Establishing a Democracy Classroom:

Cooperative Learning and good teaching

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Statement of Originality

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University’s Digital Repository, subject to the provisions of the Copyright Act 1968.

Signed: ................................................................. Date: .........................
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Abstract

The Melbourne Declaration (2008) established a strong framework for educating the 21st century Australian student - a framework focussed towards collaboration and the ability to work in teams. Collaboration is an essentially democratic skill and in classrooms can be supported by the use of a model of pedagogy such as Cooperative Learning (CL). In this study, Early Career teachers (ECTs) were mentored in the use of this long standing pedagogy because collaborative classrooms need to be seen as the fundamental basis for twenty first century learning skills in a time of increased testing and focus on individualised learning. The case studies of early career teachers evolved, in an action research process, as the researcher monitored the outcomes of professional development in CL and investigated links between CL and early career teachers overall pedagogical strategies and their classroom ambience. Rich cases emerged as a result of intensive and iterative interrogation of multiple sources of types of data. Comprehensive, systematic and exhaustive coding of this data, in phases of research provided evidence of an emerging democracy classroom. The professional development in CL improved the four early career teachers’ understandings and practices in CL; improved aspects of their understandings and practices in overall pedagogy (as measured by the New South Wales Quality Teaching model) and a classroom with a ‘Democracy Stance’ emerged. Professional development in classroom pedagogy is important and does make a difference and democracy classrooms can emerge as a result of a focus on Cooperative Learning. In an environment that increasingly focusses on accountability, this study demonstrated that social and academic learning for both teachers and students is possible and important for a democratic society.
Chapter One:

Establishing a Democracy Classroom: Cooperative Learning and good teaching

Introduction

This chapter provides a brief overview of the outcomes of the study, the contribution it makes to research in the field and some of the underlying issues associated with why working towards a democratic classroom is important and necessary for 21st century learning. This research study demonstrated the positive impact that professional development in actual classroom pedagogy can have on classroom practice even with the most challenged teachers, our early career teachers (ECTs). Learning about and practising a particular teaching strategy; in this case Cooperative Learning (CL), led to a particular classroom ambience, in this case a ‘democracy stance’, and transformed classroom quality. A key finding of this research study was the identification of markers of what actually leads to a democracy classroom, the democracy indicators. These findings clarify the impact that helping teachers perform their key function, classroom teaching, can have on teaching practice and performance.

Teaching quality is a critical influence on students’ learning with the skill of individual teachers being the single largest factor adding value to student learning (Cochran-Smith, 2003; Ingvarson, 2002; Rowe, 2003) and impacting on student outcomes (Darling-Hammond, 1996, 2000; Hanushek, 2011; Hattie, 2003; Hill & Rowe, 1998). Good teaching takes time to develop and ECTs struggle to teach well while they juggle the demands of multiple expectations and stresses of their new career including programming, management, assessment, and catering for the diverse special needs of students in their classrooms (McCormack, Gore, & Thomas, 2006). ECTs require more support in classroom practice than those teachers who are a little more advanced in their careers because they often experience “reality shock” (Veenman, 1984) due to the “complex and diverse demands, knowledge bases and contexts for teaching” (Martinez, 2003, p.8). Too little attention has been paid to the importance of enhancing ECTs’ knowledge about pedagogy in the early years of teaching (Gore, Williams, & Ladwig, 2006b).

This study introduced one pedagogical approach, Cooperative Learning, to ECTs in an effort to clarify the process of mentoring ECTs and to ascertain the extent to which
such professional development in pedagogy assisted their classroom practices. The decision to work with a group of teachers in their early years of teaching was made because I knew that the quality of the teacher was what makes the biggest difference to student outcomes and so I wanted to give support to ECTs who seem most vulnerable in the teaching profession. I was also interested in the social outcomes of teaching and have a longstanding interest and expertise in Cooperative Learning which I knew had an abundance of research demonstrating both social and academic outcomes. My interest in respect, diversity, and a holistic education where student wellbeing should be promoted, led to the ideas behind the professional development program I envisaged and I wanted to investigate whether ECTs could implement such a program.

The primary research question was:

How can professional development in Cooperative Learning improve pedagogy for early career teachers and link to the development of a democracy stance in their classrooms?

This led to a number of sub questions namely:

1a. Why teach Cooperative Learning and what could be the links between CL, good pedagogy and a democracy classroom?

1b. How do the early career teachers demonstrate the development of understandings of CL and Quality Teaching (QT) perspectives?

1c. How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?

1d. How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?

The study found that of the four teachers in the study, those teachers in their second and third years of beginning teaching, developed more democratic classrooms after learning about and practising uses of CL than the first year teachers. This would appear to be because first year teachers were grappling with other aspects of beginning teaching, such as new administrative procedures, behaviour management, and individualisation for special needs students whereas teachers in their second and third year of teaching had these aspects more under control. Despite the obvious advantage of being a little more experienced in the classroom, however, this study
found that ECTs who are supported with their pedagogy in the first few years of teaching were well able to implement CL and this led to a development of more democratic classrooms for all four teachers in the study.

Additionally success in the CL pedagogy also led to an increase in particular elements of the New South Wales (NSW) Quality Teaching model (QTm) (NSW Department of Education and Training, 2003c) that link to democratic classroom practices for all four teachers. There was a direct link between professional development in CL and the general improvement of classroom teaching practices.

**Background to the Study**

Cooperative Learning and 21st century learning

Education for the 21st century should develop students’ skills that allow them to move between workplaces and develop the metacognitive skills necessary to do this well. These skills are not simply memorisation and repetition but include social skills and attitude sets. The particular way of orientating the self to this twenty first century world should include twenty first century learning skills, including critical thinking, communication, collaboration and creativity, problem solving and ICT literacy, as well as a focus on community. These would seem to be essentially democratic skills. In Australia, the state and territory Ministers of Education agreed to the *National Goals for Schooling in the Twenty-first Century* which vowed to provide students with the understanding, skills and values, as well as knowledge, to have a rewarding life in a just and educated society (Ministerial Council for Education Early Childhood Development & Youth Affairs, 1999). These National Goals and national ideals were endorsed as the *Adelaide Declaration on National Goals for Schooling in the Twenty First Century* (Ministerial Council on Education Employment Training & Youth Affairs, 1999) and have been superseded but not supplanted by the more recent *Melbourne Declaration on Educational Goals for Young People* (Ministerial Council on Education Employment Training & Youth Affairs (MCEETYA), 2008) which is current.

In Australia, the new Australian Curriculum, developed and based on this *Melbourne Declaration*, has avowed that general capabilities including learning to “negotiate and communicate effectively with others; work in teams, positively contribute to groups and collaboratively make decisions; resolve conflict and reach positive outcomes” (Australian Curriculum Assessment and Reporting Authority (ACARA), 2014, p.104) are key social and academic skills for our twenty first century learners. The *Declaration* underscores the importance of children cooperating in our schools; successful learners
“are able to plan activities independently, collaborate, work in teams and communicate ideas” (MCEETYA, 2008, p. 8). It was this focus on the importance of students working in teams, of working in collaboration that lead to this research study. Cooperative Learning is a well-known and well researched approach to building collaborative classrooms and I believed strongly that the need for this type of classroom was even more important in a time when more individualised learning was being promoted in classrooms in Australia as a response to increased testing and accountability (Lingard & Keddie, 2013; Stobart, 2008).

Cooperative Learning and Collaborative Learning

The terms Cooperative Learning and collaborative learning are often used interchangeably in schools and there is some confusion amongst teachers about the terms. Collaborative learning has been defined as mutual engagement between members in a group when they try to solve a problem together (Dillenbourg, Baker, Blaye, & O’Malley, 1996) with equality also being cited as an important dimension (Damon & Phelps, 1989). Cooperative Learning can therefore be defined as a particular type of collaborative learning, one that is considered to be the more structured and teacher controlled of the two types of learning (Panitz, 1999) with the teacher ensuring there is a clear task and role structure (Abrami et al., 1995; McWhaw, Schnackenberg, Sclater, & Abrami, 2003) in order to determine a particular goal or end product. Cooperative Learning is a more structured approach to learning that helps develop skills to ensure student collaboration. As students become older they are assumed to have the appropriate social skills to work in groups, they are able to demonstrate responsibility for the organisation and evaluation of their group and are able to work collaboratively, without the support of Cooperative Learning.

The roots of Cooperative Learning can be traced back to John Dewey who emphasised the importance of education as a means for teaching citizens to live cooperatively in a social democracy (Dewey, 1956). Philosophically, the link between education for democracy and social collaboration has a long history. More recently there have been many authentic classroom research studies that have attested to the value of Cooperative Learning for academic and social outcomes, indicating that it is an effective strategy in maximising learning outcomes of all students (Gillies, 2003b; Johnson & Johnson, 1994; Johnson, Johnson, & Smith, 2000; Slavin, 1995b, 1996) as well as social skills development (Johnson, Johnson, & Holubec, 1990; Slavin, 1995b, 1996; Stevens & Slavin, 1995). CL allows students to communicate well and requires careful teaching of the social and team skills required for students to work effectively in
groups. CL can be seen as an intellectual pedagogy, a pedagogy that teaches students how to respect and support each other, how to value and welcome difference and diversity, a pedagogy where all students are applauded for having a voice - an important factor in a democratic society. The pedagogies selected by teachers who have high expectations of all students, should be intellectually demanding (Mills & Gale, 2010) and should support students to respect diversity and value all, to develop a sense of responsible citizenship and be “focused on creating socially supportive and inclusive learning environments where students are positioned with autonomy” (Lingard & Keddie, 2013, p.429).

Although there has been a great deal of research that advocates the use of CL in schools to improve both social and academic outcomes for students, there has been no research that focuses on ECTs and their use of CL. It was therefore decided to investigate this largely unique and well defined pedagogical approach as a way of clarifying the importance of professional development in pedagogy for ECTs. This research study found the use of Cooperative Learning by ECTs, albeit often only partially successful, engaged the students cognitively, socially and emotionally and increased those democracy tendencies mentioned by Dewey.

CL is a pedagogy that promotes learning with others in a democratic environment promoting citizenship (Cogan & Morris, 2001) and mutual respect (Grossman, 2000). It promotes a democracy classroom or classroom within which all participants take a “democracy stance”. A democracy stance (Vinterek, 2010) is about how teachers demonstrate both their knowledge about democracy classrooms and how they enact this knowledge in their classroom practice. Stance is seen as a combination of values and the pedagogies selected by teachers and the knowledge used to employ their practice. It is about a way of thinking, about the values and attitudes that teachers have that indicate a democratic perspective. It is about teachers who believe in social justice, human rights and intercultural capacity.

Data collection and analysis

The data collection for this study initially involved thirty two classroom observations, collections of conversations and action plan entries from three professional learning sessions, fifteen reflective diary entries and eight interviews with four ECTs over a seven month period exploring the extent of the alignment between Cooperative Learning occurring in classrooms and elements of the NSW Quality Teaching model in order to explore links between professional development, CL and good teaching. The
Quality Teaching model has been used in public schools in New South Wales, Australia since 2003 (NSW Department of Education and Training, 2003b) and is used in NSW and the ACT as a practical and useful framework for explaining and clarifying good teaching practice, for professional dialogue, for planning and redesigning lessons and for reflection on the quality of teaching in the classroom.

Early career teachers’ changing knowledge and understandings of Cooperative Learning and their pedagogical teaching practice before, after and during professional learning were clarified using multiple case study design and action research. Each individual teacher’s action research project guided their own professional learning needs as they embarked on self-reflection during the professional learning sessions, and through collaborative discussion, and while writing reflective diary entries after implementing CL lessons. The professional learning sessions were developed as a result of my own action research approach as I interviewed and observed these teachers in action in their classrooms.

The analysis of this extensive data was scrutinised repeatedly using comprehensive, systematic and exhaustive coding, in various phases linked to the action research design of the methodology. Overall the results indicated that teachers were enacting a CL classroom in different ways, and, additionally, all had evidence of developing a particular classroom culture – a democracy classroom was emerging. The emergence of these indicators of democracy classrooms were a key feature of the methodology of this research study.

**Conclusions: Cooperative Learning and Democracy Classrooms**

Teachers who were able to create a Cooperative Learning environment also scored highly in their implementation of certain QT model elements associated with Social support, Inclusivity and Substantive communication. Most significantly it was observed that their classrooms had a democratic “feel” about them. As Vinterek (2010) described classrooms, they seemed to have a democracy stance. In a democracy classroom there is more likely to be strong social support as both teachers and other students give supportive comments and value the contributions of all. The research results indicated that the importance given to heterogeneous grouping and the structured development of social skills associated with cooperative tasks increased this democracy stance and inclusive social support.

This study demonstrated that professional development in CL supported early career teachers in improving both academic and social aspects of their classroom pedagogy.
and such professional development assisted them to develop democracy classrooms. As Dewey (1938) commented, “democratic social arrangements promote a better quality of human experience, one which is more widely accessible and enjoyed, than do non-democratic, and anti-democratic forms of social life” (p.34). Early career teachers who are supported with their pedagogy in their early years with a democracy stance are able to develop an engaging and participatory democracy classroom.
Chapter Two:

Cooperative Learning and Good Teaching and democracy classrooms: The Research Literature

Introduction

This literature review examines the research literature in relation to Cooperative Learning, good pedagogy and democracy classrooms and demonstrates how there is a link between all three. It establishes the research context of this investigative study, the philosophical and practical basis of the research, and locates this study in relation to broader theoretical and philosophical traditions associated with mass schooling and mass education for the 21st century. The early career teachers in this study wanted to learn about and practise Cooperative Learning because they had an interest in a pedagogy they had heard about at university and knew that it could help them create a classroom environment that focused upon both social and academic outcomes.

There are decades of research delineating the value of CL but still it does not appear to be well used in our classrooms (Baines, Blatchford, & Kutnick, 2003; Muijs & Reynolds, 2005). It has been found that students often sit in groups but do not work in groups, instead they work individually or as a whole class (Galton, Hargreaves, Comber, Wall, & Pell, 1999) with group work often arbitrarily based on practical reasons to try to maintain classroom control and students’ attention or due to classroom layout constraints (Baines, Blatchford, & Chowne, 2007) rather than carefully planned pedagogical decisions. Teachers are often poorly prepared for CL and “translating the promise of CL into practice is more complicated than believed at first” (Sharan, 2010, p. 300). Moreover, the many different approaches and models often confuses teachers and as a result this can affect the successful implementation of CL (Sharan, 2010). It is further argued by many researchers (Jacob, 1999; Kohn, 1998; Putnam, 1997) that often teachers have not been taught in their teacher education courses that they need to consider the classroom context (Hennessey & Dionigi, 2013) before they apply CL practices. As Hennessey and Dionigi (2013) summarise there is a need;
to situate cooperative learning in their specific context and negotiate the various factors affecting its implementation, such as the age and behaviour of the students (Joyce, 1999; Slavin, 1995), the size of the class (Turnbull, Turnbull, Shank, Smith, & Leal, 2002), the time and support they have (Gillies, 2003; Jacob, 1999; Putman, 1998), the amount and type of student training (Putnam, 1998; Kohn, 1998; Veenman, Kenter & Post, 2000), the level of teacher and student understanding (Joyce & Showers, 1995). (p. 55)

Testing regimes such as the standardised testing that is occurring in schools in many parts of the world, including tests such as NAPLAN in Australia also discourage teachers from using CL (Lingard & Keddie, 2013; Stobart, 2008). These tests focus on individualised, rather than group, learning and outcomes and it appears that teachers do less group work, instead concentrating on individual tasks. Active participation in group work is important despite it being “a neglected art” (Galton & Hargreaves, 2009) with collaborative learning seen as a key 21st century learning skill. CL is a pedagogical approach that reflects the importance of community, a collaborative culture, and the affective domain - a culture where students can care and share as well as develop both cognitive and social outcomes (Gillies, 2003b; Johnson & Johnson, 1994; Johnson et al., 1990; Johnson, Johnson, & Smith, 2000; Slavin, 1995b, 1996; Stevens & Slavin, 1995). Teachers plan activities that require students to engaged in dialogue, consider different perspectives, encourage tolerance and respect and develop interpersonal relationships in a CL classroom. They also ensure democratic values are taught and pro-social behaviour is encouraged (Morcom & Cumming-Potvin, 2010).

The literature review is broken up into four key sections: Section One identifies the key phases of research into CL; approaches and elements and benefits of using CL and it also examines the teacher’s role in CL. Section Two examines characteristics of education for democracy as well as the pedagogies necessary for democracy classrooms. Section Three considers CL as an advanced ‘democracy pedagogy’. Finally Section Four examines the challenges for early career teachers, the professional development models that currently exist for them, and the importance of action research as a professional learning model for these teachers in this study. This literature review provides a comprehensive platform of research to locate the investigative study.
Section 1: Cooperative Learning

An Introduction to CL

Cooperative Learning is defined as “groups of students working to complete a common task” (Siegel, 2005, p.339) and “a pedagogy that generates a diversified body of methods of instruction which organise students” (Sharan, 2010, p.301). Essentially Cooperative Learning allows students “to work in groups toward a common goal or outcome, or share a common problem or task in such a way that they can only succeed in completing the work through behaviour that demonstrates interdependence, while holding individual contributions and efforts accountable” (Brody & Davidson, 1998, p.8).

Cooperative Learning has strong research support demonstrating it as an effective strategy in maximising learning outcomes of all students (Gillies, 2003b; Johnson & Johnson, 1994; Johnson, Johnson, & Smith, 2000; Slavin, 1995b, 1996) and developing social skills (Johnson et al., 1990; Slavin, 1995b, 1996; Stevens & Slavin, 1995). Cooperative Learning is a structured style of learning which involves heterogeneous groups participating face to face in clearly defined tasks with a common goal, ensuring all students participate through careful allocation of roles or sub-tasks, to ensure positive interdependence and individual accountability (Gillies & Boyle, 2006; Johnson & Johnson, 1994; Slavin, 1987a). Cooperative learning strategies involve teachers in carefully scaffolding the teaching / learning experience by teaching social skills, assigning roles, and sub-tasks. It requires teaching time for reflection by students based on both task outcomes and social skills. Cooperative group work should involve children as co-learners who “give and receive help, share their ideas and listen to other students’ perspectives, seek new ways of clarifying differences, resolving problems, and constructing new understandings and knowledge” (Gillies, 2003b, p.35). A student merely sitting with other students and working in groups is not Cooperative Learning. Cooperative Learning supports a social constructivist view of students learning together to form knowledge through direct interaction. Brady (2006) argued that with the evolution of constructivism and student centred learning in educational practice, the usage of terms such as facilitator, co-learner and learning manager, became more common and that the relationship between teacher and student has evolved to be one that is more related to that of “collaboration”. Theories of learning (Piaget, 1959; Säljö, 2000; Vygotsky, 1978, 1986) have shown clearly that children learn through collaboration (Williams & Sheridan, 2006). It is, however, assumed that in collaborative learning the students already have the social skills and motivation required to enable them to work well together and complete joint goals.
Collaboration and Cooperation

The terms Cooperative Learning and collaborative learning are often used interchangeably in schools and there is some confusion amongst teachers about the terms. Collaborative learning has been defined as mutual engagement between members in a group when they try to solve a problem together (Dillenbourg et al., 1996) with equality also being cited as an important dimension (Damon & Phelps, 1989). It has also been defined as a term used to describe situations when joint intellectual efforts are required with students working in groups larger than two and working on developing understandings as a team (Smith & MacGregor, 1992). Williams and Sheridan (2006) claimed that a shared interest is important when developing collaboration while Bruner (1996) argued that collaboration implies student pro-activeness and interaction in learning although not in any particular manner.

Cooperative Learning can be defined as a particular type of collaborative learning with the teacher ensuring there is clear task and role structure (Abrami et al., 1995; McWhaw et al., 2003) in order to determine a particular goal or end product. In Cooperative Learning students have specific sub-tasks and then need to reassemble these tasks to meet the common goal, whereas in collaborative learning, partners, or groups do the work together. Some subtle division of tasks can occur, with one partner taking on certain parts of the task and another taking on more strategic parts. However, as Dillenbourg (1999) noted true collaborative learning requires a shifting of roles and of layers required in a task requiring high level reasoning as the layers are tightly interwoven. This is in contrast to Cooperative Learning where division of subtasks is often decided at the beginning and as a result the fixed division of these sub-tasks makes the task more stable. It is this level of complex thinking and working that children accomplish, once they have been taught explicitly how to cooperate. Therefore, once the teacher has scaffolded the collaboration through cooperative learning, the intention is that in time the students will collaborate without such teacher intervention.

The next section will examine the benefits and the disadvantages of Cooperative Learning in school settings, as well as the philosophical and psychological premises of good practice in teaching and learning in CL. Firstly I will explore the historical antecedents to current research in Cooperative Learning.
Historical background to Cooperative Learning Research

There are three main educational psychology perspectives that underpin and have guided the research into Cooperative Learning, cognitive-developmental, behavioural, and social interdependence perspectives. The cognitive-developmental perspective is based on the theories of both Piaget (1959) and Vygotsky (1978). Piaget’s theory asserts that sociocognitive conflict occurs when individuals cooperate together and this stimulates them to take a particular perspective whereas Vygotsky’s theory is related to the social construction of knowledge produced whilst individuals cooperate in their efforts to comprehend and learn and solve problems together.

Vygotsky’s work on the zone of proximal development is an important concept to consider when examining how Cooperative Learning can lead to higher order cognitive processes. The positive correlation between achievement and giving explanations, when knowledge is sought and constructed together and negotiated, supports the notion of the development of higher order cognitive processes when children are asked to work together (Vygotsky, 1978). The concept of ‘zone of proximal development’ (Vygotsky, 1978) which is explained by Daiute and Dalton (1992) as “the distance between a child’s actual level of development as assessed when working individually on a task and the child’s potential level of development as assessed when working in collaboration” (p.8) is important to the understanding of Cooperative and collaborative learning. Individual students have their own strengths and skills to bring to a partnership or group and the different strengths in the partnership can improve each student’s ability to achieve the overall group’s learning outcomes. As a result learning should be maximised. CL is therefore a strategy that helps to maximise student learning.

