepared lessons and helped her if she wanted to make changes. She taught well-behaved mainstream students from socio-economic backgrounds similar to her own.
7.2	Lee concluded from her prior experiences that she was a visual learner. She struggled with written reflection and feedback and sometimes needed external pressure to improve.
7.3	During her first practicum Lee's observation of other teachers led her to conclude that it was important to develop professional vision and judgement.
7.4	Lee believed students needed to be carefully watched for early signs of misbehaviour, and a teacher's role was to manage student behaviour and be the source of their learning.
7.5	One of Barbara's strengths was writing. She diligently did written preparation for her own teaching and gave Lee extensive written feedback on her teaching.
7.6	The students Lee taught during her first practicum were mostly mainstream students, whereas her final practicum students were socio-educationally disadvantaged and culturally diverse.
7.7	Lee's first impression was that her final practicum would be much more challenging than the first one. She was apprehensive about her ability to manage and teach her new students.
7.8	Students responded positively to Lee's efforts to get to know them at the start of her final practicum, feeling a sense of belonging and a desire to learn.
7.9	Barbara had expected Lee to be more capable when she started her final practicum and believed she was unprepared for the challenges her final practicum would bring.
7.10	Barbara tried to be positive and encouraging, but was frustrated by the fact that Lee didn't do what she would have done, leaving Barbara to remedy the situation later.
7.11	In her first lesson Lee used carefully scaffolded activities to introduce a new concept. For most of the lesson Lee stood near the front while Barbara moved around tables, interacting with students. In the face of Barbara's direct interdictions and her willingness to solve her problems, Lee did not take on the authority and role of teacher in this lesson.

7.12	Barbara's feedback showed approval of some of Lee's actions, suggestions about what she could have done better and a reminder that she had to step in to remedy the effects of what she had not done.
7.13	In this lesson Lee connected with students and demonstrated greater ability to see and respond to potential behaviour problems. She modelled her feedback to students on the feedback she received from her mentor and turned to her mentor when things did not go as planned, in effect deflecting responsibility for student behaviour and learning outcomes to Barbara.
7.14	When viewing video clips, Lee noticed teacher actions that might cause students to lose focus and become inattentive. She recognised that focus and attentiveness were important for ensuring good behaviour.
7.15	In this lesson Lee demonstrated good scaffolding and development of the key lesson concept and implemented more positive behaviour management strategies. However, her mentor still stepped in to save both Lee and the students from the natural consequences of Lee's mistakes.
7.16	In the video discussion meeting, Lee reflected on underlying reasons for transitions not going smoothly and noticed what effect her habit of responding to individual students during transitions might be having on the other students' behaviour.
7.17	During the video discussion meeting, Lee was trying to understand underlying reasons for student and teacher behaviours in relation to classroom management and student engagement.
7.18	Overall this lesson was well planned and resulted in students staying on task and remaining engaged. Lee continued to develop her positive behaviour management strategies, but seemed unwilling to fully accept the responsibility and authority of teacher in her interactions with students.
7.19	Lee's deeper understanding of the complexities of behaviour management was demonstrated by her improved professional vision and pedagogical reasoning during this fourth video discussion meeting.
7.20	This lesson illustrated Lee's shift towards a more social-constructivist approach. Her questioning strategies included re-direction, wait-time, commitment to a position and giving time for extended responses. She applied gentle pressure to reluctant students, increasingly taking on the role of teacher. When she struggled to respond to unforeseen situations her mentor still stepped in to rescue her.
7.21	By viewing teaching situations captured on video, Lee was able to notice and enhance her understanding of what worked, improve her questioning and engagement strategies, and manage smooth transitions in the classroom.
7.22	From Lee's perspective her practice had improved in the two areas she'd identified as important at the start of her practicum: noticing antecedents of misbehaviour; and, identifying what students had really learned. She was happy with her relationship with students and with the way students related to each other in the classroom. Although she was still not confident about her lesson planning, Lee had enjoyed reflecting on

her teaching and felt confident about her ability to learn.

| 7.23 | Barbara's perspective on Lee's professional practice was that she had started from a low base and had shown minimal improvement. While she noted that Lee liked the students and valued their views, she felt she had not engaged in professional learning and was not ready to be a teacher. |

| 7.24 | The University Colleague's perspective on Lee's practicum was that she was responsive to feedback and competent at managing students and engaging them in learning. |

| 7.25 | Lee's focus on behaviour management and the positive strategies she learned during her practicum translated into making her students feel positive about themselves, about their learning and about Lee. They also noticed that she knew about their learning. |

| 7.26 | Lee became increasingly student centred as her practicum progressed, employed more positive and affirming strategies, listened more carefully and showed increasing ability to know and understand her students and their learning. |

| 7.27 | While Lee's teaching practice became more student-centred during her final practicum, her stated belief about learning remained that students should be able to give back what she taught them. |

| 7.28 | Lee felt stressed and anxious during her final practicum, believing that her mentor didn't approve of her actions. She did not feel ready to step up into a full teaching role. |

| 7.29 | Barbara felt unable to trust Lee to manage and teach her students. She did her best to guide him, but often had to step in when she failed. She believed that Lee lacked the commitment and maturity required to become a teacher. |

| 7.30 | The video discussion meetings gave Lee an opportunity to compare her practice with that of her peers. It improved her ability to reflect on her practice and to implement changes that were noticed by the University Colleague and the students in her class. |