The behavioural learning theory perspective focuses on the impact of group reinforcers and rewards on learning and is based upon the work of Slavin (1991) and Skinner et al (Skinner, Cashwell, & Dunn, 1996) who refer to the importance of group contingencies; that is the process of rewarding students based on the performance of the group. On the other hand Bandura and Huston’s (1961) research focussed on the importance of human behaviour being learned from and modelling or imitating others. Homan’s (1958) work in contrast focussed clearly on the balance of rewards and costs in social exchange among interdependent individuals. In CL it is important that groups are rewarded for their joint learning achievements.

May and Doob, early researchers of cooperative grouping, found individuals cooperated when they attempted to achieve the same or complementary goals (May & Doob, 1937). This notion of mutual support, rather than competition, is seen as integral to the Cooperative Learning process and there is a lot of research that points
to it being a superior approach to learning that was based solely on competitive models. Their early findings postulated a theory distinguishing between cooperation and competition with competition meaning that some achieve more or less whereas cooperation meaning all can achieve (May & Doob, 1937). They also found that Cooperative Learning made students more productive while ensuring they got on well together.

The theory that had underpinned much of the research into CL however, is social interdependence theory. Deutsch, who was a student of Lewin, first introduced this theory in 1949, building on the work of Lewin (1935) and Koffka (1935). This view posits that social interdependence exists when common goals are shared and each person’s success depends upon others (Lewin, 1946). Lewin continued to research the social psychology of education with his important article on action research released just before his death. Deutsch’s seminal research (Deutsch, 1949a, 1949b) also found that greater group productivity occurred when members were cooperative rather than competitive. Deutsch (1949a) in his five week study of university students, found that when working towards a group goal they had a stronger sense of being in a group compared to when working individually. He found that when cooperating, students achieved more and felt more motivated and had better inter group relationships. Deutsch theorised that there were three types of social interdependence: positive, negative, and none. Deutsch's basic idea was that the type of interdependence structured in a learning situation established how individuals interacted with each other, and this in turn, affected and determined learning outcomes. He claimed that positive interdependence tended to result in “promotive interaction” whereas negative interdependence resulted in oppositional interaction; and no interdependence resulted in an absence of interaction.

Other researchers like Lippitt (1940) and Deutsch (Deutsch, 1949a) also impacted upon the research into CL. Lippitt became a strong mentor and supervisor to Richard Schmuck who was a prolific publisher of works in action research and group dynamics (Schmuck, 2006, 2009). Deutsch became the mentor of David Johnson who had many publications stemming from his initial 1966 dissertation and who had extensively researched the benefits of Cooperative Learning for achievement, in comparison with individual and competitive learning, and who continues to publish research on Cooperative Learning today with his brother Roger (Johnson, 1984; Johnson & Johnson, 1987; Johnson & Johnson, 1975, 1990, 1994, 1999a, 1999b, 2005). These philosophical ideas and positions influenced a number of different groups of researchers who led research investigations into how CL has had impact on learning in a classroom.
The earlier work of Lewin, Deutsch and Lippitt has clearly contributed to the research into Cooperative Learning today. Cooperative and collaborative learning teaching methods have also been formulated with reference to some of the ideas of one of the most influential philosophers in education, John Dewey (1956) who believed that the process of learning involved a series of intellectual, emotional and social events – not simply academic exercises. He believed in the importance of significance in learning and he emphasised education as a means for teaching citizens to live cooperatively in a social democracy.

Before the 1970s all reported studies of CL had been conducted in college classrooms or in laboratories using college students. After this time the research into CL grew as it concentrated on primary and secondary classroom research. From the late 1970’s CL research included Aronson’s work on Jigsaw (Aronson, Blaney, Stephen, Sikes, & Snapp, 1978); Shlomo and Yael Sharan’s group investigation procedures in the 1970s (Sharan & Sharan, 1976); Kagan’s cooperative structures in the 1980s and Cohen’s research into complex learning in 1986 at Stamford University in the USA (Cohen, 1986). Johnson and Johnson, as well as Sharan and Slavin continued to develop ideas about CL in the 1980s but theories about which were the most effective methods caused some debate. Johnson & Johnson’s later work (Johnson, 1984; Johnson & Johnson, 1975, 1999b, 2005; Johnson, Johnson, & Smith, 2000) have clearly contributed to the more recent research into Cooperative Learning. Social interdependence theorists such as Johnson and Johnson asserted that the effects of Cooperative Learning are largely dependent on the cohesiveness of the group whereas behaviourist focused researchers such as Slavin claimed that its effectiveness was a result of a focus on the reward or goal structure under which students operate.

Johnson and Johnson are two of the most well-known researchers and advocates of Cooperative Learning at the present time. They pointed out that much research into the area of group dynamics disappeared in the 1950s due to an emphasis on the individual in education. It re-emerged again in the 1970s with the emergence of more extensive research into the benefits of Cooperative Learning for overall student achievement in comparison with student achievement when working either individually or competitively. It was in the 1979 that the first International Association for the Study of Cooperation in Education (IASCE) conference occurred in Israel as a result of the interest in group work at this time.

The Johnsons’ more recent work in social interdependence theory and “cooperative controversy” with Karl Smith (Johnson, Johnson, & Smith, 2000, 2007) added to the research. Johnson, Johnson and Smith advocated that cooperative
controversy encouraged students to provide a more reasoned judgement on an issue due to the requirements of bringing together the different information, perceptions, opinions and reasoning processes leading to greater mastery and retention of material. They argued that students in competitive and individualistic situations did not have this opportunity to bring together information and reason with others.

Work in the UK on group work continued in the 1990s with a focus on how group work could help to develop a collaborative approach (Galton & Williamson, 1992). Later work from Blatchford, Kutnick, Baines and Galton (2003) in the UK found that group work led to positive motivation and attitudes to learning and relationships. In Australia work from Robyn Gillies (Gillies, 2003b; Gillies, 2004) and Gillies and Boyle (Gillies & Boyle, 2006) centred around how teacher’s discourse helped to promote the interaction between students, thus linking with the work of Johnson, Johnson and Smith (2000, 2007). Their study (Gillies & Boyle, 2006) involving 30 primary school teachers and over 800 students, who were trained in using communication skills as well as utilising CL, found that the students asked more questions and engaged in more mediated learning strategies. Gillies and Boyle (2006) analysed transcripts from teachers to find that by using the different mediated learning strategies teachers helped to challenge students thinking and understandings as well as help them make connections to previous learning.

Collaboration, and how to best teach for collaboration, is still seen as an essential aspect of good education (Williams & Sheridan, 2006). Whatever the underlying logistics, the evidence has always maintained that cooperative and collaborative approaches to learning enhance both academic and social well-being and achievement. In Australia, the National Goals for Schooling (Ministerial Council on Education Employment Training & Youth Affairs, 1999) stated that students should develop strengths and expertise in collaboration by the time they leave school. The later Adelaide Declaration on National Goals for Schooling for the Twenty-First Century (Ministerial Council on Education Employment Training & Youth Affairs, 1999) further stated:

- schooling should develop fully the talents and capacities of all students. When students leave schools they should: have the capacity for, and skills to collaborate with others (1.1).

More recently The Melbourne Declaration (Ministerial Council on Education Employment Training & Youth Affairs (MCEETYA), 2008) emphasised the importance of being able to work in teams. Collaboration continues to be seen as of vital importance in developing a civil society (Australian Curriculum Assessment and Reporting Authority, 2011b). The research behind this declaration included the need
for collaboration and the importance of a “communicative capacity” (Lovat, 2005). This communicative capacity allows students to develop trusting relationships that allow them to explore the multitude of viewpoints in their classrooms (Lovat & Toomey, 2007). The following section examines the approaches to CL in more detail focusing on the different models and the key elements of CL.

**Approaches to Cooperative Learning**

The majority of research studies on the effectiveness of Cooperative Learning indicate there are often differences in the key features of what is seen as Cooperative Learning and why and how some of these different approaches are effective. Slavin (Slavin, 1995a; 1983) described the essential features of Cooperative Learning approaches as the incorporation of group goals (for example providing recognition with certificates or grades for each group) and individual accountability (by use of individual assessment or individual task specialisation). He described a number of different models of Cooperative Learning (Slavin, 1995b, p.12), all of which fitted the profile of what could be defined as effective Cooperative Learning but all of which had crucial differences. These included Sharan and Sharan’s (1992) Group Investigation where students were encouraged to solve a problem together with task specialisation; Aronson, et al. (1978) and Slavin’s (1995b) Student Team Investigation where students were directed to assist each other in learning assigned materials with individual scores needing to improve over time; Slavin, Leavey and Madden’s (1986) Curriculum Packages where team members were encouraged to assist others to learn maths concepts in order to improve the whole group’s learning scores; and Johnson, Johnson and Holubec’s (Johnson, Johnson, & Holubec, 1991, 1992, 1994) Learning Together model where students were directed to coordinate their efforts to completing a task with praise and rewards related to the group product. All these models promoted the importance of heterogeneous groupings, except for Sharan and Sharan’s (1992) model which was also the only model that does not advocate the need for a group goal. Most models required the students in CL situations to be individually accountable and researchers also agreed on the vital element of positive interdependence. These various CL models are briefly described in the table below.
<table>
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<tr>
<th>Brief description</th>
<th>Individual accountability</th>
<th>Group Goals</th>
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<tbody>
<tr>
<td><strong>Researcher:</strong> DeVries and Edwards (John Hopkins University) (1974)</td>
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<tr>
<td><strong>Researcher's model:</strong> Team Games Tournaments</td>
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<td>Similar to STAD (below) developed about the same time but instead of weekly quiz games are played with students of similar abilities. Top scorer of each table (regardless of low or high ability) gets 60 points</td>
<td>Yes – team mates help prepare for games</td>
<td>Yes</td>
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<tr>
<td><strong>Researcher:</strong> John Hopkins University researchers – Student Team Learning / Investigation Aronson, Blaney, Stephan, Sikes &amp; Snapp (1978) and Slavin (1978)</td>
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<tr>
<td><strong>Researcher's model:</strong> Student Teams-Achievement Divisions (STAD)</td>
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<td>Four member, heterogeneous learning team, explicit teaching from teacher, students work to ensure all have mastered, individuals take individual quiz</td>
<td>Yes – must help others learn as team improvement is noted (scores are compared to past ones and points awarded on exceeding prior performance)</td>
<td>Yes</td>
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<tr>
<td><strong>Researcher:</strong> Adapted from Aronson's (1978) Jigsaw by John Hopkins University researchers</td>
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<td><strong>Researcher's model:</strong> Jigsaw 11</td>
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<tr>
<td>Four member heterogeneous teams – randomly assigned to be an expert on some aspect of reading assignment. Experts from different teams meet to discuss and then re-join their group.</td>
<td>Yes – students teach their material to group members individually (task specialisation)</td>
<td>Yes</td>
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<tr>
<td><strong>Researcher:</strong> Slavin, Leavey &amp; Madden (1986)</td>
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<tr>
<td><strong>Researcher's model:</strong> Curriculum Packages -Team Accelerated Instruction (TAI)</td>
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<tr>
<td>Four member heterogeneous teams. Designed for Maths for grades 3-6. Students work at own levels due to the idea that in Maths most concepts build on earlier ones. Team mates work on individual problems with help from others and team rewards given to those teams completing work well.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Researcher:</strong> Madden, Slavin &amp; Stevens (1986)</td>
<td></td>
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<tr>
<td><strong>Researcher's model:</strong> Curriculum Packages- Cooperative Integrated Reading and Composition (CIRC)</td>
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<tr>
<td>Upper elementary and middle grades for teaching reading and writing. Pairs of students from two or more from different reading levels. Work in pairs reading to one another, making predictions, summarising narratives, writing etc. Team rewards based on average performance of all team members.</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Use of discovery oriented projects. Yes (task specialisation) No</td>
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<tr>
<td>Projects with variety of roles and skills – all students strengths are recognised</td>
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<tr>
<td>Forms own two to six member groups, choose topics, break into individual tasks and carry out group report. Yes (task specialisation) No</td>
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<tr>
<td>Four or five heterogeneous members work on assignment sheets. Hand in a single sheet. Praise, rewards on group product. Sometimes Yes</td>
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</table>

Note. Adapted from Slavin, 1995b, p.12

Historically research has shown there are certain key factors that contributed to positive Cooperative Learning environments. Most studies stressed the importance of group goals and individual accountability. The following diagram shows how Johnson and Houlebec (1993) described the outcomes of cooperation.

Figure 2.1
Johnson and Houlebec’s 1993 outcomes of cooperation model
Emmer and Gerwels (2002) recently summarised additional key elements (not related to Johnson and Houlebec) as important in developing a cooperative and collaborative culture. These were accountability to the teacher, with interdependence among students, as well as risk taking without teacher interference also being strongly encouraged. The common elements identified by the key researcher/authors in the field included group goals or task interdependence, some form of individual accountability, and good group interaction processes. Slavin (1997) described his “QAIT model” (quality of instruction, appropriateness, incentives and time to learn) as being important when using CL in the classroom (Slavin, 1997). This prominent identification of the quality of instruction as a key element in this model of Cooperative Learning, and the importance of examining authentic classroom research, rather than experimental studies, as was commonly the case prior to the 2000s, were new important additions to the research.

Some more recent work has examined the use of cooperative group work in authentic classroom situations (Gillies, 2003a, 2003b; Gillies & Boyle, 2006; Siegel, 2005; Vedder & Veendrick, 2003; Veenman, Denessen, Akker, & Van der Rijt, 2005; Veenman, Kenter, & Post, 2000) with group work occurring within whole classes, rather than past experimental studies (Johnson, Johnson, & Stanne, 2000; Slavin, 1995a) where research was based on small groups away from their normal classroom context. As a result of these recent studies most Cooperative Learning researchers
agree that Cooperative Learning methods should include certain essential or basic elements.

**Essential Elements Identified by Recent Researchers.**

**a. Distributed cognition.**

Distributed cognition is one of the most essential elements in CL models. It can be seen as the knowledge and the tools used by a group of people to solve a problem (Stahl, 2005). Coke (2005) stressed the importance of there being a group goal, which required distributed cognition and the strengths of one student complementing the needs of another. All students therefore increased their knowledge base while working together to construct new knowledge (p.395). Coke argued that it is this feature that ensured a successful Cooperative Learning task with high achievement of all students. Cohen and Lotan (Cohen & Lotan, 1995) also argue it “is possible to produce equal-status behavior in heterogeneous classrooms as well as significant gains in achievement” (p.118). Johnson and Johnson (1994) stipulated that for true Cooperative Learning to occur five basic elements needed to be observed for distributed cognition to occur. Cooperative Learning, and distributed cognition, needs **face to face interaction**, with students working together as a group, talking and sharing as a team. The interactions also require **individual accountability** with each student responsible for learning all parts of the material / task, or completing and sharing their own part of a task, or having a specific role to fulfil within the task. **Positive interdependence** occurs when teachers ensure that they set up cooperative goal structures as this ensures group success when individual goals are met. Recent researchers emphasise this point that positive interdependence helps students to develop a sense of “group” as they recognise that they need to support each other in their learning (Gillies & Boyle, 2006). It is this linking of students interdependently, where students must work together to solve a problem, contribute to discussions, share resources and promote each other’s learning, that establishes a task as a Cooperative Learning task (Gillies & Boyle, 2006). Finally Cooperative Learning requires students to appropriately use **small group skills** meaning interpersonal skills training is required in order for Cooperative Learning to be successful (Johnson & Johnson, 1994). Johnson and Johnson also advocate **reflective thinking** as a fifth element with learners encouraged to analyse and reflect on how well their group has functioned at the end of sessions.
b. Size and composition of group.

Most of the earlier studies into Cooperative Learning advocated group sizes of four students (see table 2.1 above). Size of the group in Cooperative Learning groups is important and depends on the nature of the task as well as experience of the students of working in groups. Some studies have found that when completing a task that has different components a group of two or three appears to be best (Veenman et al., 2000; Williams & Sheridan, 2006). However the evidence for these types of groups in real classrooms seems rare even though a wealth of research has found that cooperative group work is a pedagogically effective grouping structure. A study of 187 teachers in the UK, teaching in classes with students ranging from five to eleven years, which asked for grouping maps to be drawn of classrooms at five points of time in the day to establish the types of groupings that were used typically in classrooms, found that this type of cooperative and collaborative work on joint tasks was rare (Kutnick, Blatchford, & Baines, 2002). The most common group size appeared to be four to six, but these groupings did not usually consist of the heterogeneous groupings advocated in Cooperative Learning. The most usual groups were made up of students of similar ability in Maths or English and in areas that required practice or revision rather than the construction of new knowledge.

Other research, exploring the impact of friends working together on collaborative tasks, found that groups which include both genders, mixed racial and ethnic backgrounds, varied ages and different social economic status (Zajac & Hartup, 1997) led to better collaboration. Other researchers (Ballantine & McCourt Larres, 2007) however, claimed that when children are allowed to self-select their groupings they often select same ability friends to work with and this often leaves the students who are weaker in ability to struggle. They also claimed that friendship groupings can also often lead to a lack of discipline within the groups. Ballantine and McCourt Larres (2007) thus recommended that groupings should be made by the teacher and should include a consideration of one or more of the following: “academic achievement, students’ learning styles, personality profiles, ethnic or racial backgrounds, geographical backgrounds, age, class standing, gender or a combination of these criteria” (p. 129) for them to be truly heterogeneous. They went on to argue that this type of group formation is more like the real world where people often do not get to have a say in who they choose to work with and so this education is more closely linked to authentic, “real life” learning.
c. Task and reward structures.

Some Cooperative Learning advocates give thought to both the task structure and the reward structure attached to the task and claim that consideration of both is essential for successful cooperation. A study by Vedder and Veendrick (2003), which examined the links between the roles of task and rewards structures in 12 different randomly selected schools participating in a reading program for disadvantaged children in The Netherlands, clarified the controversy between the developmental approach in Cooperative Learning, where the task structure is seen as the most important element, and the motivational approach in Cooperative Learning with the core element being the reward structure that is designed by the teacher to ensure successful Cooperative Learning lessons (Slavin, 1987 cited in Vedder & Veendrick, 2003). However Vedder and Veendrick’s study, found that those students intrinsically motivated did not require a reward structure to become involved in deeper level learning. A later study conducted by Veenman, Denessen, Akker and Van der Rijt (2005) corroborated this finding and found that one of the most crucial aspects of Cooperative Learning was the way the task was structured. The task needed to be carefully designed to ensure that students were really interdependent and that there was some kind of individual accountability (Veenman et al., 2005). In the light of these findings, it appears that there is agreement about the task structure but debate about the importance of a reward structure.

The Key Cooperative Learning Elements

In summary, the essential elements of Cooperative Learning, such as face to face interaction, social skill development, positive interdependence, individual accountability and reflection on both cognitive and social outcomes are highlighted in the later models of CL, such as that of Johnson and Johnson (1984). Later researchers also noted that the debriefing, or reflective stage of the lesson should include briefing and debriefing to enhance reflection and develop social skills (Blatchford et al., 2003). A clear focus on social skills was just as important as a focus on how the group had met academic outcomes. Cooperative Learning has been shown to improve both academic and social outcomes as a result of this emphasis on social skill development and demonstrates that CL is an effective strategy in maximising learning outcomes of all students (Gillies, 2003b; Johnson & Johnson, 1994; Johnson, Johnson, & Smith, 2000; Slavin, 1995b, 1996) as well as social skills development (Johnson et al., 1990; Slavin, 1995b, 1996; Stevens & Slavin, 1995).

CL requires face to face interaction, that is, students working together on a common goal. It also requires positive interdependence. This is the core element
of CL. CL will not succeed without each member of the group contributing and group members need to therefore fulfil the joint outcome or goal through group accountability. A number of different studies have shown how responsibility to the group can affect one’s own responsibility to perform for the group in a positive way (Johnson & Johnson, 1991; Lew, Mesch, Johnson, & Johnson, 1986). An aspect of positive interdependence is individual accountability. Each person needs to commit to their part of the task and be held accountable by the group. Team size is important as too large a group can lead to reduced accountability (Kerr, 1989) and when individual accountability is ensured it leads to higher achievement (Hooper, Ward, Hannafin, & Clark, 1989). A later element of **promotive interaction** was introduced by Johnson and Johnson in 2008 (Johnson & Johnson, 2008). They described this as: exchanging resources; giving feedback to each other; challenging decisions and reasoning; providing support; influencing each other to achieve goal; being motivated for mutual benefit, having a clear view of each other’s perspectives and they argued that it is in these conditions that positive interdependence occurs.

The following table highlights the key elements to be focussed upon from the Johnson and Johnson model and provides an overview of key CL elements. These key CL elements were the ones used in this study and they helped to devise the observational schedule developed for classroom observations of CL.

Table 2.2

**CL Key Elements: Adapted from Johnson and Johnson (Johnson & Johnson, 1994, 2008)**

<table>
<thead>
<tr>
<th>Cooperative Learning key elements</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Face to face interaction and common goal</strong></td>
<td>students working together /interacting as a group, talking and sharing as a team</td>
</tr>
<tr>
<td><strong>Individual accountability</strong></td>
<td>each student responsible for learning all parts of the material / task, or completing and sharing their own part of a task, or having a specific role to fulfil within the task.</td>
</tr>
<tr>
<td><strong>Positive interdependence</strong> *</td>
<td>teacher set up of cooperative goal structures to ensure group success when individual goals are met. students to develop a sense of “group” through <strong>promotive interaction</strong></td>
</tr>
<tr>
<td><strong>Small group skills (social skills)</strong></td>
<td>interpersonal skills training and reflection</td>
</tr>
<tr>
<td><strong>Reflective thinking</strong></td>
<td>learners analyse and reflect on group functioning and task</td>
</tr>
</tbody>
</table>
Positive interdependence is outlined in the following way by Johnson and Johnson: giving and receiving help; exchanging resources and information; giving and receiving feedback; challenging each other's reasoning; advocating increased efforts to achieve; mutually influencing each other's reasoning and behaviour; engaging in the interpersonal and small-group skills and processing how effectively group members are working together.

They (Johnson & Johnson, 1999b) summarise these key elements as PIGS F:

- **Positive Interdependence**
- **Individual Accountability**
- **Group processing** (i.e., reflection on the success of the group)
- **Small group skills**
- **Face to face interaction**

These make up the *Learning Together* model and include three types of CL groups, formal which last from one lesson to several weeks; informal which can be more impromptu; and cooperative base groups which can last for much longer, even up to a year as in peer support groupings across schools. This *Learning Together* approach suggested a developmental approach for teachers, from guidance to routine use and one where CL becomes more automatic and unconscious and is embedded into the classroom. Johnson and Johnson stated that the process could take up to two years implying crucial professional support for CL to be successfully entrenched into classroom processes.

There are a number of studies that have highlighted the benefits of CL and the following section elucidates the factors which enable its success in improving academic success; developing social and emotional learning and positive student relationships.

**Benefits of CL Use**

**Improvement of academic outcomes.**

Extensive research evidence suggests CL is an effective strategy for maximising learning outcomes of all students (Gillies & Ashman, 2003; Johnson & Johnson, 1994; Johnson, Johnson, & Smith, 2000; Slavin, 1995b, 1996). Gillies (Gillies, 2003a; Gillies, 1999) and Gillies and Ashman (Gillies & Ashman, 1996, 1998) conducted a number of field based, intervention studies from 1996 to 2003 with children aged from grade one to grade eight from a period of 12 weeks to 9 months in Australian schools. They found that students in structured groups exhibited more cooperative behaviours than the other students. These students also gave more unsolicited explanations, tuning in to their group members and offering help without it being requested. They also used more cognitive language strategies and their verbal interactions helped them achieve
higher achievement of outcomes than the unstructured groups’ students. For example tasks requiring cooperative talk encouraged explanation as well as application of knowledge (Gillies, 2003b).

Johnson and Johnson (1994) and Slavin (1995b) argued that there is a positive correlation between academic achievement and students giving explanations. Johnson and Johnson found from 305 studies comparing cooperative, competitive and individualistic learning on individual achievements (with 82% published in journals) that cooperation was more effective than competition and promoted interpersonal relationships, social support and self-esteem as well as higher academic achievement. Slavin’s field experiment research in the 1980’s and 1990’s found that CL with group goals and individual accountability led to greater academic achievement than traditional methods (Slavin, 1983, 1985). Students demonstrated the ability to provide explanations, instructions and develop implicit understanding of the needs of other group members in a Cooperative Learning situation. Cooperative Learning has also been shown to promote reading and writing achievements in middle school students (Stevens, 2003) and better classroom results for special needs students (Jenkins, Antil, Wayne, & Vadasy, 2003). Likewise Watson’s (1999) study in a small special education class of eight students with moderate learning difficulties, found that despite them not initially relating well to each other prior to the implementation of group work, after strategies to further group work, showed heightened emotional engagement as well as increased social awareness. This could explain the results of Jenkins et al’s (2003) study which interviewed 21 classroom teachers who used Cooperative Learning, and found that when using CL, there was a broad range of benefits for their special needs students including increased self-esteem, provision of a safe learning environment and greater success on learning tasks.

When using Cooperative Learning in comparison with more teacher centred learning approaches, teachers were more likely to ask more cognitive and meta-cognitive questions so that students are required to “provide reasons for their answers, connect their ideas to previous learning, and justify their conclusions” (Gillies, 2007, p.25). Consequently, students were more likely to be engaged in higher order thinking (King, Stafferi, & Adelgais, 1998) and pose questions to challenge others’ perspectives (Palinscar & Herrenkohl, 2002). Some have argued that there are increased benefits for higher ability students who, by providing high quality explanations, develop their learning with cognitive reorganisation whilst giving elaborated responses and providing explanations when cooperating in learning activities (Terwel, Gillies, Van den Eden, & Hoek, 2001). However low achieving students need opportunities too for higher order thinking activities in order to help them use their minds well (Newmann & Wehlage,
1993) and in a CL classroom all students are involved in higher order thinking activities. A classroom environment built by teachers who have developed their pedagogical practices to encourage cooperative work habits develops students’ motivation to participate more in class activities (Morcom & Cumming-Potvin, 2010; Turner & Patrick, 2004). CL has been shown to improve academic learning outcomes for all students, and it also has been shown to improve the social and emotional learning outcomes of students.

Social and emotional learning.

Cooperative Learning improves social skill development (Johnson et al., 1990; Slavin, 1995a, 1996; Stevens & Slavin, 1995) and helps to promote socialisation and learning among students (Cohen, 1994). Cooperative Learning is appropriate for younger children as they require careful and explicit teaching of the required cooperative social skills (Bruffee, 1984, 1995). It is also appropriate for older learners who have not developed collaborative skills. Additionally, CL can improve social problems (Johnson, Johnson, & Stanne, 2000), alleviate bullying (Cowie & Berdondini, 2001) and help students manage conflict (Stevahn, Johnson, Johnson, Green, & Laginski, 1997). Programs such as Lipman’s Philosophy for Children, which promote cooperative skills, have demonstrated that children can learn transferable skills such as critical and creative thinking and collaborative problem solving in these situations (Trickey & Topping, 2004).

Positive social and emotional development lays the foundations for wellbeing and good mental health and so is an important focus for schools (Farrell & Travers, 2005; Greenberg et al., 2003). Longitudinal studies in primary schools have found that social competence has a positive correlation with academic achievement (Malecki & Elliott, 2002; Welsh, Parke, Widaman, & O’Neill, 2001), with Barchard’s (2003) early findings also showing that there appears to be some correlation between some elements of emotional intelligence with academic outcomes, hence the need for more research in this area. Cooperative Learning experiences can be used to increase students’ cooperative predispositions leading to pro-social behaviours and reducing bullying and harm intended aggression in students (Choi, Johnson, & Johnson, 2011). The research into social and emotional learning (Goleman, 1995) has demonstrated the importance of competencies such as self-awareness, social awareness and relationship management for 21st century learning and provide evidence for leadership qualities being supported in collaborative environments. Some of the attributes of effective leaders also rely heavily on being able to demonstrate emotionally intelligent behaviours. Leadership attributes are “authentic communication, instilling trust in
others, building teams, effective mentoring, developing quality relationships, motivating others, managing stress, conflict resolution, fostering positive attitudes and creative and lateral decision making” (Hansen, 2011, p.10). With strong Emotional Intelligence it is more likely that students will become better leaders and so teachers can concentrate on developing such leadership skills during the cooperative lessons they develop.

**Student relationships.**

CL has an impact on student relationships because in a CL classroom students assist others with their learning and in doing so give and receive help. Positive relationships have been found when students provide help about the content of the task and by giving and receiving explanations (Nattiv, 1994) this also positively affects achievement (Webb, 1991). Interactions among students are crucial to Cooperative Learning and the interactions that occur in the groups help to facilitate the learning (Gillies, 2002) with positive relationships occurring as students help each other and enhance thinking. In cooperative groups students are more likely to demonstrate the ability to provide explanations and instructions and develop implicit understanding of the needs of other group members than in other types of groups. Trusting relationship building is crucial especially when teachers want to develop students who learn to respect other students whose values and ideas might differ to their own, (Cogan, Grossman, & Lui, 2000). Research by Gillies (2002) has shown the importance of Cooperative Learning for a lasting impact on student learning. Children who were trained initially in the processes and skills required for successful Cooperative Learning, demonstrated ongoing positive relationships with other students with the ability to help each other and enhance thinking in future Cooperative Learning experiences (Gillies, 2002). Trusting relationships between students in such classrooms are developed and enhanced as well as the relationships between teacher and students, “The trusting relationships that are built through cooperative strategies in . . . classrooms will develop collaborative skills that are crucial for the development of both the children’s emotional, as well as academic development” (Ferguson-Patrick, 2008, p.17).

Overall a recent meta-analysis of CL (Kyndt et al., 2013) concluded that “students indeed learn more when they work together than when they work alone . . .with results supporting... the current practice of cooperative learning in real-life classrooms”(p.146).
The Teacher's Role in CL

The role of the teacher as a facilitator, assisting students with small group social skills in a cooperative classroom and helping solve any contentious issues that may arise is extremely important. Cooperative Learning enables the teacher to transfer some of the responsibility for learning to the learners ensuring they have both the cognitive and social skills necessary. The management of the group by the teacher in this process is crucial. Students need to develop the skills needed for effective teamwork, such as managing projects, time management and the ability to resolve conflict and to communicate effectively because when groups are not managed effectively that dysfunctional groups can emerge and produce a learning environment that is worse than that of an individualistic learning situation (Ballantine & McCourt Larres, 2007). However, they found that if cooperative team skills (social skills) were explicitly taught, there was more likely to be increased group solidarity. In such a cooperative environment, all students’ contributions lead to a classroom environment with strong mutual respect. It is a complex pedagogy with much teacher direction and preparation:

When teachers choose to implement CL, they need to determine how the class will be organised (i.e., composition and size of groups), the type of task (i.e., level of complexity), the mode of instruction (i.e., direct teaching or small-group interaction), the patterns of communication (i.e., language needed to mediate learning), and the types of academic and social behaviours expected from the students (i.e., standards of performance and the specific interpersonal and small-group skills required). (Gillies & Boyle, 2010, p.938)

De Lievre, Depover and Dillenbourg (2006) argued that the organisation required by the teacher prior to and during implementation of CL work helped to develop such a classroom environment with the roles that teachers take on helping to affect this environment. There were five distinguishing roles for teachers identified by De Lievre et al (2006) including one, “a prior to implementing” CL (the structuring role) as well as four “during implementation” roles - cognitive, affective, social and organisational. Teachers who take on these important roles helped to develop collaborative work habits.

Structuring role.

This role can be seen similarly to Schon’s ideas about “reflection for action” (Schon, 1983) as described below in this chapter. Firstly the teacher has to consider aspects of organisation about CL prior to implementation of CL in their classroom. This is when the teacher needs to make decisions about how to structure the task and
ensures teachers consider the key elements of CL prior to implementation. Cooperative Learning tasks should be structured in a way that requires students to help each other understand, with individual performances checked regularly to minimise “freeloading” (Gillies & Boyle, 2005). It is this process of working together in a carefully organised manner that makes it an effective strategy in maximising learning outcomes of all students (Coke, 2005; Johnson & Johnson, 1994; Slavin, 1995a). Members of a Cooperative Learning group maximise their own learning and each other’s learning through teachers’ careful setting up of learning tasks with joint goals so that students have a strong interest in each other’s learning as well as their own - ensuring group learning goals.

Gabrielle and Montecinos (2001) studied 35 pairs of fourth and fifth grade students who were randomly assigned a set of instructions designed to persuade students to adopt a learning goal or a performance goal (with rewards built in) to see whether either of these motivational goals influenced students’ performance and participation. They found that when teachers placed an emphasis on learning goals rather than performance goals the quality of learning in classrooms increased. These students were “characterised as oriented toward trying to understand their work, improving their level of competence, and using self-reference standards rather than social comparison with others to judge the quality of their work” (Gabrielle & Montecinos, 2001, p.155). The emphasis on group learning goals rather than performance goals was a key factor in this present research study.

Roles during implementation.

The teachers’ roles during implementation of CL can be seen similarly to Schon’s ideas about “reflection in action” (Schon, 1983) as described below in this chapter. The table below shows the four roles and how these look in practice. The four ‘during implementation’ roles, identified by De-Lievre et al. (2006), included a cognitive role which incorporates the importance of planning and a consideration by the teacher of how to design the task to ensure there is deep understanding (consideration of content); how to connect it to real world purposes (connectedness); and how the task can be related to group work and social skills. The second ‘during implementation’ role, is the affective role, whereby the teacher considers the feelings of the students that arise during the CL task and whereby the teacher needs to encourage innovative thinking. The third ‘during implementation’ role, the social role incorporates social support as the teacher helps and encourages students to share ideas to construct knowledge and understandings and the fourth the organisational role considers the more practical aspects of the CL task organisation during
implementation. There are some connections between these roles in practice and some elements of the NSW Quality Teaching model as shown in the table below (Table 2.3).

Table 2.3

<table>
<thead>
<tr>
<th>Teacher role during CL implementation</th>
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</thead>
<tbody>
<tr>
<td><strong>Cognitive role</strong></td>
</tr>
<tr>
<td><strong>Affective role</strong></td>
</tr>
<tr>
<td><strong>Social role</strong></td>
</tr>
<tr>
<td><strong>Organisational role</strong></td>
</tr>
</tbody>
</table>

*Note. Based on (De Lievre, Depover, & Dillenbourg, 2006)*

The above table described the four “during implementation” teacher roles. However the pre – implementation and clarification of the goals of the cooperative experience is crucial. Classroom tasks must be carefully structured for successful CL.

Planning for Cooperative Learning in the classroom.

The research reported above indicates clear guidelines for implementation of CL in classrooms but there is strong evidence that CL is not widely used in schools. Even though Cooperative Learning has a strong research base over decades to support its use, it is still underutilised in schools (Baines et al., 2003; Muijs & Reynolds, 2005) with real interaction in group work also relatively uncommon (Galton et al., 1999). A survey conducted by Antil, Jenkins, Wayne and Vadasy found that of 85 elementary school teachers, 93% said they employed collaborative learning, but follow-up interviews with 21 of the teachers revealed that just five teachers implemented collaborative learning in such a way as to create both group goals and individual accountability (Antil, Jenkins, Wayne, & Vadasy, 1998).
In Australia, Gillies suggested that despite the fact that CL as a pedagogical practice has been supported by many state Departments of Education, few schools use it systematically. She suggested that schools might be unwilling to embrace changes in how to teach and how to organise teaching. She also suggested that teachers need to understand the importance of social as well as academic goals and learn to allow students to take on more control of the learning process (Gillies, 2003b).

Hennessey and Dionigi’s (2013) study highlights this reality, building on Elmore’s 1996 study which argued the difficulties of “the complex challenge of changing the core of educational practice from the traditional teacher-led and fact-centred pedagogy to a student-centred, cooperative inquiry approach” (as cited in Hennessey & Dionig, 2013, p.64). This relative lack of CL in classrooms can be explained, in part, by teachers’ reluctance to experiment with different pedagogies, especially those using group work, in an environment increasingly focused on individualised testing. In the UK the continued emphasis on centralised prescription and national testing has discouraged teachers to use innovative or different pedagogical approaches (Jolliffe, 2010). In Australia, our recent Australian curriculum suggests we are progressing along the same lines as the UK “with a curriculum with ‘strong classification’ in Bernstein’s (1973) terms: highly differentiated into traditional subjects, rather than integrated” (Jolliffe, 2010, p.104). Similarly, despite the fact that there has been an emphasis on change from the traditional teacher-directed learning approach to student-centred learning practices such as Cooperative Learning in Asian countries over the past two decades, they too struggle with implementing such approaches, “still influenced by Confucian philosophy that constructs teachers as authority figures who can decide what and how students should learn” (Pham & Renshaw, 2013, p.66). Sharan (2010) argued that the variety of methods of CL approaches has led to some confusion and has also constrained its successful implementation.

The previous section has outlined the research about CL, its benefits, how to structure CL tasks in the classroom and what the teacher’s important role is in this process. CL is an effective pedagogy. It is a pedagogy that emphasises and strengthens both social and academic outcomes, promotes learning with others in a democratic environment promoting citizenship and mutual respect. The following section examines the notion of education for democracy as I start to explore the link between CL and how using this can promote a democracy classroom: a classroom within which all participants take a “democracy stance”.

32
Section 2: Education and Pedagogies for Democracy

This section investigates the relationship between CL, democracy and democracy classrooms. It first of all defines democracy and then examines what is a democracy school, a democracy classroom and the idea of a community of practice.

A. Defining Democratic Education

A basic definition of democracy is rule by the people. A democratic classroom environment therefore means students are involved on a regular basis, in shared decision making that increases their responsibility for helping to make the classroom a good place to be and learn. Such classroom experiences are important for future democratic societies; “while educating for democracy has been defined in many ways, it is commonly agreed that it is the knowledge, skills, and experiences that members of a democracy should possess in order to be contributing citizens of a global society” (Miner, 2013, p.iii).

Educating for democracy therefore enables students to participate in classrooms, taking responsibility for the learning that occurs within that classroom. Cunat (1996) further defined democratic education as “the vital and dynamic process of a learning community that recognises and validates the individuality and responsibility of each participant” (p.130), also pointing out that “the overall purpose of democratic education is to engage individuals in a process that will help them develop the skills and attitudes necessary to become people who can and will contribute to the making of a vital, equitable, and humane society” (Cunat, 1996, p.130). Similarly democratic education has been defined by Camicia and Dobson (2010) as students needing the skills and dispositions to be able to participate in a democracy as a knowledgeable citizen. An important part of democratic education is also to develop a curriculum that promotes perspective consciousness. Camicia and Dobson (2010) argued this is promoted when different cultural perspectives are incorporated in order to reduce prejudice of students (Allport, 1979; Tropp & Pettigrew, 2005 as cited in Camicia & Dobson, 2010). Democratic education that starts in the classroom, by ensuring students have the skills and attitudes necessary for a responsible, prejudice free learning environment, will enable these students to contribute to an equitable and humane democracy society.

From early days in Australia there has been a focus on democratic practice, on social meliorative approaches to education, and on education for citizenship so the idea of democracy in education is not a new one here. Examining the aims and purpose of education historically and why democratic practice is a part of it, provides useful context when considering the relevance of democratic practice in schooling to
current educational debate. Various perspectives on why we educate the masses have been provided by educational historians (Barcan, 1980) but a very influential American curriculum historian, Herbert Kliebard (Kliebard, 2004) posited that essentially there were four major philosophical movements evident from the beginning of the 20th century that still influence much educational thinking internationally. The first perspective (humanist), identified by Kliebard, is associated with the belief that the primary purpose of education is the development of the child’s inner potential; the second believed in the purpose of education being to sort students appropriately depending on their abilities to help categorise students for the future – the social efficiency view. The third group, the developmentalists, were concerned with the development of children's emotional and behavioural potential and the fourth that of the “social meliorists”, believed education’s purpose was for the betterment of society. A particular focus for one group of social meliorists was that school should further social and economic justice; this group being known as “social reconstructionists” (Makler, 2010). Current curriculum documents reflect a mixture of these differing perspectives but the social meliorists and the developmentalist perspectives in particular lead to a view of education as necessary to create thoughtful democratic citizens, ensuring that both the needs of the child and the needs of the democratic society are enshrined in the education system. In such a democratic society schools assume “the purpose of enabling young people to participate fully in political, civic, and economic life in our society . . to support equitable access to what the society has to offer” (Bransford, Darling-Hammond, & LePage, 2005, p.10). Such advocates believe that to create a democratic society it is critical that we see the purpose of education as being to improve both academic and social outcomes and promote social justice.

Dewey, the leading exponent of progressive education in the 1920s in the USA, saw school as being part of a community and believed strongly in the importance of collaboration as an aim of education (Dewey, 1916, 1956). Part of this collaboration is learning about others. Furthermore Beane (1997) pointed out that in order to understand democratic classrooms, it was important to consider that “a major reason for maintaining schools is to bring young people into contact with ideas beyond their immediate experience - ideas that connect them with other people, places, and events that are part of the wider human community” (Beane, 1997, p.87). Apple and Beane (2007) further argued that as a school’s primary purpose is to “fulfil democratic educational purposes” then it is important that they bring “the democratic way of life to the culture of the curriculum and the school” (Apple & Beane, 2007, p.8).
Democracy schools and classrooms.

A democratic classroom has been described by Knight (2001) as being one where,

- Teachers can move in the direction of a persuasive and negotiable authority,
- make the classroom more inclusive, orient curriculum to important problem solving, guarantee students inalienable rights, bring students into decision-making processes, establish a more optimum learning environment and provide all students in the class with equal encouragement. (Knight, 2001, p.261-2)

For the purposes of this study, I will refer to schools and classrooms that exhibit a democratic philosophy and “aura” as democracy schools and democracy classrooms. I have adopted this expression, as opposed to the more usual one of a democratic school or classroom because developing a democracy school is not about teaching students the knowledge of democratic processes, it is about having a democratic stance. This will be explored more fully later in the chapter. Miner (2013) argued that a democratic classroom is when teachers and students interact in ways that incorporate all perspectives and voices in order to make decisions in their inclusive classroom. A democratic classroom, however, cannot exist in a vacuum. Democratic classrooms work best in a democratic school. It is important that the students have developed knowledge about civics and citizenship and become multidimensional citizens, as well as develop a communicative capacity and the values of democracy classrooms. By developing a democratic school culture the civic outcomes of tolerance and participation will more likely be developed than merely teaching content about civics and citizenship (Fearnley-Sander, Moss, & Harbon, 2001).

The pedagogical framework under analysis in this study, CL, emphasises communication and social interaction, where the importance of talk for learning is important because talk encourages explanation as well as application of knowledge. The small group and interpersonal skills of communication and conflict resolution skills are emphasised in CL tasks when students are communicating in face to face tasks. Cooperative Learning has been shown to be a strategy that enables all children to reach their full potential regardless of their background and has a set of principles which promotes both academic and social learning. The following section explores these concepts more fully and clarifies how these features of CL help to build a democratic school culture. There are a number of well-known approaches to learning that enforce the notion of the importance of building democratic cultures, including the idea that good learning is associated with communities of practice.
Communities of learning

Lave and Wenger's (1990) situated learning theory, argued that engaging students in problems and activities that they will encounter outside school, expands the notion of learning as focusing on individual cognition to the idea of learners developing themselves as a part of a community, and more specifically, a community of practice in authentic learning activities. Queensland Studies Authority reiterated this view in the recent Essential Learnings document where it is argued that classrooms can be viewed as cultures, and schools an extension of this, as communities of learning (Queensland Studies Authority, 2007). Skills for collaboration and social interaction are essential aspects of such situated learning to be developed by teachers. As Morais, Neves, Davies and Daniels (2001) pointed out, children's personal and social development in schools must be stressed if we want students with skills in a democratic society such as cooperation and freedom and mutual respect. They also argued that the pedagogical practices that we use should help to develop a context related to citizenship (Morais et al., 2001). A pedagogy that emphasises and strengthens both social and academic outcomes is useful in promoting learning with others in a democratic environment.

Such a community of learning and engaged learning is more likely to occur in a classroom that includes students' voices with evidence supporting the fact that teacher dominated pedagogies and transmission models are not engaging for students. Instead a learning environment that fosters student autonomy, challenges students and includes them in decision making is a more engaging learning environment (Roberts & Owen, 2010). Students' voices are important in the planning and decision making about teaching and learning for engaged learning. Listening to students' voices is also a crucial part of engaged teaching (McMahon & Zyngier, 2009). The relationships that teachers build with their students are important and this means teachers need to focus on teaching strategies that develop these relationships (Roberts & Owen, 2010). If we listen to students, involve them in learning with greater participation then they are more likely to be engaged and committed to their learning. In fact Ruddick and Flutter (2000) argued that students call for schools to promote values such as intellectual challenge, fairness, etc. and the more the regimes of school are changed to reflect the values that pupils call for, the stronger pupils' commitment to learning in school is likely to be. This view is supported by Nandy (2012) who argued that school should be about equipping students for life and a place where they can fulfil their potential in a fair system that prepares them for real life with “school to be a place where they find social enlightenment, not social advantage” (p.677). Nandy (2012) further asserts that
if our education systems want to augment the equal worth of all our children, then they must focus on collaboration. McMahon and Zyngier further argue;

> a critically transformative or generative pedagogy perceives student engagement as rethinking … experiences and interests increasingly in communal and social terms for the creation of a more just and democratic community and not just the advancement of the individual (p. 166).

There are a number of different facets to the knowledge required to be a democratic citizen. As well as the aforementioned consideration of how democracy education is considered and the importance of students working as a community, there are particular skills and values associated with democracy classrooms that students must learn. These skills and values can be called a communicative capacity.

**Communicative capacity**

A “communicative capacity” (Lovat, 2005) is crucial in a democracy classroom because students who understand others’ beliefs and values and consider others’ viewpoints and values “develop the kinds of trusting relationships that allow them to explore the multitude of viewpoints in their classrooms and come to see their own ‘life-world’ as just one that needs to function in a myriad of life-worlds” (Lovat & Toomey, 2007, p. 9). In classrooms that promote such democratic values it is likely that bullying is reduced, student well-being is enhanced and conditions for learning are improved as students are given opportunities to talk about values (Lovat, Toomy, Clement, Crotty, & Nielsen, 2009).

This communicative capacity can be strongly nurtured in a democracy focused classroom. In a democracy environment, which promotes equity and the common good, teachers develop the skills of conflict resolution where the majority rules, acceptance and respect are taught and this communicative capacity can be realised. There is a strong link here with CL and knowledge of advanced group work skills in CL, such as respecting other people’s ideas and opinions, negotiating, mediating when others can’t agree, and suggesting and persuading instead of bossing, help to develop understandings of social justice. The Cooperative Learning environment encourages and teaches truth, honesty and understanding about helping others (Cogan & Morris, 2001) – values that develop communicative capacity.

There are some key principles for teaching values. A National Framework of values were developed and included nine values for Australian schooling by the Ministerial Council for Education Employment Training and Youth Affairs (MCEETYA) in 2003. The final values negotiated as most appropriate were Care and compassion; Doing your best; Fair go; Freedom; Honesty and trustworthiness; Integrity; Respect;
Responsibility; Understanding, tolerance and inclusion (Department of Education Employment and Workplace Relations, 2011). A key imperative that emerged from this study of values education was that it was important that students learned what these values meant, what they would “look like” in practice as well as how to implement them. These values reflected the need for strong personal relationships whereby students could exhibit an understanding of respect, responsibility, tolerance and an understanding of pursuing and protecting the common good. The study reinforced the notion that teachers need to develop students’ understandings, skills, values and attitudes in the classroom - not simply knowledge.

This is not just a capacity for the school community; it is a skill for a global community. Grossman (2000) argued teachers must develop attitudes and values that will encourage students to embrace diversity, with a sense of responsibility to others and their world, and to be individuals committed to universal values, human rights, sustainable futures and conflict resolution through negotiation. Grossman suggested a teaching and learning cycle that included students learning first about themselves (Knowing); then understanding oneself and others (Understanding); moving on to accepting, respecting and appreciating oneself and others (Valuing) and finally being able to make decisions and use effective communication (Acting). This cycle also aligns well with CL as heterogeneous groups of students develop an understanding of the importance of themselves (individual accountability), as well as the whole group (positive interdependence), as they work towards a common goal using social skills which require negotiation and respect in order to act in decision making processes (Ferguson-Patrick, 2008).

By using values-based strategies in a democratic classroom environment, teachers develop the skills and attitudes needed to enable their students to form intellectual and persuasive arguments, and engage in critical analysis, as well see others’ perspectives and develop thoughtful and reasoned judgements. Additionally teachers themselves benefit from establishing such a classroom as teacher motivation, which has been linked to teacher well-being, is more likely to also develop teachers who use “values-driven, visionary and responsive teaching” (Morcom & MacCallum, 2010, p.37).

Learning about democracy is not only centred in classrooms. Dewey’s (1937; 1938) understanding of the concept of democracy is “as a way of life” (p.368) where the development of character is built through our interpersonal relationships and in turn this affects the way we behave in the world. He believed in teachers as agents of change who could help to improve and reshape society founded on democratic values (Connell, 1980; Dewey, 1938; Morcom & Cumming-Potvin, 2010). Dewey (1938) also
commented that, “democratic social arrangements promote a better quality of human experience, one which is more widely accessible and enjoyed, than do non-democratic, and anti-democratic forms of social life” (Dewey, 1938, p.34).

The previous section has defined what democracy education is and how democracy schools and classrooms can be established through building communities of learning and a communicative capacity. The following section explores what is necessary in our society to promote education for democracy. It considers the impact of testing on pedagogical practices as well as outlines how teachers can build democracy through their pedagogical choices.

B. Education for Democracy

From early days in Australia there has been a focus on democratic practice, on social meliorative approaches to education, on education for citizenship. Currently 21st century learning also emphasises strategies that link people together through social learning opportunities that require learners to have well developed metacognitive skills, and to improve both academic and social outcomes and promote social justice. If education to form a particular type of democratic culture is what we want then we need to consider the importance of not just strengthening individual cognition and engaging students in the learning of abstract skills and understandings but also being a member of a community. An inclusive learning community for our current and future school students is critical and the new national curriculum is adamant that education must include a social and moral purpose. Yates and Collins stated that primary schools have always been about more than just teaching bodies of knowledge but have emphasised the teaching of basic skills as well as “moral behaviour and particular ways of viewing and orienting the self to the world” (p.94).

The Melbourne Declaration (Ministerial Council on Education Employment Training & Youth Affairs (MCEETYA), 2008) emphasised the importance of a number of general capabilities one of which is the ability to communicate well and to work in teams and essential skills for 21st century learners thinking, creativity, teamwork and communication. It describes individuals who can manage their own wellbeing, relate well to others, make informed decisions about their lives, become citizens who behave with ethical integrity, relate to and communicate across cultures, work for the common good and act with responsibility at local, regional and global levels (Australian Curriculum Assessment and Reporting Authority (ACARA), 2014). Thus the idea of education for democracy has been shown to be important in Australia today, including a focus on both social and academic education. However policy changes over the last few years in Australia has led to an increase in standardised testing and this is
impacting on the pedagogical practices of teachers not only in Australia but also worldwide, ironically undercutting the democratic underpinnings of the education system.

**The impact of standardised testing on pedagogical practices.**

Bernstein (1971) stated that three messages systems of schooling (curriculum, pedagogy and evaluation) are in symbiotic relationship with each other and that when one is changed, it impacts on the practices of the other. It is obvious that the increased emphasis on standardised testing and new forms of individual and systemic evaluation has led to changes in curriculum and pedagogy that undermine some of the overall aims of mass education, particularly to participatory democratic education. A number of countries have seen the introduction of high stakes testing over the past decades. Rizvi & Lingard (2013) argue that the high stakes testing systems at National levels have become the steering mechanism of many countries schooling systems. Luke (2010) cited Resnick, a Wallace Foundation Distinguished Lecture and Educational Researcher, 2010,

> The evidence is now pretty clear. We seem to have figured out how to teach the “basics” to just about everyone. But we are deeply unsuccessful at our 21st century agenda of moving beyond basic competencies to proficiencies. (p. 41)

For the past 20 years England has had such a high stakes testing system and has linked to this a culture of performativity. Ball (2006) has argued that this has “affected the very souls of teachers” and in turn significantly impacted on them (not) using such authentic pedagogies or assessment practices but instead forced to implement a “centralised and standardised and somewhat reductionist curriculum” (Lingard, 2010, p.137). In the US it can be seen that many of the schools who concentrate on these tests do so to the detriment of broader schooling and instead concentrate on drilling on how to answer the types of questions likely to appear in the tests. As more time is devoted to reading and maths, and as teachers are warned that the scores in these subjects will determine the fate of their school, everything other than reading or maths gets less time (Ravitch, 2010). Education is being strangled persistently by the culture of standardised testing. The irony is that these tests are not raising standards except in some very particular areas, and at the expense of most of what really matters in education (Caldwell, 2010).

In many Asian countries, many teachers, despite the move to professionally develop and encourage teachers to use student centred pedagogies, continue to prevail with an “examination preparation teaching concept” (Tang, 2001 as cited in Pham & Renshaw, 2013, p.80). Watkins and Biggs (2001) and Wong (2003) explained
that “Asian teachers tend to make this safe choice because at the end of the day, despite all of the sweet talking of educational ideals and instructional inventions, what administrators, parents, and even officials that advocate for education reforms are really concerned about are students’ exam results” (as cited in, Pham & Renshaw, 2013, p.80-81). This is an equity issues because as Lingard and Keddie (2013) aptly state, the introduction of national testing in literacy and numeracy strengthens “the likelihood of non-intellectually demanding pedagogies, particularly in schools in poor communities where the stress is on enhancing test scores” (Lingard, 2011, p. 439).

Resnick (2010) further argued what is needed is a rich thinking curriculum whereby students are encouraged to extend knowledge and develop complex arguments and reasoning, which will require a focus on teacher quality and development of pedagogical practices (as cited in Luke, 2010). Scripted lessons that shut down discussion are not a way to develop such students. For our school systems to be accountable to our students, we should focus on adequate resourcing, the quality of teachers and leaders in schools, as well as the quality of pedagogy (Darling-Hammond, 2010; Lingard, 2010).

Why then is Australia following such a direction of increased standardised testing despite the fact that it does so much better than the USA and UK in the Organisation for Economic Co-operation and Development’s (OECD’s) Programme for International Student Assessment (PISA)? Luke (2010) claimed the testing regime will lead to “scripted pedagogies” in schools and I suggest this has already been observed in England. He observed that this will impact on the type of curriculum offered to students, “particularly working-class, cultural and linguistic minority students” and as Lingard argues will “deny equality of educational opportunity to such students and thus fail a social democratic reform agenda” (Lingard, 2010, p.144). Lingard and Keddie (2013) further argue “an enacted curriculum of basic skills, rule recognition and compliance would be …seen as …scripted pedagogies of indifference”. (p. 432)

High stakes testing does not necessarily encourage higher order learning or cognitive thinking (Darling-Hammond, 2010). For example successful schooling systems such as Finland do not have such high stake testing systems but instead highly autonomous professional teachers who are encouraged to use intellectually demanding pedagogies (Sahlberg, 2007). Finland had topped the PISA rankings in 2000, 2003, and 2006, and consistently ranked near the top in other years and has no standardised testing until the final test prior to finishing upper secondary school (Sahlberg, 2007). Additionally teachers are trusted to produce their own assessments of student learning, and “by fifth grade, Finnish pupils no longer receive numerical grades that would enable directly comparing pupils with one another. In fact, grades
are prohibited by law. Only descriptive assessments and feedback are employed” (Sahlberg, 2007, p.155). In Finnish schools learning is essentially test free and teachers are able to use innovative and creative pedagogies to inspire their students. PISA reports state that Finnish students are also less anxious about completing home mathematics activities (7% of students) than those in Japan (52%) and France (53%). A consideration of the types of pedagogies that teachers use in schools is crucial, especially the importance of developing students with strong communication skills, skills that link the academic with the social, that enable them to flourish in such a complex and globalised world.

The use of CL in classrooms encompasses learning that engages the students cognitively, socially and emotionally and would seem to be directly related to the avowed aims of the Melbourne Declaration (MCEETYA, 2008). In the UK context the Independent Review of the Primary Curriculum, Final Report, headed by Sir Jim Rose recognised of developing children’s spoken communication (Rose, 2009) and although not focusing specifically on talking and listening alone, the Australian Curriculum likewise emphasises communication skills. Some of these communication skills emphasised in the General capabilities of the Australian curriculum include: greeting others by name; excusing themselves when interrupting; practising encouraging others; listening to others; using spoken language and body language to share; actively listening and responding to opinions that differ; using agreed protocols to join group discussions; building on the ideas of others in discussions and offering and accepting constructive criticism (Australian Curriculum Assessment and Reporting Authority (ACARA), 2014, p.116-117). As the curriculum states “operating with confidence” will come with such well-developed communication skills:

in a world where knowledge itself is constantly growing and evolving, students need to develop a set of skills, behaviours and dispositions, or general capabilities that apply across subject-based content and equip them to be lifelong learners able to operate with confidence in a complex, information-rich, globalised world. (Australian Curriculum Assessment and Reporting Authority, 2011a, p.1)

Learning that engages the students cognitively, socially and emotionally in order to develop their social and personal competence should further enhance a democratic school culture. A re-examination of the literature around building a democratic classroom and a further examination of all the data in the study led me to develop the following understandings about democracy classrooms, a classroom environment which engages the students cognitively, socially and emotionally, and in particular the notion of a democracy stance (Vinterek, 2010) that was emerging in these classrooms.
Democracy classrooms: Democracy stance; Culture of communication

Democracy stance.

Stance is seen as a combination of values and the pedagogies selected by teachers and the knowledge used to employ their practice. It is about a way of thinking, about the values and attitudes that teachers have that indicate a democratic perspective. It is about teachers who believe in social justice, human rights and intercultural capacity. The following research (and researchers’ terms in italics) has been linked to these broad terms in the next section to show how the development of a democracy classroom emerges. The teachers in democracy classrooms enact a particular democracy stance. Students in democracy classrooms can also develop a democracy stance; they can develop the attitudes and values, be open minded, take others’ perspectives as they decision make with others:

The democracy stance is crucial to building a democratic class culture. Vinterek (2010) intensely examined the interactions in one teacher’s classroom in Sweden (over 120 hours) and concluded that the atmosphere in that classroom, the “way of life” in the classroom, could be interpreted as a democratic way of life – a democracy stance in that classroom. She found how a “democracy stance” could be enacted “in everyday life in a classroom and how the interaction that comes out of such a stance seems to have a great role to play in teaching about democracy and fostering democratic values” (Vinterek, 2010, p.338). The concept of “stance” was derived from Rosenblatt’s (2004) transactional (linguistic) theory and is when “the reader adopts a selective attitude or stance, bringing certain aspects into the center of attention and pushing others into the fringes of consciousness. A stance reflects the reader’s purpose” (Rosenblatt, 2004, p.1372). Vinterek (2010) further describes the democracy stance as a way of looking at the world and states,

Different stances also call for different actions. In practice, different stances will be revealed in different actions . . . . The stance aspect of democracy is neither a skill, ability, nor pure knowledge about the concept. It encompasses a person’s attitudes and ways of considering things based on democratic values and as such moral/ethical knowledge. (p. 369)

Cochran-Smith and Lytle (1993) support this notion of a classroom or a school or a teacher having the ability to take a particular stance when they use the metaphor of stance and view it as the “ways we stand, the ways we see, and the lenses we see through” (p. 288) with regard to taking a critical stance. A stance guides, “the ‘choosing activity’ in the stream of consciousness” (Rosenblatt, 2004, p. 1372). From Vinterek’s (2010) perspective therefore it can be asserted that when taking a
democracy stance, we view the world through a democratic lens and teachers who are seen to educate “in an atmosphere of tolerance and respect, encouraging people’s self-esteem in order to promote willingness and the ability to express one’s thoughts as well as a willingness to listen to others” (p. 371) are teaching with a democracy stance. This democracy stance implies the use of particular strategies, such as those used in CL classrooms, as a result of this lens. These classrooms also develop a culture of communication.

**Culture of Communication.**

A culture of communication can be seen as a classroom of many voices and ears (Vinterek, 2010) and a democratic school culture makes it easier to develop a culture of communication in classrooms, hence a culture of communication, a communicative capacity and linking of social and academic outcomes are best furthered in democracy classrooms where there is a democratic school culture. The following research (and researchers’ terms in italics) has been linked to these broad terms to show how the development of a democracy classroom has a particular culture of communication. The following explores these signs or indicators of this condition in a classroom which includes a willingness to listen and express thoughts (Vinterek, 2010), the sharing of perspectives; and dialogue, many of which can be described as “deliberative dialogues” which help to promote equality, freedom and justice for all (Vinterek, 2010). The research also examines how a culture of communication in a democracy classroom and links to the research on Cooperative Learning.

Teachers who encourage deliberative dialogues are more likely to promote a classroom learning community that demonstrates the importance of equality, freedom and justice for all, which can be seen as democratic ideals and which also promote actions of responsibility (Greene, 1993; Hooks, 1994; Nieto, 1995; Vinterek, 2010). Sharing and collective action are recognised in promoting such actions of responsibility. It is the “deliberate dialogues” and the promotion of certain attitudes or ways of looking at the world - a democracy stance (Vinterek, 2010) - that help to positively influence the students to learn about democracy and how this works in their classroom. Vinterek (2010) argued that the pedagogical practices of involving students in democratic processes such as voting and participation in such practices such as school councils only serve to affect those pupils who participate. She claimed that it is important to also promote democracy in the classroom by using “deliberative dialogues” to promote equality, freedom and justice for all (Vinterek, 2010). McCoy and Scully defined deliberative dialogue as a more holistic kind of communication that
recognises the importance of shared work, collective action and building connections with community (McCoy & Scully, 2002).

Students who willingly express their thoughts and willingly listen need to have developed strong relationships with their peers and their teacher in order to take risks in their classroom and share their ideas. It is within a classroom that has a teacher who has developed such respect from and with their students, and who therefore has developed students who can tolerate others, that this can occur. For example 

*tolerance and as a result a sense of justice* (Thomas & Witenberg, 2004) can be promoted by:

1. developing socio-cognitive skills which enable people to consciously assess and reject their own and others’ prejudiced beliefs
2. highlighting the inequitable situation and deemphasising the racial characteristics of people
3. developing a strong sense of justice
4. developing the ability to empathise with the plights of others and to understand the harm that intolerance causes. (Thomas & Witenberg, 2004, p.45)

These democracy classrooms have a *climate of trust* (Finnan, Schnepel, & Anderson, 2003) developing students with a *high self-esteem* due to a concentration on the affective domain by teachers and as a result improving relationships in the classroom. Students take responsibility for themselves, and *trust in the ability of themselves* (Ekman, 2007; Vinterek, 2010) is promoted as well as risk taking and developing respect, *tolerance and a sense of justice* (Thomas & Witenberg, 2004; Vinterek, 2010) allowing students the opportunities to *make choices and form opinions* (Vinterek, 2010).

A cooperative classroom can enhance such a culture of tolerance. As students learn to appreciate the skills of others and as they are positively connected in their learning tasks, they become more tolerant of students they may have otherwise not appreciated. Empathy and the ability to trust others in their group is developed and enhanced in such classrooms. This *climate of trust* is also built in a CL classroom as each individual student recognises the part they play in the completion of the common goal as they are each individually accountable. In a cooperative classroom, teachers strive to encourage students to form their own opinions but also acknowledge that others may hold different standpoints. This is possible, as students are encouraged in such classrooms to share their different views, due to their individual accountability, and in order to complete the common goal that they are striving to complete work together make choices due to their positive interdependence which are all key
elements of CL. Talking is promoted as much as listening in these CL classrooms. Risk taking is encouraged and trust in the ability of oneself is promoted as students complete their own parts of the task and reflect on their contributions throughout and at the culmination of the activity in CL. It is this culture of communication that fosters such an environment that reflects “democratic principles in action” (Ochoa-Becker, 2007, p.211). A classroom of many voices and ears is developed in a classroom where teachers believe in the democratic ideals of equality, freedom and justice and where students take responsibility for their actions. This leads to recognition of equal worth in the classroom. These classrooms with active engagement also develop such democratic sentiments as open mindedness, decision making with others and taking others’ perspectives (Nagda, Gurin, & Lopez, 2003). These classrooms are likely to have teachers who use “transformative practice” which “engages students as critical thinkers, participatory and active learners, and envisioners of alternative possibilities of social reality” (Nagda et al., 2003, p. 167).

The strengths of each student are promoted in democracy classrooms and are also built by such teachers who understand the importance of the affective domain of Cooperative Learning. The affective domain (Bloom, Krathwohl, & Masia, 1973) relates to the way we deal with things emotionally. This can include attitudes and feelings as well as values. I propose that it is the affective domain of Cooperative Learning that is crucial in developing this democracy stance. Teachers need to understand the importance of developing a high self-esteem in their students. Students with high self-esteem are more likely to initiate interactions and relationships and speak up in groups (Baumeister, Campbell, Krueger, & Vohs, 2003). Students are more likely to try again if they are at first unsuccessful and are more willing to change (Baumeister et al., 2003). Teachers need to ensure that their students have trust in their own abilities as “when teacher student and teacher-parent relationships are characterised by trust and schools are characterised by academically supportive norms, social relations have the potential to help students achieve academic success” (Goddard, 2003, p.70). The affective domain, which focuses on relationships, will help to develop a climate of trust (Finnan et al., 2003). Increased self-esteem and improved relationships will develop such a democracy stance in a classroom. Those students who engage in positive social interactions with teachers and other students and if they participate in Cooperative Learning processes are more likely to be successful both in and out of school (Elbertson, Brackett, & Weissberg, 2010). A culture of communication can lead to a culture of tolerance and as a result this can develop a community of practice and a rich learning community.
**Democracy classrooms: Community of practice and Rich learning community**

There are certain aspects of democracy classrooms that determine the ways in which they become a community of practice and a rich learning community. A *community of practice* has been defined by Lave and Wenger in 1991 as a mode of social learning and the school as a community of learners. The term has influenced theory and practice in a wide variety of fields in academe, business, government, health, the civil sector and more importantly education. Wenger describes a *community of practice* as a learning community and this should include “active participants in the practices of social communities and constructing identities in relation to these communities” (Wenger, 1998, p.4). The democratic classroom can be seen as such a social community, with students being active participants constructing their own identities as democratic individuals within this community building a democratic classroom community of practice. Democracy classrooms can also be seen as a *rich learning community* (Florian & Linklater, 2009). The following research (and researchers’ terms in italics) has been linked to these two broad terms to show how the development of a democracy classroom, as a community of practice and a rich learning community, can be developed. *Tolerance; respect and concern for one another* (Greene, 1993) is developed in these classrooms. Teachers and students believe in *shared ways and shared discourse* (Wenger, 1998) and *pro-social behaviours* (Morcom & Cumming-Potvin, 2010) are developed in these democracy classrooms. They are classrooms where *all learners participate in classroom life* (Florian & Linklater, 2010). Teachers in these classrooms are willing to learn from students, to be “teacher–students as Freire (1970) termed it” (Nagda et al., 2003, p.189).

The students in democratic classrooms become concerned for one another and they “may be helped to build bridges among themselves; attending to a range of human stories, they may be provoked to heal and to transform” (Greene, 1993, p.16). If we consider too Wenger’s indicators for a community of practice which are: “sustained harmonious or conflictual mutual relationships, shared ways of engaging in doing things together and a shared discourse reflecting a certain perspective on the world” (Wenger, 1998, p.136) then this too can add to our understanding of how such a democratic classroom should look.

The links between a democracy classroom and Cooperative Learning can therefore be established. The concern for one another that is developed within the cooperative classroom helps to build tolerance and respect, especially as cooperative classrooms build social skills, and encourage the reflection of these skills both during
and at the end of the CL task completion. The shared ways and shared discourse (Wenger, 1998) in a cooperative classroom are developed through face to face interaction, by ensuring students are working towards a common goal and by developing the sense of group through positive interdependence. When students are instead of on the periphery of group work, but are engaged in “mature participation”, they are able to enact pro-social behaviours (Morcom & Cumming-Potvin, 2010) and take on leadership roles within a small group. As all students social skills are developed in a cooperative classroom, the interpersonal skills that are enhanced enable all students to take on different roles and develop their leadership skills. Additionally as all learners participate in classroom life (Florian & Linklater, 2010) in cooperative classrooms due to individual accountability and positive interdependence and this develops a rich learning community.

**Democracy classrooms: Inclusive practice.**

The term “inclusive” is used broadly in education and has many meanings. For the purpose of developing my theory of democracy classrooms, I define inclusive practice as involving the development of a rich learning community characterised by learning opportunities that are sufficiently made available for everyone, so that all learners are able to participate in classroom life (Florian & Linklater, 2009). Furthermore, teachers in inclusive classrooms believe that we can overcome exclusion by using inclusive practices, “Inclusion is seen as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities” (UNESCO, 2003, p.7). Florian and Black-Hawkins further state, “By focusing on what is to be learned by the community of learners in a classroom, the inclusive pedagogical approach aims to avoid the problems and stigma associated with marking some learners as different” (Florian & Black-Hawkins, 2011, p.826). The following research (and researchers’ terms in italics) has been linked to this notion of inclusive practice and inclusive pedagogies as well as to the Cooperative Learning focus in this study to show the links between democracy classrooms and CL.

Learners are trusted to make good decisions about learning and opportunities for learning are part of a shared experience with participation in a learning community (Florian & Black-Hawkins, 2011).

Inclusive pedagogies are about including all students in the classroom and making the learning opportunities in the classroom available for all to participate fully. Furthermore these inclusive classrooms should have teachers who believe in the ability of all their students to achieve and make progress. Teachers in inclusive classrooms should be able to use a variety of grouping strategies rather than simply
relying on ability grouping that serves to separate and distinguish the able from the less able. Such inclusive teachers strive to overcome the professional challenge of how to overcome the difficulties some learners’ experience. They seek to try out new ways of finding support for their students, work with others in the classroom to show that all adults respect the learners as members of a learning community and are committed to professional learning for inclusive practice (Florian & Black-Hawkins, 2011).

Florian and Linklater (2010) argue that in inclusive learning communities the practical pedagogical principles of co-agency, everybody and trust are important terms to be defined in relation to the ideas of democracy classrooms:

Co-agency. The notion of transformability, and the principle of “nothing is neutral”, demands the responsibility for learning is shared between teacher and learner. A central assumption of transformability is that teachers cannot do it alone. They are powerless without the participation of learners.

Trust. For learners to take up the invitation to co-agency, teachers must trust that they make meaning, and find relevance and purpose through their experiences. Learners need to know that they are the ones who can tell the teacher about how they learn. Trust enables a shared responsibility for the transformability of young people’s capacity to learn – and the sharing is seen in the coming together, not the dividing of responsibility.

Everybody. Transformability and the practical principles of trust and co-agency demand that there is also the “ethic of everybody”: teachers have both the opportunity and responsibility to work to enhance the learning of all. It is useful to remember that the opposite of the concept of everybody is not “no one” but “some people” (p. 261). In the relationships that support teaching and learning, “nothing is neutral”: whatever the teacher does will have an effect, positive or negative. Teachers are in a privileged position to act to change things for the better. Choosing to plan opportunities for learning that will be part of a shared experience establishes an understanding of achievement through participation in a community, and equity is demonstrated through unity, not “sameness”. (p. 372)

Florian and Linklater (2010) argue therefore that it is the pedagogical practices of “co-agency, everybody and trust”, that develop learning. These elements of co-agency, everybody and trust can be explained in the following way. The belief that all need to participate, that learning is a shared experience that requires trust with learners sharing their understandings about how they learn with their teachers, and of the “ethic of everybody” with shared opportunities for learning and participation in a
community with equity demonstrated through unity, not ‘sameness’ (Florian & Linklater, 2010).

It is the use of these principles that develops the ability for teachers to be inclusive in their pedagogy and I argue helps to develop a democracy classroom. Teachers respect and are able to respond to human differences in ways that include learners, rather than exclude them from what is available in daily classroom life (Florian & Black-Hawkins, 2011). These inclusive practices improve trusting relationships (Ferguson-Patrick, 2008) and impact on self-esteem as teachers trust their learners (using individual accountability) to make good decisions about learning in their classrooms (Florian & Black-Hawkins, 2011). Additionally, it was found in 1939 that classrooms that were respectful of difference produced academic outcomes of equal quality as those that did not consider inclusivity (Lewin, Lippitt & White (1939) as cited in NSW Department of Education and Training, 2003a). Cooperative strategies also build interpersonal skills and such collaborative skills helps to develop students academically and emotionally (Ferguson-Patrick, 2008).

Democracy classrooms are classrooms that use inclusive pedagogies that increase participation and decrease exclusion (Florian & Black-Hawkins, 2011) such as Cooperative Learning which is an example of inclusive practice pedagogy. Teachers in democracy classrooms are able to respect and respond to human differences in ways that include learners in what is available in daily classroom life (Florian & Black-Hawkins, 2011). Trusting relationships (Ferguson-Patrick, 2008) are built in these classrooms and the improved relationships also leads to students with high self-esteem (Slavin, 1987b). Additionally the work of Elizabeth Cohen and colleagues and ‘status treatments’ found that teachers who used CL could “raise the participation of low-status students without depressing the participation of high-status students” (Cohen & Lotan, 1995, p. 118). Additionally Cohen et al argue that “an equitable classroom requires deliberate interventions to produce equal-status relationships within the groups” (Cohen, Lotan, Scarloss, & Arellano, 1999, p. 85) and that teachers are responsible for ensuring that all students in their classes are aware of the different abilities that students have as well as ensuring they have assigned competence to low status students (Cohen, 2002).

Democracy classrooms: Social learning.

Classrooms are social places and students do not learn alone but rather in the presence of many peers. In classrooms where teachers considered both students’ social as well as academic needs, students reported more help seeking which has been seen as an indicator of engagement (Ryan, Gheen, & Midgley, 1998).
Democracy classrooms focus on the importance of social learning; they are holistic learning environments that consider the whole child. The following research (and researchers’ terms in italics) has been linked to this notion of social learning as well as to the Cooperative Learning focus in this study to show the links between democracy classrooms and CL.

Many researchers have shown the importance of social learning. If respect, communication and attachment is enhanced between the child and teacher, then children’s attention, brain development and learning follows (Kusche & Greenberg, 2006). These emotional connections to their teachers, as well as to their peers, especially those who show that they value academic success and learning, help to further develop such values and encourage achievement (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002). Similarly, engagement at school and academic motivation have been shown to be displayed by students who have developed positive and respectful relationships and interactions with their teachers (Ryan & Patrick, 2001), with students performing better academically when they experience this sense of belonging at school (Osterman, 2000). As positive and respectful relationships are built, students in these classrooms have a sense of belonging with many opportunities to talk about values (Lovat & Toomey, 2007) as they build a collaborative community. It can be said that they have “relational trust” (Bryk & Schneider, 2003). Relational trust can be explained as: each person in the classroom maintaining “an understanding of his or her role's obligations and hold[ing] some expectations about the obligations of the other parties” (Bryk & Schneider, 2003, p.2). Socio-emotional educators believe in the importance of safe, secure and caring societies and educating accordingly (Mayer & Cobb, 2000).

A culture of communication and democratic school culture; a community of practice (Wenger, 1998) and rich learning community (Florian & Linklater, 2009); inclusive practice and social learning have all been described as crucial elements of a democracy classroom. All of these elements are important if teachers are to develop multi-dimensional citizens in their students in democracy classrooms.

**Democracy classrooms: Global citizenship.**

It is important, as Bertrant Russell (as cited in Banks, 2004) noted, the prerequisite for a democratic civic life is mutual understanding and tolerance among citizens. Indeed, no democratic community can sustain itself unless its citizens are tolerant of each other. But tolerant citizens are not born—they are created. (Banks, 2004, introduction)
Democracy classrooms build mutual tolerance and understanding and teachers in democracy classrooms should consider the need for global education to develop global citizens. Global education has been defined as the need for 21st century students to be interconnected and interdependent [with a focus] on learning to grapple with issues of learning to live together (Starkey, 2012, as cited in Reynolds et al., in preparation, p.1).

Learning to live together as global citizens is important to the GERT (Global Education Research and Teaching) team at The University of Newcastle of which I am a member. The team of researchers, who were drawn to work together by shared values around the ideals of global education, believe that global education is couched in a culture of respectful dialogue and co-operation. This involves facilitating the development of critical, reflective thinking, problem solving and communication skills – tools for effective global citizenry.

A focus of Grossman’s (2000) conceptualisation of citizenship, his “Multidimensional Citizenship” model, requires “citizens to address a series of interconnected dimensions of thought, belief and action”, with these four dimensions briefly explained as:

**Personal:** A personal capacity for and commitment to a civic ethic characterised by responsible habits of mind, heart, and action;

**Social:** Capacity to live and work together for civic purposes;

**Spatial:** Capacity to see oneself as a member of several overlapping communities − local, regional, national, and multinational; and,

**Temporal:** Capacity to locate present challenges in the context of both past and future in order to focus on long-term solutions to the difficult challenges we face. (Grossman, 2000, p.80-81)

Working collaboratively is an essential facet of multidimensional citizenship and multidimensional citizenship aligns with the processes of CL, particularly in the dimensions of “social” and “spatial” as students recognise their interconnectedness and capacity to work alongside each other. By developing students as multidimensional citizens, they are then more likely to take responsibility for the particular roles and duties they have within society (Cogan & Morris, 2001). This also occurs in a democracy classroom whereby teachers develop the cooperative skills and knowledges of multidimensional democratic citizenship in students from the early years of schooling to encourage students to be critical, reflective and compassionate citizens.
C. Approaches to Education for Democracy, Civics and Citizenship in Australia

Students need to develop both knowledge and skills usually developed in the area of the civics and citizenship curriculum. The classroom can be seen as a microcosm of our wider society (Schul, 2011) and so establishing a democratic society begins in a democratic classroom. Establishing democracy in the classroom is not achievable unless you have democracy knowledge understanding and pedagogy in that classroom. Recent developments in Civics education in Australia reinforce these notions of democratic education. ACARA (Australian Curriculum Assessment and Reporting Authority, 2011b) report that,

being an active and informed citizen involves both a cognitive domain (e.g. knowing, understanding and reasoning) and an affective behavioural domain (e.g. engagement, perceptions and behaviours) (Schulz, Fraillon, Ainley, Losito & Kerr, 2008). Activities in schools that are concerned with the development of citizenship relate to both of these domains. (p. 2)

Knowing about civics and citizenship and engaging in civics and citizenship behaviours and perceptions are equally important in a democracy classroom.

Civics and citizenship curriculum in Australia.

An increased emphasis on civics education in Australia over the past 20 years has led to the recent development of National Statements of Learning for Civics and Citizenship (Curriculum Corporation, 2006) with the importance of cooperation being stressed in these statements at both primary and secondary level. Students in the primary school in Year Three should “explore reasons why people cooperate in groups and consider values that communities share to help them live and work together. They develop skills to make decisions in groups to achieve common goals” (Curriculum Corporation, p. 5) and students in Year Five should “investigate the range of ways in which people work together to contribute to civil society and discuss values that can help people resolve differences and achieve consensus . . . as well as . . . participate in activities that celebrate diversity and support social cohesion” (p. 6). Further to these Statements of Learning has been the development of the ACARA Australian Curriculum Civics and Citizenship curriculum which emphasised the importance of both a cognitive, and a skills and values aspect, to learning to be an Australian citizen.

The Australian Curriculum: Civics and Citizenship will provide essential learning for young Australians to be active, informed citizens in their democracy and an increasingly interconnected world. To achieve this, the Civics and Citizenship curriculum will consist of two organisational strands — knowledge and understanding and skills — underpinned by values, attitudes and dispositions to
participate in civic life. (Australian Curriculum Assessment and Reporting Authority, 2012, p.2)

Students should therefore learn about democracy while experiencing democracy processes. Students in a democracy classroom need to be “multidimensional citizens” (Grossman, 2000) citizens who can demonstrate multiple facets of what can be seen as a well-rounded citizen. The Civics and Citizenship curriculum of 2014 emphasises the need to help students develop inclusive beliefs and democratic values and allows them to consider others’ perspectives at the same time challenging stereotypes which are based on differences. Additionally if students have “the ability to keep an open mind, to stand in another person’s shoes, to change and to make decisions with others” (Matthews, 1996 as cited in Nagda et al., 2003, p.275) then they are more likely to respond to diversity and difference and foster civic and social engagement. As Nagda et al (2003) argue the earlier view of democracy simply being about voting and providing input has been replaced by this participatory view of democracy. Democracy classrooms are more likely to have students who are likely to respond to diversity and difference as they are required to actively listen to others and consider each other’s feelings.

Democracy classrooms are important if we want to develop students who care and share as well as develop both cognitive and social outcomes through dialogue and the consideration of different perspectives to encourage tolerance, respect and strong interpersonal relationships. Democratic values such as truth, honesty and understanding about helping others to embrace diversity, and developing in our students a sense of responsibility to others and their world, and to be individuals committed to universal values, human rights, sustainable futures and conflict resolution through negotiation are all part of democracy classrooms. Knight (2001) further argues that democracy needs to emerge in the classroom, not be mass delivered. This view was also advocated by Hodgkin (1998) as democracy as being practised rather than taught. This democratic school culture is developed through active engagement and through the recognition of equal worth. I assert democratic classrooms are strengthened by the use of CL because the teachers in these classrooms have developed a particular democracy stance.

Cooperative Learning is a way that helps to foster civic and social engagement as it promotes a learning environment that stresses responsibility, open dialogue, respect and application of theory and ideas in practical and group-orientated work and this works better than just “civics education’ on its own” (Feiman-Nemser, 1998, p.15). CL fosters civic engagement and stresses open dialogue, respect as it encourages the democratic sentiments of open mindedness, decision making with others and the
ability to take on others’ perspectives (Nagda et al., 2003) and these sentiments will assist the development of the democracy classroom and will ensure a more tolerant and participative classroom.

Democracy classrooms are classrooms where teachers and students adopt a democracy stance. In these classrooms there is high student participation, high social support and a strong sense of community with a strong consideration for the affective domain. These classrooms have teachers who believe in developing strong relationships (between students and students as well as students and teacher) and they can be seen as being a community of collaboration. Teachers in democracy classrooms believe in values education and are proactive about developing their students’ social skills, leading to high self-esteem in their students as well as students, who are willing to take risks. Teachers in democracy classrooms are more likely to be inclusive practitioners who develop a culture of communication.

**Models of pedagogy that can assist a democracy classroom culture.**

Student centred learning environments are part of a democratic classroom culture. In creating student-centred learning environments, educational innovators need to ensure they work in partnership with their students and use active, participatory and collaborative pedagogies which encourage deep learning (Roberts & Owen, 2010). Additionally if classroom culture is seen as being mutually constructed, and collaboration and negotiation are both endorsed by teacher and students, then teachers are seen less as a control agent and dependence on the teacher is less likely (Allard & Cooper, 2001). Allard and Cooper (2001) also argued that if students see a link between the outside world and the classroom culture then cooperation and mutual support are more likely to be valued in that classroom allowing both individual and collective knowledge to be enhanced.

To promote a democratic classroom environment a variety of pedagogies focused on strengthening both social and academic outcomes would be relevant. This next section explores a number of these models to clarify their relationship to the notion of a democracy classroom. The definition of good teaching, teaching quality and good teachers and quality teachers varies amongst different stakeholders and sites. For many, quality teaching is linked to teaching that produces improvements in student outcomes, these being defined as academic outcomes and measured by high stakes testing regimes. This perspective has been promoted in recent times by reports of international testing league tables such as the Program for International Student Assessment (PISA) Test with one imperative for such testing initiatives being that scores are required for university matriculation. An alternative view of quality teaching
is that it is associated with building good citizens and developing civic and social competence and ethical abilities as we have previously explored. It is necessary to also examine pedagogy in general, why is it important and what are models of good pedagogy?

What is Pedagogy?

A common definition of pedagogy is that it is the art and science of teaching focusing on learning and teaching (Loughran, 2006) but there have been various different interpretations of the word. Mortimore (1999) has defined pedagogy as “any conscious activity by one person designed to enhance learning in another” (Mortimore, 1999, p.17). There appears to be a cultural dimension to the notion of pedagogy with Simon (1981) pointing out that pedagogy as the “act and discourse of teaching” (p. 124) and Alexander noting that in England that was “neither coherent nor systematic, and that English educators had developed nothing comparable to the continental European ‘science of teaching’” (Alexander, 2004, p.8).

Alexander (2005) attempted to redress some of this confusion defining pedagogy as being about “what one needs to know, and the skills one needs to command, in order to make and justify the many different kinds of decisions of which teaching is constituted” (p. 11). Alexander's (2005) broad view of pedagogy postulates that teachers should be concerned with four aspects of the educational endeavour:

- **children**: their characteristics, development and upbringing;
- **learning**: how it can best be motivated, achieved, identified, assessed and built upon;
- **teaching**: its planning, execution and evaluation; and
- **curriculum**: the various ways of knowing, understanding, doing, creating, investigating and making sense which it is desirable for children to encounter, and how these are most appropriately translated and structured for teaching. (p. 11)

This correlates with the idea that a particular pedagogy reflects a particular stance and that clarifying the “ambience” of a school or classroom helps establish how to address the children, the learning, and the curriculum. The learning community developed by the teacher is established as a result of the pedagogies the teacher selects for that learning community. Alexander (2005) argued that pedagogy reflects and manifests the values of the wider culture of the teacher as well as the personal preferences of individual teachers. Importantly he argued, as a result of a long term comparative study over two decades of research of the relationship between culture and pedagogy in five countries, that the sense of community developed in classrooms of teachers with a personal preference for the affective domain “was reflected in collaborative learning tasks, often in small groups, in ‘caring and sharing’ rather than competing and
in an emphasis on the affective rather than the cognitive” (p. 22). Before looking specifically at the connections that could be made between democratic classrooms and CL, the research literature that elucidates the importance of classroom pedagogy to classroom learning and classroom ambiance should be consulted.

**Why pedagogy is important.**

Teaching has the most significant impact on student outcomes. In fact, research from around the world (Bransford et al., 2005; Hill & Rowe, 1998; Muijs & Reynolds, 2005; Wright, Horn, & Sanders, 1997) has found that it is teachers who have the biggest impact on student outcomes which is why my study is thus strongly focused on investigating the teaching environment, the strategies the teacher uses and the responses of the students to these strategies. (Bransford et al., 2005; Hattie, 2003; Hill & Rowe, 1998; Muijs & Reynolds, 2005; Wright et al., 1997).

In 2002 the Organisation for Economic Cooperation and Development (OECD) launched a project on “teacher policy” with the findings published in a volume called *Teachers Matter* (Organisation for Economic Cooperation and Development, 2005). The largest variation in outcomes was attributed to social background and student abilities but with the aspect being most potentially open to policy influence being “teacher quality” (OECD, 2005). This finding was supported in a later OECD study in 2008 which supported this initial finding and with the implication of this being that improving the quality of teachers and their teaching in schools would be the most effective method to improve student outcomes (Jensen, Sandoval-Herdenez, Knoll, & Gonzalez, 2012).

It is important to note that there are other variables that can have an impact on the effects a teacher has upon their students. Ingersoll and Strong (2011) argued the effective teachers are:-

those teachers most able to engage students in higher order and critical inquiry, …most effective at raising mature citizens,…most sensitive to student diversity,… most caring of children,…best at promoting students’ social and behavioral development…and… effective at raising student test scores. (p.227)

In regards to teachers, Rowe (2003) noted how students who were high achieving students in school indicated that it was care and trust that were nominated qualities desired of their teacher. Louden et al (2004) also affirmed this claiming that positive teacher / student relationships have an effect on students and their achievements. Evertson and Weinstein (2006) also suggest the importance of a positive teacher student relationship. They describe warm responsive, caring and supportive teachers
who have high expectations as being “warm demanders”. Hattie (2003) supported these claims and argued that having respect for students positioned teachers as “expert teachers”. Lovat (2006) further stated the link between teacher quality and values and found a clear link between values focussed teaching environments and teacher quality (Lovat, 2006). Lovat concluded that it is the teacher that can have the biggest difference on a child if he/she considers their social emotional development. As the late Haim G. Ginott said: “to reach a child’s mind, a teacher must capture his heart. Only if a child feels right can he think right” (Ginott, 1969). Haberman (1991) also described good teaching in relation to a values laden teaching environment where good teaching is seen when:

- students are involved with issues they regard as vital concerns; or are involved with explanations of human differences; or are being helped to see major concepts, big ideas, and general principles and are not merely engaged in the pursuit of isolated facts or are involved in planning what they will be doing; or are involved with applying ideals such as fairness, equity, or justice to their world; or are actively involved; or are directly involved in a real-life experience; or are actively involved in heterogeneous groups; or are asked to think about an idea in a way that questions common sense or a widely accepted assumption, that relates new ideas to ones learned previously, or that applies an idea to the problems of living. (Haberman, 1991, p.293-4)

Buckingham (2003) claimed there are a number of criteria identifying a good teacher and none of these claims consider the relationships or the care and trust that teachers should develop in order to be a good teacher. Buckingham’s research demonstrated that the factors that contribute to being a good teacher, or an expert teacher, can be seen as more than a particular framework or a particular approach to the way teaching is organised.

There is a great deal of research that links quality teaching with a positive impact on cognitive outcomes in education and ineffective teaching with an adverse effect on these outcomes. However in the same way that pedagogy has many different meanings the explication of quality teaching and quality teachers varies amongst different stakeholders and across different research projects. Whatever the measure of student outcome, there has been some consensus around the fundamental notion that teachers and teaching make a difference to student outcomes. It is the pedagogy of the classroom, preferably in a context of like-minded school and community that is fundamentally important in raising student outcomes.
Good Pedagogy and a National Curriculum in Australia

Definitions of good teaching vary considerably and there are a number of different ways of looking at, and appraising, teachers and teaching. Internationally professional teaching standards are emerging and they vary quite considerably. These teacher accreditation processes seem to primarily focus on teacher proficiency based on technical craft knowledge (Louden, 2000) impacting on how we define the quality teacher and quality teaching. In Australia a National Framework of Professional Standards designed to regulate and evaluate teachers according to a set of National Professional Standards for Teachers (Australian Institute for Teaching and School Leadership, 2011a) has been developed.

(AITSL) claimed these standards define the work of teachers showing which aspects define high quality and effective teaching for our twenty first century schools (Australian Institute for Teaching and School Leadership, 2011b). By one reading of these standards what is meant by a good teacher has become more of a “practical question” focussing on technical criteria and measurable standards focusing on cognitive outcomes. At the same time that standardisation of teaching skills has emerged, the curriculum has also become more standardised and now ACARA is coordinating an Australian curriculum framework with levels of achievement linked to statements and profiles and a means of measuring them (Yates & Collins, 2010).

However globalisation and the growth of ICT have revolutionised the world in which young people now live and they now need to develop the metacognitive skills necessary to move between organisations (Yates & Collins, 2010). There have been attempts to embrace such changes with the Tasmanian Essential Learning curriculum examining a curriculum under five broad headings: Thinking, Communication, Personal Futures, Social Responsibility and World Futures, all aimed at producing “enquiring and reflective thinkers, effective communicators, self-directed and ethical people, responsible citizens, world contributors” (Tasmania, Department of Education, 2002, p. 7). Likewise Queensland’s “new times” or [New Basics] learnings cut right across Key Learning Area (KLA) boundaries: seen as knowledge, skills and attributes “required for complex, real-life challenges such as higher-order thinking skills and social and personal competence” and knowledge, skills and attributes “needed for good communication and ongoing learning such as literacy, numeracy, life skills, information and communication technologies and cultural skills” (Queensland, Department of Education and the Arts, 2005, p. 5).

However the new Australian Curriculum which is currently being drafted and progressively implemented appears from initial examination that content and
knowledge is very much again emphasised over process. A key feature of this is the manner in which it is closely aligned with disciplines, which are possibly better able to be tested. Current debate in the UK is based around concerns that this ‘tick box’ approach has not allowed a broad based education (Collins, Reiss, & Stobart, 2010; Oates, 2011). Lessons from England and the USA have taught us that such standardised testing leads to “scripted pedagogies” (Luke, 2010) and does not develop the higher order thinking skills students need today in our rapidly changing world (Darling-Hammond, 2010). The current UK debate about the need to develop a broad and balanced curriculum for the future (Brundrett, 2012) is important to note.

An Australian Curriculum divided into separate subjects will make it easier for the government to provide “a national assessment program aligned to the national curriculum that measures students’ progress” (Australian Curriculum Assessment and Reporting Authority, 2011a) and it is this point that needs further debate. Already a National Assessment Program – Literacy and Numeracy (NAPLAN) exists which involves students being tested in the school Years 3, 5, 7 and 9 (around ages 8, 10, 12, 14) in the subjects of Reading, Writing, Language Conventions and Numeracy and with this a “My School” website listing the “results of these tests for all Australian schools, including school performance against averages and against the performance of 60 other socio-economically ‘like schools’ across the nation” (Lingard, 2010). This new separated and compartmentalised Australian Curriculum makes it easier for the Australian government to embark on more standardised testing which in turn will restrict schools’ capabilities to decide on more innovative pedagogies with integrated approaches to learning that we know allow teachers to take account of students’ needs, interests and the context of the school and community. Oates (2011) argues contextualisation of content in the curriculum should be left to teachers as this is fundamental to deep learning and for motivation of learners. A curriculum focussed on standardised testing can lead to scripted pedagogies which will deny students the kinds of teachers who are able to use authentic pedagogies and assessment practices leading to improved student outcomes. In turn too will be the decreasing use of Cooperative Learning in classrooms as teachers feel the need to teach to these tests. Competition, teaching to the test and increased stress levels are some of the issues associated with high stakes testing (Klenowski, 2011). As Ingersoll argues, “this desire to increase control over what goes on in schools and what teachers do in their classrooms resurfaces on a regular basis as a central tenet of education reform” (2003, p.35). The professional teacher standards introduced in Australia and the development of an Australian curriculum, as well as an increased amount of perpetual observation and surveillance (Stevenson & Wood, 2014) is indicative of increased
control over teachers lives and what they do in their classrooms and a culture of surveillance.

Despite a drop in PISA rankings in 2012, educational researchers have looked at Finland over the past few years as a country who has avoided the use of standardised testing and have trusted their individual teachers as professionals who are able to assess their students’ learning. We can learn from Finland especially as “students, who not grouped by ability are taught in small classes in schools typically construed as learning and caring communities” (Andrews, Ryve, Hemmi, & Sayers, 2014, p.4). It should be noted that the caring learning communities established in classrooms in Finland is similar to the democracy classrooms explained to be of importance in this study.

The Quality Teaching Model as an Indicator of Good Pedagogy

Whatever the measure of student outcome and whatever the overall aim of the education, there has been a growing consensus, as evidenced by the research above, that teachers and teaching make a difference to these outcomes. It is the pedagogy of the classroom that is fundamentally important in raising student outcomes with the individual teacher being three times more likely to impact on student learning than the school and factors associated with the school (such as socio-economic factors, organisation, buildings and so on) (Lovat as cited in Zbar, 2006).

The Quality Teaching model (NSW Department of Education and Training, 2003c), when it was developed for use in NSW schools and classrooms, was used to “monitor the quality of the pedagogy; provide teachers with a practical and useful framework for professional dialogue; provide a basis for planning and redesigning lessons, and enable teachers to reflect on the quality of their teaching in the classroom” (Gore, Ladwig, & King, 2004, p.5). It provided indicators of performance across different philosophical approaches to what could be seen as good teaching so teachers could engage in meaningful conversations about what they were trying to achieve and how well they were going about it. It could thus cater for social and academic perspectives on education.

The model of pedagogy used in my study to observe teachers classroom pedagogy was based on Ladwig and Gore’s research into Quality Teaching (NSW Department of Education and Training, 2003b), which has produced a sound, defensible model for good pedagogy widely used in NSW, Australia in all schooling systems in an attempt to enhance the quality of the pedagogy in NSW schools. The implementation of the Quality Teaching model in 2,200 public schools in NSW,
providing for 760,000 students, can be said to be the “world’s largest systematic attempt to improve the nature and quality of pedagogical practice” (Griffiths, Gore, & Ladwig, 2006, p.3). The model is also being widely used in the Catholic Education and Independent sectors of schooling in NSW and the Australian Capital Territory.

This model has been developed from research in the United States on Authentic Pedagogy (Newmann & Associates, 1996) which established a strong link between Authentic Pedagogy and student performance. It was also developed from the earlier Queensland’s School Reform Longitudinal Study (Queensland School Reform Longitudinal Study, 2001). The Queensland’s School Reform Longitudinal Study (QSRLS) model:

sought to develop a conception of productive pedagogies that would strengthen schooling as a good in its own right, as well as in positional terms (redistribution), work with and value cultural difference (recognition), and accord students a voice (representation). The focus was on both academic and social outcomes from schooling, as distinct from the academic focus of Newmann and Associates’ (1996) work, on which the study drew. (Lingard & Keddie, 2013, p.428)

The QT model is defined by three dimensions and 18 elements. The three dimensions should be present at a high level in every lesson, but not necessarily all of the 18 elements. The model states that the overarching dimension of the pedagogy should be to promote high levels of intellectual quality and teachers should also establish a high quality learning environment and should generate “significance by connecting students to the intellectual demands of their work” (NSW Department of Education and Training, 2003c, p.10). See Appendix One for a brief explanation of the model.

However, the research outcomes from the Queensland School Reform Longitudinal Study (2001) found that teachers were not using pedagogies that ensured intellectual quality and that caring, or a focus on the learning environment, rather than this focus on the intellectual quality of the tasks prevailed. Teachers are not making enough intellectual demand in their pedagogies (Lingard & Keddie, 2013, p.428). Lingard and Keddie (2013) further state, the pedagogies required that make a difference, should be pedagogies that, “will privilege and work with students’ identities and funds of knowledge in ways that avail the sense of individual and collective political agency that is requisite to nurturing active citizenship” (p. 428-9). Cooperative Learning is one of these pedagogies. It draws on, acknowledges and celebrates each student’s knowledges through individual accountability, or the sense of the individual,
and brings individual contributions and understandings together through positive interdependence, or collective agency, to meet a common goal.

The quality teaching model is a model of pedagogy that promotes high levels of intellectual quality, establishes a high quality learning environment and generates significance. It is this model that is used in this study, as a pedagogical model that can measure the quality of the teaching in classrooms. The following section compares this model of pedagogy with the use of Cooperative Learning to examine the extent to which these pedagogies requiring intellectual demand can also be pedagogies of difference.

Section 3: CL, Pedagogy and QT

It is important that Cooperative Learning is understood and practised effectively by the teacher in order for it to successfully promote both academic and social and affective outcomes. When early career teachers use Cooperative Learning, they also need to learn to overcome some of the challenges that may arise from using this pedagogy. CL is an intellectual pedagogy, a pedagogy that teaches students how to respect and support their peers, how to value and welcome difference and diversity. It is a pedagogy that is socially supportive and inclusive, where students are both independent and interdependent. Good pedagogy is important but equally as important are socio-emotional educators (Mayer & Cobb, 2000). If, as teachers, we ensure we consider and respond to students’ emotional competencies it will result in “a ‘caring community,’ a place where students feel respected, cared about, and bonded to classmates” (Goleman, 1995, p.280).

Alignment of CL and Quality Teaching

Some of the key aspects of Cooperative Learning are clearly not considered in the QT model. The two models have been developed independently. The QT model puts intellectual quality at the forefront of educational outcomes whereas Cooperative Learning clearly puts social justice and social harmony at the forefront. However the resultant teaching and learning may not be mutually exclusive. The importance of relationships, and trust and care of the teacher also have a big impact on student outcomes with regard to Intellectual quality and the Quality learning environment is also important. The NSW Quality Teaching model (NSW Department of Education and Training, 2003) provided a system to monitor the quality of teaching through both classroom and assessment practice. My research tests the alignment, or relationship, between Cooperative Learning approaches and this model – the Quality Teaching model used in NSW schools which was selected as it is the model currently being used
in many NSW & ACT State, Catholic and Independent schools to guide teacher pedagogy (NSW Department of Education and Training, 2003b). There has been no previous research conducted on how it links to Cooperative Learning and it was the classroom practice that was selected for this study.

As previously noted in section one, extensive research evidence has been outlined previously and suggests CL is an effective strategy for maximising learning outcomes of all students (Gillies, 2003b; Johnson & Johnson, 1994; Johnson, Johnson, & Smith, 2000; Slavin, 1995b, 1996) as well as social skills development (Johnson et al., 1990; Slavin, 1995b, 1996; Stevens & Slavin, 1995). CL can help to promote socialisation and learning among students (Cohen, 1994), promote reading and writing achievements in middle school students (Stevens, 2003) as well as develop better classroom results for special needs students (Jenkins et al., 2003). Additionally, CL has been used to prevent social problems (Johnson, Johnson, & Stanne, 2000), alleviate bullying (Cowie & Berdondini, 2001) and help students manage conflict (Stevahn et al., 1997). Using Cooperative Learning also encourages teachers to pose more higher order questions and activities (Gillies, 2007; King et al., 1998) and is important for both higher and lower achieving students to make gains in their learning (Newmann & Wehlage, 1993; Terwel et al., 2001).

If we want to build a society where justice and respect are assured, it is important to consider not only academic learning outcomes but also the development of social outcomes in our students. Cooperative Learning has been shown to be a strategy with a set of principles designed to promote both academic and social learning with a strong historical research base over decades. The use of Cooperative Learning in classrooms is important because it encompasses learning that engages the students cognitively, socially and emotionally. “There is enormous consensus that teaching quality makes a significant difference in learning” (Cochran-Smith, 2003, p.95) and there is also strong evidence of the Quality Teaching model, (developed by Ladwig and Gore) as an approach to pedagogy for improving learning outcomes. Current research has indicated that student learning is very much dependent on the quality of the teacher’s pedagogy so assisting teachers to further develop their teaching is important if we are to improve student outcomes. Teachers who were a part of the Systemic Implications of Pedagogy and Achievement in NSW Public schools (SIPA) research study (2004-2007) reported that the QT model was the first time that they had a common language to talk about pedagogy and the concept of quality in teaching (Gore et al., 2004).

In the QTm, knowledge, in the IQ dimension, is seen as something that requires active construction in order to engage in higher order thinking. Whilst actively
constructing the common goal of the CL task in classrooms students need to communicate substantively about their learning / ideas which require this active construction of knowledge. They are required to demonstrate Higher order thinking as they consider their ideas for goal completion (through Positive Interdependence and with Individual Accountability) and then in partnership communicate (using Substantive communication) in order to fully understand the complete task. The model also promotes positive relationships between students and teachers through the Quality Learning Environment dimension. This is another aspect that is of crucial importance when requiring students to work in cooperation. Care, trust and respect are developed in student-student and student-teacher relationships when students work cooperatively. They display respect and personal regard for others whilst working towards achieving their group goal whilst respecting others’ opinions and being inclusive by accepting others’ ideas. Additionally respect for others’ abilities and competence is important as students learn to accept each other’s ideas and skills whilst completing cooperative tasks (Inclusivity). Well-designed cooperative tasks tend to be meaningful and involve important learning part of the Significance dimension — they require students to make connections and they are more likely to do this through Positive Interdependence (Connectedness).

A focus on professional learning in CL as a pedagogical strategy can help to develop and improve students’ academic and social outcomes. The NSW Quality Teaching model can be explored also to determine, when using this strategy, if it had any impact on teachers’ overall pedagogical skills. Exploration of the interaction of these two frameworks has determined that there are anticipated links between Cooperative Learning and its relationship to enhancing the quality of teaching. There may also be elements that do not score highly when teachers use Cooperative Learning strategies in their classrooms.

**CL – Advanced Democracy Pedagogy**

CL is an advanced type of pedagogy, a pedagogy that supports a democracy classroom. As an intellectual pedagogy, a pedagogy where teachers teach students how to respect and support other students, how to value and welcome difference and diversity, and where all students are applauded for having a voice, it is socially supportive and inclusive (Lingard & Keddie, 2013; Mills & Gale, 2010). It is a pedagogy that requires high expectations from teachers for all their students hence increasing its capacity as a socially just pedagogy. Teachers can develop an inclusive democracy classroom “in action” through Cooperative Learning. There are obvious links between Cooperative Learning classrooms and democratic classrooms. For a start a
willingness to listen is certainly promoted in the cooperative classroom. Cooperative Learning requires students to listen to each other whilst they work in cooperation on their individual tasks or whilst participating in their allocated cooperative role, and when completing their own task needing to explain this to others who listen and respond developing a sense of group as they are positively interdependent. The willingness to express their thoughts is also paramount in this process and in doing so students are encouraged to share their perspectives whilst engaging in this dialogue. This sharing of perspectives is necessary as students are asked to complete a common goal in a CL task and through face to face interaction “a classroom of many voices and ears” (Vinterek, 2010, p.377) is promoted. Fearnley-Sander, et al. (2001) comment that democratic classroom interactions include “active engagement of students with their own learning, co-operation, practices of respect, recognition of equal worth and entitlements” (p.3) and that in Australian schools this is most likely implemented by teachers through inclusion procedures.

There have been a number of claims that Cooperative Learning has demonstrated more positive student outcomes in academic achievement, social behaviour and affective development (Gillies & Ashman, 2003; Johnson & Johnson, 1994; Johnson, Johnson, & Stanne, 2000; Slavin, 1996) due to its ability to emphasise active interaction amongst diverse groups of students with different abilities and backgrounds (Nelson, Gallagher, & Coleman, 1993). Slavin particularly asserted the affective benefits of Cooperative Learning such as increased self-esteem and improved relationships amongst diverse students (Slavin, 1987b). The affective domain, which focuses on relationships, will help to develop a climate of trust. Cooperative strategies build interpersonal skills and such collaborative skills help to develop students academically and emotionally (Ferguson-Patrick, 2008). Teachers respect and are able to able to respond to human differences in ways that include learners, rather than exclude them in what is available in daily classroom life (Florian & Black-Hawkins, 2011). These inclusive practices improve relationships and impact on self-esteem as teachers trust their learners (using individual accountability) to make good decisions about learning in their classrooms (Florian & Black-Hawkins, 2011).

Section 4: Early Career Teachers

Cooperative Learning has been shown to have some clear benefits for students and student learning but it is not widely used in classrooms, obviously providing some challenges for teachers using it. Quality professional development of teachers so they can better implement a CL strategy is an evident issue. It was decided for this research study that early career teachers would be investigated because they are the
most vulnerable in the profession, struggle to adapt, and so provide a useful model for judging the benefit of a professional development initiative (Darling-Hammond, 1999b; Ewing & Manuel, 2005; Williams, 2002). There is a wealth of research that points to the difficulties in retaining early career teachers in the profession (Veenman, 1984) and they are often not supported in developing their pedagogy in current induction and mentoring programs offered in the early years (Gore, Williams, & Ladwig, 2006a).

The early career teachers in this study wanted to learn about and practise Cooperative Learning because they had a passion for a particular kind of society – an inclusive, socially just democratic society. Understanding the pedagogical practices that early career teachers (ECTs) use is important to date there has been no research that focuses on early career teachers and their use of CL. It is important that CL is understood and practised effectively by the teacher in order for it to be successful and help to promote both academic and social and affective outcomes in a democracy classroom. For early career teachers to use Cooperative Learning, they need to learn to overcome some of the challenges that may arise from using this pedagogy, as well as overcome some of the more general challenges that early career teachers face (Ferguson-Patrick, 2011).

Early Career Teachers: Challenges

The difficulty of retaining early career teachers in the profession has been widely documented. Commencing teachers often experience “reality shock” (Veenman, 1984) as they juggle the “complex and diverse demands, knowledge bases and contexts for teaching” (Martinez, 2003, p.8). Multiple expectations including management, programming and catering for the needs of students (McCormack, Gore, & Thomas, 2006) place considerable stresses on early teaching experiences (McCormack & Thomas, 2003). Even when teachers are well prepared for teaching in their pre-service preparation, they are still learning to teach, and the general neglect on pedagogy in professional development after these teachers have “hit the ground running” is a concern (Gore et al., 2006a). Continuing professional development for all beginning teachers is crucial, to support their retention in the teaching profession, and also ensure positive impacts on curriculum and pedagogy (Muijs & Lindsay, 2007; Talbert & McLaughlin, 1994). Commencing teachers need to juggle the many and complex demands put upon them (Martinez, 2003). If teachers are not supported in these early years it is more likely that they will not “persevere”; that the environmental impediments and other obstacles they face will remain too great. Important too is the fact that teachers who are more effective in their first year of teaching tend to progress more than less effective ones indicating that early experiences, and professional
learning opportunities, influence how effective they are in their careers (Gordon, Kane, & Staiger, 2006). Research on teacher effectiveness in the USA reported by Henry, Bastian and Fortner (2011) argued that the first three years of teaching are crucial for teacher effectiveness and they term the jump between first year and second year teacher effectiveness “2nd year jump” and effectiveness flattening after the third year of teaching as “performance flattening”. They argue that due to the fact that this occurs, that “on the job development” should occur which could include comprehensive induction programs for all novice teachers including “classroom observations of the novice teachers by those with experience teaching the same grades and/or subjects, followed by feedback and coaching on ways to improve instruction, professional development tailored to the needs of beginning teachers, and opportunities to share successful techniques and learn from others” (p.278).

Beginning teachers often have inadequate knowledge of school context, for example socio-cultural factors and expectations of parents in particular school communities. This can affect and challenge their prior knowledge and beliefs and their self-image as teachers (McCormack et al., 2006). How they are prepared to teach is not always sustained by their school cultures (Wang, Odell, & Schwille, 2008) with beginning teachers often needing to compromise between their University training and that of their school context and school supervisor (Khamis, 2000). There is a strong negative correlation between teacher self-efficacy and teacher burnout with autonomy being diminished when new teachers have to organise teaching in ways that are in conflict with their own beliefs (Skaalvik & Skaalvik, 2007).

A large number of new teachers are leaving the profession in their first five years of professional practice, a matter of grave concern for the international teaching community. High attrition rates have been reported in both the US and Australia. For instance Darling-Hammond’s US report shows 30% of teachers leaving in the first five years (Darling-Hammond, 1999a) whereas in New South Wales (NSW), Australia, 20% of new teachers leave the profession in their first five years of professional practice (Manuel, 2003). At the same time it should be ensured that those teachers who do not leave are well supported as the, “effectiveness of teachers fresh to the profession is an important policy issue, especially knowing the impact that teachers have on student learning” (Jensen et al., 2012, p.1). It is important to support them well with ongoing professional learning.

**Early Career Teachers’ Induction and Mentoring**

Teacher induction should be seen as a life-long process continuing throughout a teacher’s career (Feiman-Nemser, 2001a) and a focus on pedagogy and the quality of
teaching can help not only to enthuse and retain teachers in the profession but also make a significant impact on school experience and learning outcomes for students. Induction processes need to be successful if teachers are to be retained. Induction into teaching is seen as critical if early career teachers are to be retained by schools (Darling-Hammond, 1999b; Ewing & Manuel, 2005; Williams, 2002). In their first years of teaching, many teachers struggle leading to common references such as “sink or swim” and “in at the deep end” (Barron & Darling-Hammond, 2008; Choi et al., 2011) used to describe their experiences.

Ingersoll and Strong (2011) in a critical review of empirical research into induction and mentoring from the early 1980’s to the present day, claimed that support and assistance for beginning teachers has a positive impact on “three sets of outcomes: teacher commitment and retention, teacher classroom instructional practices, and student achievement” (Ingersoll & Strong, 2011, p.201). They found that the number of teachers involved in induction programs in their first year has increased from about 40% in 1990 to almost 80% by 2008 with 22 states in the U.S. funding induction programs in this year (Education Week, 2008, as cited in Ingersoll & Strong, 2011, p.202). Despite this growth in induction programs, induction is still random and inequitable with some teachers receiving little support in their early years of teaching. Induction needs to be sustained and coherent and should ideally offer support for up to the first five years of a teacher’s career (Louden et al., 2004; Wong, 2005) with many countries such as Switzerland, France, New Zealand, Japan and China already recognising this importance with funding and implementing well monitored induction programs for beginning teachers. Professional development and teacher induction can play a critical role in enhancing teacher retention and ensuring that beginning teachers do more than survive the early crucial years of teaching. However the quality and type of professional development offered is fundamental. Darling-Hammond (1999b) reported that that few teachers receive any kind of formal induction process. New teachers in NSW report that provision is insufficient and they claim mentoring programs are inadequate (Department of Education Science & Training, 2002; Martinez, 2003). The content and characteristics of induction programs vary considerably from, “a single orientation meeting at the beginning of a school year to a highly structured program involving multiple activities and frequent meetings over several years” (Smith & Ingersoll, 2004, p.683) defined by Neilson, Barry and Addison (2006) as, “a period when teachers have their first teaching experience and adjust to the roles and the responsibilities of teaching” (Nielson, Barry, & Addison, 2006, p.15). Mentoring, on the other hand, is either a component of this induction program or alternatively seen as the induction program (Long et al., 2012). Following a detailed
and comprehensive literature review from various countries from 2000 onwards, Long et al. (2012), concluded there were

multiple differences in both induction and mentoring programs around issues such as who offers them, the length of time for which they are offered, whether they are government mandated, whether mentors receive further education for the role, how mentors and mentees are matched and so on. Induction programs including mentoring were seen to be diverse across schools, school districts, states, provinces and countries. (Long et al., 2012, p.21)

The provision of ongoing professional development of teachers remains “largely neglected” in Australia (Kalantzis & Harvey, , p.9). Mortimore found that the beginning teachers liked to build networks outside their school community (Mortimore, 1999) and go on to say “school induction programs need to be on-going, well monitored and tailored to meet the individual needs of the beginning teachers as it cannot be assumed they enter the profession with the same knowledge, skills and practices” (Mortimore, 1999, p.60). Despite this, there is no mention of how these will continue to be funded and be available for all teachers beginning in the teaching profession (Mortimore, 1999). In NSW, the site of my study, school-based induction programs are suggested, although not mandated, with the beginning teacher’s school supervisor, in conjunction with the principal, being responsible for ensuring they meet the professional teacher standards within the first three years of teaching (NSW Institute of Teachers, 2006). While Carter and Francis (2001) argue that mentoring relationships should promote collaboration, reflection and be cooperative for transformative learning to occur (Carter & Francis, 2001), it is not clear that this happens. In Australia there have been haphazard and varied programs of induction for beginning teachers, which are mainly focussed on website support or programs that occur at the discretion of the principal (Hudson, Hudson, & Beutel, 2009). More recently the NSW Department of Education and Training (NSWDET) introduced a more formal mentoring program for beginning teachers in geographical areas where large numbers were placed in NSW (House of Representatives Standing Committee on Education and Vocational Training, 2007 as cited in Hudson et al., 2009) but again this program was monitored only by principals and was therefore varied in the amount of support it offered. In Queensland the Department of Education, Training and the Arts (2006) produced a 60 page Flying Start Induction Toolkit, distributed to permanent and temporary beginning teachers, and similar programs were noted in other states in Australia. Recently The Great Teaching, Inspired Learning: Blue print for action reforms in NSW stated:
The induction each permanent beginning teacher receives will be strengthened. Each permanent and long-term temporary beginning teacher should receive a structured induction program that:

- is of high quality and builds on effective existing strategies and current research
- supports teachers to develop skills and evidence of effective practice for accreditation as a Proficient Teacher
- reflects the ethos and goals of the school
- uses the professional teaching standards for structured induction into the profession of teaching generally, as well as addressing the specific demands and context of the school. (Board of Studies Teaching and Educational Standards, 2014, p.13)

In the UK, mentoring and induction practices have been equally blurred (Williams, Prestage, & Bedward, 2001) with mentors having multiple and diverse roles. Many have made reference to the fact that the mentors of new teachers have difficulty in talking about pedagogy and how it should be put into practice (Jones & Straker, 2006). Wang and Odell (2002) point out that new teachers often concentrate more on the nurturing aspects of teaching in their first years while regarding pedagogy as less important. Vonk’s (1989) identification of two distinct phases in the professional development of teachers in their early years is also important to note: the idea of two phases, the “threshold” and the “growing into the profession” phases. The threshold, the first year of teaching, is where many new teachers are responsible for the first time for full time teaching and many describe this as “transition shock” (Veenman, 1984) whereas, the growing into the profession phase is described by Vonk as acceptance by colleagues as a teacher. It is also a time when teachers are starting to focus more upon skills, methods and competencies (Vonk, 1989). This phased accommodation of beginning teacher development, is supported by Huberman (1989) who claims,

“Exploration” has to do with making a provisional choice, feeling out the configuration of the profession, trying out one or several roles. If this phase is positive, one then moves to a “stabilisation” or “engagement” phase, in which one tries to master core aspects of the job, seeks out and area of focus. (Huberman, 1989, p.348)

Three phases for beginning teachers are also identified by Lacey (1977) named as: the honeymoon, the crisis, and the failure or getting by phase. It is important that beginning teachers are supported in their pedagogical skills in the early years, in this “growing into the profession” phase and before they reach the “failure or getting by
phase” (Lacey, 1977). It is also important that they reach the stabilisation / engagement phase as advocated by Huberman, so that they are able to move on with “discovery” and “experimentation” with the parameters of classroom teaching... and have... an instructional repertoire... which... leads naturally to attempts to increase one’s effectiveness within the classroom” (Huberman, 1989, p.351).

Feiman-Nesmer’s (Feiman-Nemser, 1998, 2001a) “educative mentoring” concept is also important to acknowledge as it is in the beginning years of teaching that teachers need to develop an inquiring stance that leads to ongoing expertise in their field. Feiman- Nemser argued that those mentors who understand good teaching and learning are able to both deal with immediate concerns and issues of beginning teachers as well as the longer term issues of teacher development. (Feiman-Nemser, 2001b). This mentor encourages an inquiring stance and uses their own expertise to guide the beginning teacher in the right direction, encouraging reflective practice and enabling early career teachers to learn in and from their practice. We cannot assume that good mentoring practices in pedagogy will occur for most early career teachers and that they will be able to access such an “educative mentor”, or that without a focused concentration on pedagogy in their early years that they will see its importance.

**Early Career Teachers and Pedagogical Support**

Despite these varied and often inadequate induction programs offered to beginning teachers it should be noted that few focus on pedagogy (Wang & Odell, 2002) despite the importance that teacher quality should focus on a strong repertoire of pedagogical knowledge and skill as it is this that makes the biggest difference to student outcomes. As Wang and Odell (2002) assert,

> For novices the dominant picture of teachers’ work is either of caring and nurturing or of managing: they regard pedagogy and students’ academic learning as less important. They attribute student learning to teachers’ personalities or management, or to the individual student’s innate abilities or background, rather than to teachers choosing appropriate teaching content and strategies. (p. 513)

As Gore, Williams and Ladwig (2006) state, “this lack of focus on pedagogy within induction processes can be seen to consolidate views about teaching that defray teachers’ own responsibility for their students’ outcomes” (p.4). It is this focus that is needed to ensure teachers continue to grow and develop within the profession as well as gain confidence. Massey (2012) also notes,
The decisions and instructional practices established in their novice years are likely to continue throughout their teaching career (Hollingsworth, 1989), making the effects of high-stakes testing particularly significant in beginning teachers' instruction. (p.73)

Ingersoll and Strong (2011) claim that future research should focus on whether there should be more emphasis on induction for pedagogy or development focused on subject matter content. It is also important to note that early career teachers' own specific pedagogical needs should be considered in their professional learning. Any professional learning program should consider their identified and individualised needs as well as ensuring the levels of support change as the teacher becomes more experienced (Stansbury & Zimmerman, 2002). As Williams, Gore and Cooper (2004, p.4) suggest personal support should be seen “as being as much about the details and specifics of classroom practice as it is about the social and psychological needs of early career teachers”. Action research is a research methodology that allows each teacher to identify their own specific needs and through self-reflection, and in partnership with others in a professional learning situation develop insights and understandings to improve teaching practice (Elliott, 1991) allowing reflection on practice in context.

**Early Career Teachers and Professional Development Models**

Ongoing professional learning and such “transformational learning” (Gravett, 2004) is crucial to teacher growth, success and quality teaching (Day, 1999; Lowden, 2005). Pedagogical knowledge is also vital as skills in pedagogy assists teacher performance when linked with good subject knowledge (Darling-Hammond, 2000). The importance of professional development for improvement in students’ outcomes is crucial and so too is the consideration of collegiality in this process. Recent research, Systemic Implications of Pedagogy and Achievement in New South Wales Public Schools (SIPA, 2004-2007), into teacher professional learning, the quality of pedagogy and the quality of learning outcomes found that teachers have increasingly welcomed colleagues into their classrooms for purposes related to pedagogy. This study also found that teachers prefer to engage purposefully in a collegial approach. As Bain, Lancaster and Zundans (2009) argue,

> While all communities of practice are locally constructed and should reflect the context in which they evolve (Wenger, 2000), they should also include the cumulative professional knowledge of the field in which they are situated. (Bain, Lancaster, & Zundans, 2009, p.338)

There are a number of useful models of professional development for ECTs.
Communities of practice.

Historically, the one off workshop approach of professional development has prevailed with teachers seen as being deficit, lacking the skills to develop student outcomes (Hardy, 2010). These decontextualised activities have often been in response to new initiatives but in the past teachers have avoided more long term professional development opportunities due to the intensification of teachers’ work in general. However, longer term PD appears to be more successful because teachers who have embarked on longer term professional development opportunities have managed to make changes to at least one aspect of their teaching (Boyle, While, & Boyle, 2004) and there has been a resurgence of alternative ongoing collaborative approaches to teacher learning with teachers being encouraged to take on a more “researchly disposition” (Lingard & Renshaw, 2009) and critically active stance. Teachers are now encouraged to become a part of a community and openly engage in researching their practices and beliefs and share their findings not only with colleagues but also with the wider community. One model that supports this change in thinking about professional development is that of a Professional Learning Community (PLC).

The four teachers in this study became a part of a professional learning community – a kind of “community of practice” – coming together as a community of learners to consider the implementation of Cooperative Learning in their classrooms and critically examined the successes and problems with others within this collegial endeavour. Although this study does not use a traditional PLC as its model (Vescio, Ross, & Adams, 2008), due to the fact that the teachers range from a number of different schools and therefore communities, it does aspire to a number of the principles of such PLCs. The community acknowledges each teacher’s knowledge and experience, allows them to explore new ideas, current practice and respects them as experts in their own local classroom communities (Vescio et al., 2008). The premise of a learning community is something therefore that endeavours to develop collaborative work cultures for teachers (Vescio et al., 2008). It is implicit within this model that it should involve critical reflection with others sharing similar experiences about the usual day to day practices they experience (Vescio et al., 2008). Flores and Day found that beginning teachers welcomed the attendance at professional development opportunities, including those offered outside of the school (Flores & Day, 2006) and this study provided the six beginning teachers with such an opportunity.

Practitioner research.

This study also builds on the ideas of Cochran-Smith and Demers (2010) that teacher research should be a “stance”, that teaching should be based around research
and inquiry and that teachers themselves need to be constant researchers learning by being critical, being informed by others' research and doing research on their own practice. They claim that when teacher researchers work from such an inquiry stance, “they learn that posing questions and conducting small scale investigations or studies of certain aspects of their classrooms, schools, and programmes, are integral aspects of learning from and about teaching in every area” (Cochran-Smith & Demers, 2010, p.22). Cochran-Smith and Demers state the inquiries should involve multiple forms of data collection and document their professional practices and strategies as well as their students’ learning. They note too that these inquiries should focus on larger issues of social justice and preparing teachers and students to work in a democratic world. Zeichner also stressed this importance of developing a culture of inquiry in schools that respects the voices of teachers (Zeichner, 2003).

This study aims to do just that, encourage the teachers involved in this study to work from this inquiry stance, to examine one particular strategy (Cooperative Learning) but in doing so also examine other aspects of teaching in all areas in their classrooms. They learnt to become examiners of their students’ learning also examining larger issues of social justice and were encouraged to look for multiple indicators of pupils’ learning, not just academic learning but also social learning. It was my intention to allow the teachers to reflect their complex understandings about learning and teaching through the multiple sources of data collected. They did this through action research and reflection.

**Action research / reflection.**

This study takes an action research approach to professional development. Action research has been used as a method of educational improvement for at least four decades and provides “opportunities to learn that (involve) collaboration, dialogue, reflection, inquiry and leadership” (Lambert, 1998, p.xi). It is carried out with the main aim to develop insights and understandings to improve teaching practice (Elliott, 1991) allowing reflection on practice in context. In this study, each teacher’s action research project was guided by their own professional learning needs. Action research ensured this self-reflection with a cyclic spiral which incorporated “rigorous cycles of planning, observation, action and reflection, which can lead to change in understandings and practice” (Peters, 2004, p.536). The action research approach helped me as the researcher to develop the ongoing professional learning sessions. From analysing the initial interview and classroom observations it was possible to develop a session of professional learning to meet the teachers’ needs. This cyclical process that teachers are themselves responsible for, as well as the researcher, enables them to apply their
knowledge to achieve certain goals and then based on the application of this knowledge, enables them to develop new knowledge (Ponte, 2002). In this way action research can also be linked with “transformational learning”, which encourages teachers to gain awareness of current views and /or practices and assess alternative ones, either by synthesising old and new, or by simply renouncing an old view or practice (Gravett, 2004). This synthesis of old and new then guides and encourages new action.

The approach in the study also grew from evidence that teachers expand both their professional and personal skills when engaging in action research and this in turn encourages them to influence others to improve their own instruction (Seider & Lemma, 2004). As a result of such reflection teachers can become more critical "moving beyond mere interpretation of situations to action resulting in a transformed educational setting" (Morton, 2005, p.54). Case studies that focus on individuals and their typical day to day experiences, and that involve the wide collection of data in order to allow in depth analysis, are able to “uncover the multifaceted complexity of human behaviour in groups and organisations” (Somekh, 2006, p.30). If they are used to generate multiple interpretations, by carrying out a cross case analysis and producing a summary of the knowledge outcomes (Somekh, 2006), then they are able to be made available to a wider audience and be “communicatively validated” (Somekh, 2006). This is particularly important for new teachers who are grappling with the demands of teaching and struggling with acceptance in this new profession. This study enabled both the teacher- researchers and me to focus on the typical experiences in the classrooms related to the implementation of CL to enable the transformation of each classroom (or educational setting). The idea of teachers being researchers themselves, taking on such an inquiry “stance”, is an important part of this study. The intention is that once this “stance” is engaged with, in terms of examining their practices and understandings in Cooperative Learning, it will be possible to examine all kinds of issues, experiences in their classrooms and take a researcher, critical inquiry stance for their entire career, developing teachers as continuous professional learners (Penney & Leggett, 2005).

The teachers became a part of a community of practice and reflected on their teaching practice in collegial professional learning sessions valuing this collaboration and ability to critique in these sessions. The conception of the teacher as a reflective practitioner arose from the ideas of Dewey (1933) and more recently from those of Schon (1983). Reflection in teaching has also been related to effective teaching (Copeland, Birmingham, De La Cruz, & Lewin, 1993; Giovannelli, 2003; Killen, 1989). Teacher reflection is crucial and it is necessary for the teacher to consider reflection
before, during and after the teaching practice. Dewey (1933) argued that the reflective experience can be differentiated from the “trial and error” experience by the fact that reflective experiences are consciously examined, whereas with a “trial and error” situation, when confusion arises, a person responds without sufficient critical analysis. In a reflective situation a hypothesis is formulated, a stand is taken, and a plan of action to work towards a goal is put into place by the professional. Schon (1983) expanded upon this notion of a simple dichotomy by arguing that there was another type of professional reflection that stood somewhere between “trial and error” and reflective practice, this being “reflection-in-action”. According to Schon (1983) this occurs when a professional has such a practice-based knowledge of a situation, informed by a mass of previously experienced reflections on action, that responses become spontaneous, tacit and automatic. Van Manen (1995) considered reflection from a temporal perspective, identifying four types of reflection. These are incorporated throughout the teaching episode in the following way:

- anticipatory reflection, which is reflection before taking action;
- active or interactive reflection, variously called reflection-in-action or contemporaneous reflection;
- recollective, retrospective reflection that helps us make sense of prior experiences;
- mindfulness or pedagogical tact. (Reynolds, McCormack, & Ferguson-Patrick, 2005)

Putting it simply, from these views comes the notion that different types of reflection occur at different times in the teaching experience. However, it is not only the timing of the reflection that is crucial in order to be a truly powerful reflective practitioner; it is also the quality of the reflection. Liston and Zeichner (1996) describe five key features of a reflective teacher. According to them such a teacher;

- examines, frames and attempts to solve the dilemmas of classroom practice;
- is aware of and questions the assumptions and values they bring to teaching;
- is attentive to the institutional and cultural contexts in which they teach;
- takes part in curriculum development and school change efforts; and
- takes responsibility for their own professional development. (p. 6)

They emphasise the critical aspects of reflection, rather than the technical and practical, although acknowledging the importance of reflecting on the “nuts and bolts” of teaching – the workable teaching episode. Other models of reflection (Gore &
Zeichner, 1991; Lovat & Smith, 1991) are based on deliberation over time and a consideration of action alternatives for the future (Hatton & Smith, 1995).

The reflective process in this study was built upon the ideas of Ponte (2002); Carr and Kemmis (1997) and Grundy (1995) the development and application of professional knowledge as cyclic processes that teachers themselves are responsible for with professional knowledge being knowledge that is intrinsically connected with practice: “this is not knowledge that informs practice, or that has practical intent, but knowledge which is embedded in ‘praxis’: reflective knowledge in and through action” (Ponte, 2002, p. 341). This study followed this process as each teacher gave critical thought to making changes in their Cooperative Learning lessons, and through reflection with others at meetings and as a result of this critical thinking, continued to revise these changes. Teachers need to be able to navigate teaching and its uncertainties, make sense of what is happening in their classrooms and be reflective practitioners who are able to make decisions and reflect on those decisions and their effectiveness (Meister & Melnick, 2003, p.93).

This action research study design was chosen as an approach that allowed teachers to focus on improvement on aspects of their teaching in an attempt to enable them to continue with this approach later in their career. Through planning, observation, action and reflection each teacher could make changes to their pedagogy through support in a collegial professional learning environment. The researcher provided professional learning in Cooperative Learning and supported teachers while they reflected in action and made changes in their classroom as a result of this reflection and professional learning.

Section 6: Conclusion

The initial research sub question Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom? required an examination the research literature clarifying the relationship between Cooperative Learning and quality of teaching as defined by the Quality Teaching model (NSW Department of Education and Training, 2003a). Further analysis of data generated through semi-structured interviews, reflective diary entries, classroom observations and professional learning sessions’ action plan development helped to determine how the QTm aligned with CL and how this linked to aspects of a democracy classroom.

The literature review has been critical in addressing the research questions and clarifying why a democracy classroom is important and how to achieve it. The overall aim of education has been constantly debated but it has been shown that from very early days in Australia there has been a focus on democratic practice, on social
meliorative approaches to education and on education for citizenship. The idea of democracy in education is not a new one with some believing that the overall purpose of schooling is to achieve social and economic justice. Dewey (1916), the leading exponent of progressive education in the 1920s, saw school as being part of a community and believed strongly in the importance of collaboration as an aim of education.

In Australia currently the *Melbourne Declaration on Educational Goals for Young Australians* states that school education is to support all young people in Australia becoming successful learners, confident and creative individuals, and active and informed citizens. The current Australian curriculum also emphasises that students should be able to manage their well-being, relate well to others, make informed decisions about their lives, become citizens who behave with ethical integrity, relate to and communicate across cultures, work for the common good and act with responsibility. It is important that both social and academic outcomes are considered in education especially if we want to develop 21st Century learners who are “able to plan activities independently, collaborate, work in teams and communicate ideas” (MCEETYA, 2008, p. 8) and therefore be involved in collaborative, experiential, inquiry and problem based learning approaches (Beetham & Sharpe, 2013). These qualities and skills are all part of a democracy classroom where the importance of a “communicative capacity” allows students to develop trusting relationships that allow them to explore the multitude of viewpoints in their classrooms and beyond.

However, establishing a democracy classroom is not achievable unless you have democracy knowledge and understanding, use democratic pedagogies and encourage democratic values. Students learn about democracy while experiencing democratic processes. A democratic process requires collaboration and provides a direct link to CL as a pedagogy that enables democracy, democratic process and a democratic stance. Students recognise their interconnectedness and capacity to work alongside each other. Democratic, just and caring classrooms are more likely to have teachers who encourage students to look at different perspectives as they form their arguments and engage in dialogue as they critically analyse and develop interpersonal relationships. Democratic values are taught and pro-social behaviour is encouraged. By building a democracy stance teachers develop a culture of communication. Democracy classrooms include the following important key factors: a democratic school culture; teachers with a democracy stance and classrooms with a culture of communication; a community of practice; a rich learning community; inclusive practice and an environment that emphasises social learning.
Unfortunately high stakes testing systems around the world, as well as in Australia, and linked to this to a culture of performativity has “affected the very souls of teachers” (Lingard, 2010, p.137) and in turn significantly impacted on the degree to which they use authentic pedagogies or assessment practices instead forcing them to implement a reductionist curriculum. Cooperative Learning can be seen as a “pedagogy of difference” and as an “intellectual pedagogy”. It draws on, acknowledges and celebrates each student’s knowledge through individual accountability and brings individual contributions and understandings together through positive interdependence to meet the common goal. A focus on professional learning in CL as a pedagogical strategy that helps develop and improve students’ academic and social outcomes, as well as determine when using this strategy if it had any impact on teachers’ overall pedagogical skills, is explored in this study.

The lack of CL use in schools can be explained by teachers’ reluctance to experiment with different pedagogies, especially those using group work, in an environment increasingly focused on individualised testing. As an advanced and complex pedagogy, the early career teachers in this study who wanted to learn about and practise CL needed careful support. It is important that Cooperative Learning is understood and practised effectively by the teacher in order for it to be successful and help to promote both academic and social and affective outcomes. It was also determined that when examining the data from the early career teachers, that whilst using CL in their classrooms, the development of a democracy classroom became evident. There are many and complex demands put upon early career teachers and they need to learn to overcome some of the challenges that may arise from using this pedagogy, as well as overcome some of the more general challenges that early career teachers face. It is also important to help to enthuse and retain teachers in the profession due to the high attrition rates in early career teachers in their first five years. It was a contention of the researcher that a focus on a CL pedagogy and the quality of teaching generally was important to make a significant impact on improving the school experience and learning outcomes for students. The following chapter will examine the methodology of the study in detail.
Chapter Three:  
Methodology and Design

Brief Introduction – Focus of the Study

This study was designed to investigate how early career teachers can be supported in their first three years of teaching to develop and improve their pedagogy, specifically by using a focus on Cooperative Learning. While a variety of interventions have been suggested to support beginning teachers, too little attention has been paid to the importance of enhancing their knowledge about pedagogy in the early years of teaching. This action research study design was chosen as an approach that allows teachers to focus on improvement on aspects of their teaching in an attempt to enable them to continue with this approach later in their career. Through planning, observation, action and reflection each teacher can make changes to their pedagogy through support in a collegial professional learning environment. The researcher provided professional learning in Cooperative Learning and supported teachers while they reflect in action and make changes in their classroom as a result of this reflection and professional learning. The research study used mixed method methodology with both qualitative and quantitative data collection to build a series of four case studies to determine the extent to which professional development in Cooperative Learning
through using an action research approach could improve the pedagogy of these early career teachers. The research design incorporated collegial group meetings to enable early career teachers to reflect on their own pedagogy as well as share successes and difficulties with others who were embarking on a similar journey. The action research approach provided the flexibility to allow the participants to influence the direction of the study and to clarify emerging themes. This flexibility enabled the researcher to be able to capture and describe the emergence of a democracy stance in these developing cooperative classrooms and provided an additional focus to the research. The main research question became:

How can professional development in Cooperative Learning improve pedagogy for early career teachers and how does this link to classrooms with a democracy stance?

The sub-research questions explored different aspects of this overall question by clarifying the envisaged links between CL and good pedagogy, the emerging links between CL and a democracy stance in the classrooms, and the issues that arose in the process of implementing a new pedagogical approach for early career teachers. These sub research questions were explored using the data below.

Table 3.1
Data and Design Used for the Research Questions

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data and Design Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a: Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom?</td>
<td>Research literature - foundational theoretical underpinnings; interview data; classroom observation data</td>
</tr>
<tr>
<td>1b: How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?</td>
<td>Interview data; classroom observation data; professional learning session data; reflective diary data</td>
</tr>
<tr>
<td>1c: How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?</td>
<td>Interview data; classroom observation data; professional learning session data; reflective diary data</td>
</tr>
<tr>
<td>1d: How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?</td>
<td>Revisiting the analysis of all data collected over the study</td>
</tr>
</tbody>
</table>

This research study used action research methodologies, case studies and mixed method triangulated sources of data to answer these research questions. The data collected were interviews, classroom observations in both Cooperative Learning
and quality teaching and reflective diary entries from both participants and myself as researcher.

**Action Research Approach**

Action research was selected as a research methodology for this project as I wanted to explore the reflective approach of participating teachers in this professional development program over time. In this project, teachers were taught how to use action research to reflect upon and improve aspects of their teaching and hopefully provide them with a tool to continue with this approach to professional development later in their career.

Action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities. (Reason & Bradbury, 2006, p.1)

This study had a participatory process as both the teachers and the researcher brought together our own actions and reflections to inform theory and practice, in the form of my own understandings and experiences of Cooperative Learning and its links to pedagogy; and their own pursuit of the practical aspects of implementing Cooperative Learning in their classrooms. This encompassing approach to research, seeing it is an ongoing community endeavour involving knowledge, skills and values, is a common function of action research – it is an approach to research that builds community – the process is as important as the outcome with “the direction of the action-research project . . . guided by the learning gained through the process, not a set of a priori norms imposed on the situation and actors” (Warrican, 2006, p.2).

Action research can lead to change in practice through cyclical self-reflection incorporating planning, observation, action and reflection (Elliott, 1991; Peters, 2004; Ponte, 2002). The conception of the teacher as a reflective practitioner, revisiting stages of reflection, arose from the ideas of Dewey (1933) and more recently from those of Schon (1983) with action research often used by teachers because a good teacher is seen to be one who reflects on their teaching (Copeland et al., 1993; Giovannelli, 2003; Killen, 1989). Action research is defined as involving self-reflection with a cyclic spiral incorporating “rigorous cycles of planning, observation, action and reflection, which can lead to change in understandings and practice” (Peters, 2004,
The action research approach taken in this study was with the understanding that teachers develop and apply professional knowledge in a cyclic way, taking responsibility for goal setting and changing these goals as they develop new knowledge (Kemmis & Wilkinson, 1998; Ponte, 2002).

Action research through collecting and interpreting data, and by personally reflecting in order to take action, allows teachers to develop situational understanding (Elliott, 1991). It has been used as a method of educational improvement for at least three decades and includes collaboration, dialogue and reflection (Lambert, 1998; Peters, 2004). It is carried out with the main aim to develop insights and understandings to make teachers’ work more professional and improve their teaching practice (Elliott, 1991). Action research is a form of inquiry that encompasses both research and action outcomes (Gravett, 2004). This type of research can also be linked with transformational learning which encourages teachers to gain awareness of current views and/or practices and assess alternative ones, either by synthesising old and new, or by simply renouncing an old view or practice (Gravett, 2004). This synthesis then guides and encourages new action and it is generally thought to involve self-reflection.

The reflective process in this study is built upon the ideas of Ponte (2002), Carr and Kemmis (1997) and Grundy (1995) who perceived the development and application of professional knowledge as cyclic processes, for which teachers themselves are responsible, with professional knowledge being knowledge that is intrinsically connected with practice and is embedded in ‘praxis’ which can be described as reflection in and through action (Ponte, 2002, p. 341). “Praxis”, is seen as the integration of intellectual and theoretical engagement (Noffke, 1995, as cited in Somekh, 2006), and is often a “collaborative endeavour” (Somekh, 2006).

It can thus be seen that action research is a strategy teachers can use for empowerment which can lead to changes in teaching practices (Ponte 2002). Its purpose in schools has primarily been to improve and change teaching practice, support school reform and promote professional development. To achieve these outcomes common assumptions including the emergent and cyclical nature of action research, the value of collaboration and critique, and the potential of action research to create change, underpin the success of this process (Christenson et al., 2002). Requiring teachers to reflect on their own practice by systematically gathering information and then using the insight and data gained to develop ways to improve their practice adopts a dual approach by allowing teachers to maintain openness and critical scepticism which in turn allows them to consider the different interpretations of their findings (Somekh, 2006):
This study required each teacher to reflect on their practices, through collaboration and critique, but also required me, as the researcher, to reflect on my own action research process. While making decisions, reflecting and critiquing during the observations and collegial group meetings the professional development sessions in Cooperative Learning were developed, thus developing my own cycle of action research. This meant that the teachers in the study and I became a community of practice. Communities of practice are characterised by mutual engagement, joint enterprise, and a shared professional repertoire (Wenger, 1998). They involve those individuals who wish to deepen their knowledge and expertise about a shared concern, process or problem through ongoing interaction (Wenger, McDermott, & Snyder, 2002). The power relationship in this situation was also a focus of action research and I endeavoured to share meanings and allow the teacher participants to create and implement their own ideas in an effort to remove myself as researcher from the centre of the study. The teachers were encouraged to make decisions for themselves, to consider their own professional repertoire, drive their own action research projects and deepen their knowledge and understandings by sharing their experiences in the professional learning session times. I modified a simple action plan first devised by McNiff & Whitehead (2006) as outlined below and taught the early career participants taught how to use it. Key questions guided their reflective approaches:

- Take stock of what is going on
- Identify a concern
- Think of a possible way forward
- Try it out
- Monitor the action by gathering data to show what is happening
- Evaluate progress by establishing procedures for making judgements about what is happening
- Test the validity of accounts of learning
- Modify practice in the light of the evaluation (McNiff & Whitehead, 2006, p.8-9)

Each of these reflective action plans was investigated over time as individual case studies. This action-reflection cycle models the one used by (McNiff & Whitehead, 2006, p. 9) as below in Figure 3.1:

*Figure 3.1*

*Action-reflection cycle*
My research study follows the reflective process as each of the four early career teacher participants gave critical thought to making changes in their Cooperative Learning lessons, and through reflection with others at professional learning meetings and, as a result of critical and reflective thinking, continued to revise these changes to Cooperative Learning teaching and learning tasks / activities. The research questions (1b and 1c) - How do the early career teachers demonstrate the development of understandings of CL and QT perspectives? and How do the early career teachers demonstrate CL and QT in their initial and final classroom practice? focused on their developing and final understandings and practice of CL and good pedagogy. As they embarked in a collegial professional relationship with me, as a researcher, as well as their peers, they reflected and engaged critically with support from others also examining Cooperative Learning.

Multiple Case Study Design Research

This research project adopted a multiple case study design involving four case studies of primary school teachers. Case study research is the in-depth study of one or more instances of a phenomenon and the phenomenon studied in this instance was Cooperative Learning, its links to quality pedagogy and how this is related to the development of a democratic classroom. Cases are rich descriptions of particular instances of a phenomenon and are typically based on varied data sources (Yin, 1994). Yin states that case studies “involve investigation of a phenomenon for which the boundaries between the phenomenon and its context are not clearly evident” and these boundaries “should be clarified as part of the case study” (Yin, 2003, p.449).

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Theory emerges from case study research by “recognising patterns of relationships among constructs within and across cases and their underlying logical arguments” (Yin, 1994, p.25). It is important to understand the influences of each case but multiple-case studies are also more likely to provide a stronger base for theory building (Eisenhardt & Graebner, 2007). Action research, as an approach to case study research, allows feedback to guide the revision and refinement of the action and this helps to develop and extend the understanding of the cases being studied (Bassey, 1999; Stenhouse, 1988). The research design in this study uses what (Hammersley, 2012) describes as a systematic comparison of cases in order to test and develop hypotheses and consider the different factors associated with the cases in what he terms “comparative analysis”. Theory building from case studies is interesting and testable as it is embedded with rich empirical data (Eisenhardt & Graebner, 2007).

Understanding a number of early career teachers’ classrooms allows us to understand better all classrooms (Cochran-Smith & Lytle, 1993). As Eisenhardt and Graebner (2007) argued, action research is about developing theory and theoretical sampling simply means that cases are selected because they are “particularly suitable for illuminating and extending relationships and logic among constructs” (p. 27). Early career teachers in their first three years of teaching were selected to understand more fully if there were differences between the very first year and subsequent early years of teaching. These multiple cases will allow replication, extension of theory, contrary replication, and elimination of alternative explanations to be examined (Yin, 2003) and as a result obtain a more holistic view of the issue being examined (Noor, 2008).

In this research study, as each case developed and as the research analysis began to show what understandings teachers had about Cooperative Learning and what professional learning needs they required assistance with, the professional learning sessions were revised. At the same time each teacher’s action research project guided their own professional learning needs. The individualised nature of this reflective process meant that each teacher’s journey became a distinct case study indicative of a complex interplay of factors influencing the learning about and practising of Cooperative Learning.

Teachers selected a focus for their own classrooms in relation to Cooperative Learning at the first professional learning session and planned to act on that particular aspect of Cooperative Learning in their classrooms. After later individual and collegial reflection on lessons enacted, they were able to develop new aspects of Cooperative Learning and their understandings and practice developed. It is important to note that previous research had found that variations in teacher implementation of Cooperative Learning were related to prior knowledge and experiences (Siegel, 2005) and it was
therefore apparent that each teacher had their own interpretation of Cooperative Learning and how to implement it within their own individual context. Classroom observations were an integral part of this research study and allowed an examination of the implementation of CL in each teacher’s classroom. The reflective collegial group meetings also enabled the teachers to learn from each other in order to drive their own action research process and the case study approach allowed an interrogation of the complexity involved.

A Triangulated Mixed Methods Research Approach

This section will examine the mixed methods research design and consider the importance of triangulation for validity and reliability in this research study. This study used a triangulated mixed methods research design. Tashakkori and Creswell (2007) defined mixed methods as being research that uses both qualitative and quantitative approaches to draw inferences from both data sources in one study. Research practices tend to lie somewhere on a continuum between the two approaches of qualitative and quantitative research. In this case my approach was mainly qualitative examining interviews and classroom observation comments as well as reflective diaries. The quantitative analysis came from the classroom observation coding. The study combined these approaches and triangulated the data by exploring observations and comments and utilising different sources of data (interviews, classroom coding from observations as well as classroom observation notes utilising video to allow the rechecking of these observations as well as professional learning notes and reflective diary comments).

For almost three decades, various scholars have discussed and debated the concepts, methods, and standards of quality for studies that utilise a combination of qualitative and quantitative approaches (Creswell, 2012); (Greene & Caracelli, 1997); (Miles & Huberman, 1984); (Benz & Newman, 1998); (Tashakkori & Teddlie, 1998; Tashakkori & Teddlie, 2003). Evolving from these discussions has been a body of literature devoted to issues of worldview, nomenclature, typology, design, analysis, and evaluation of mixed methods studies (Tashakkori & Creswell, 2007). Qualitative research allows the researcher to describe, analyse and attempt to explain the phenomenon being studied “from the inside” in a number of ways (Kvale, 2007). The mixed methods approach is more credible, reliable and accurate drawing on different data sources and analyses to provide a more holistic view of the research questions.

The multiple data sources provided thick descriptions of each teacher participant’s professional teaching journey. According to Ponterotto (2006), Ryle first used the term “thick” description and described it as involving “understanding and
absorbing the context of the situation or behaviour. It also involves ascribing present and future intentionality to the behaviour (Ponterotto, 2006, p. 539). By reporting rich data and such “thick description”, from a variety of sources, in order to reveal a picture of what is going on in the classrooms studied, I endeavoured to make my research design credible (Maxwell, 1996). It is also important that sources of bias were considered by collecting evidence from a variety of methods. With such prolonged involvement with participants it was vital to continually reflect on my own viewpoints and any emerging themes in order to clarify any sources of bias, and ensure to the best of my ability the data and analysis was appropriate, clear, comprehensive, credible and significant and could make a distinctive contribution (Goetz & LeCompte, 1984; Peshkin, 1988). I used support from other research colleagues to monitor my assumptions and procedures.

**Triangulation**

The credibility, trustworthiness and accuracy in this mixed methods multiple case study research design are addressed by using triangulation. Many researchers use triangulation, a term first used by Webb, Campbell, Schwartx and Sechrest (1966), as a strategy to increase the validity of qualitative research designs, which can incorporate “philosophies, theories, and research designs and methods as diverse as post positivist multi methods approaches and postmodernist social critiques” (Freeman, deMarrais, Preissle, Roulston, & St. Pierre, 2007, p.25). Even though triangulation is named by some, it is also used by others without specifically labelling it as a strategy. Mathison states that by triangulating, that is by using different researchers, data sources and methods (Mathison, 1988), the researcher can begin to understand the phenomenon being studied more fully. At times too, using triangulation can highlight and support the findings that we expect, by showing different aspects that agree or don’t contradict the findings (Miles & Huberman, 1984). However, multiple sources of data can also show results that are inconsistent and contradictory to other evidence the study has previously shown. It is the work of the researcher to then make these findings understood by the construction of plausible explanations and by making sure that “the researcher’s emerging inferences accommodate, explain or account for the variations discovered” (Eisenhart & Howe, 1992, p.646). Woolcott (1990) argued that it is not expected that researchers are able to explain all variations fully, but pointed out that reporting fully, and flagging issues not yet resolved, is a way of showing that the researcher is not ignoring those issues or the interpretation of the issues thus far (Woolcott, 1990). Such triangulation assists to establish the validity of the researcher’s findings.
Validity

Qualitative researchers have different viewpoints on the concept of validity and even the simple dichotomy in research between quantitative and qualitative research is subject to question as a result of the multifaceted nature of most social phenomena. Maxwell defined validity as “the correctness or credibility of a description, conclusion, explanation, interpretation, or other sort of account” (Maxwell, 1996, p. 87) while Eisenhart and Howe noted that it was about trustworthiness –being able to truly infer ideas from data. (Eisenhart & Howe, 1992). There are many different procedures to establish validity and it is recognised that there is not a “prescribed procedure” for validity when examining a complex phenomenon but skilled researchers like Mishler (1990) depend on their understanding of the field of inquiry and the fact that validity can be tested through conversations with other researchers. Establishing validity is always a challenge. A key strategy in many qualitative studies is to spend considerable time in the field getting to know participants and having direct involvement with them (Woolcott, 1988). Likewise Guba and Lincoln (1981) argued for such ‘cultural corroboration’ examining data under a variety of “time and space” conditions (Denzin, 1978) as ways to improve the credibility of findings. In order to maintain validity, our main aim should be to “construct plausible explanations for the phenomena being studied” (Mathison, 1988, p.17). Developing a chain of evidence, or an audit trail, enables qualitative researchers to develop reliability in their research and this is evident in strategies such as talking a little and listening a lot in order to get the story straight (Woolcott, 1990) and by recording accurately by taking field notes as soon as possible after an event.

Investigator and participant triangulation

In research in school classrooms, as in part of this study, the strategy of investigator triangulation (Denzin, 1978) where more than one researcher observes the phenomenon or analyses the results can add to the reliability of the conclusions. The approach taken in this study was to have a colleague double code half of all lesson observations and to jointly discuss and agree upon the coding scores. Many hours were spent talking to my colleague after lesson observations and we both were able to record accurately our observations and judgements by doing this. In addition by seeking feedback from participants, researchers aim to write with some kind of accuracy when developing early manuscripts. In this study it was possible to seek feedback from participants during and after lesson observations at times, to clarify choices they made in their lesson design and to clarify how they were feeling about...
lessons being observed. The reflective diary entries written by teachers then helped to clarify their understandings, as did the conversations had during professional learning sessions and throughout the semi-structured interviews. As Mishler (1990) stated, as theory and analysis are examined we can make a judgement of our data and decide whether to rely on it for further work.

**Linking Cooperative Learning and good teaching: underlying principles**

A key part of the coding and recoding of data and collection of multiple sources of data was linking this data to previous research and previous thinking about connections between Cooperative Learning, good teaching and democratic classrooms. Although there is a wealth of research about the positive impacts of CL on classroom practice the emergence in recent times of pedagogical models that can codify good teaching and can provide a pedagogical language for classroom analysis was the impetus for consideration of how Cooperative Learning could link with these models. Consideration of the key features of what could be called CL and how it could link to the NSW Quality Teaching Model (QTm) required an analysis of both including the underlying beliefs that underpinned their uses. As a result the researcher developed an observation schedule for CL and an initial guide as to how this observation schedule could link to QTm. This was an important first step in the research because it determined that there would certainly be links, but the exact nature of the links and how strongly individual aspects weighted to these links, were very much a unique study worthy of much more investigation.

Some of the key aspects of Cooperative Learning are clearly not considered in the QTm. The CL model used in this research study is the one advocated by Johnson and Johnson (1994) and requires the five key elements of CL for successful CL; *face to face interaction; small group skills; individual accountability; positive interdependence and reflective thinking*. The two models have been developed independently; one is a model of student learning, the other a model of quality teaching. The QTm puts intellectual quality at the forefront of educational outcomes whereas Cooperative Learning clearly puts social justice and social harmony at the forefront. However, it was postulated that the resultant teaching and learning may not be mutually exclusive. Sharan (2010) argued that “Cooperative Learning procedures combine and promote academic and social skills, two universal educational goals” (p. 300). The importance of relationships, and trust and care of the teacher also have a big impact on student outcomes with regard to intellectual quality.

The QT model of pedagogy treats knowledge as something that requires active construction in order to engage in Higher order thinking and for students to
communicate substantively about their learning / ideas. This is a similar outcome to that of CL. If students are engaged in Cooperative Learning tasks then they are usually required to actively construct and go beyond simple reproduction of knowledge. They are required to demonstrate higher order thinking as they consider their ideas for goal completion (through positive interdependence and with individual accountability) and then in partnership communicate (using Substantive communication) in order to fully understand the complete task (Intellectual Quality).

The QTm also promotes positive relationships between students and teachers, another aspect that is of crucial importance when requiring students to work in cooperation (Quality Learning Environment). Care, trust and respect are therefore developed in student-student and student-teacher relationships (Hattie, 2003; Rowe, 2003) when students work cooperatively. Cooperative Learning and working in collaboration have significance here in that “relational trust involves a ‘dynamic interplay’ between respect, competence, personal regard for others and integrity” (Lovat cited in Rowe, 2003, p. 7). Students who work cooperatively need to display this respect and personal regard for others whilst working towards achieving their group goal whilst respecting others’ opinions and being inclusive by accepting others’ ideas. Additionally respect for others’ abilities and competence is in important as students learn to accept each other’s ideas, skills whilst completing cooperative tasks. In summary when seeking to establish a quality learning environment it is important to keep in mind a quote by Haim Ginott: “To reach a child’s mind, a teacher must capture his heart. Only if a child feels right can he think right” (Ginott, 1969).

Well-designed cooperative tasks should build on meaningful and important learning and ensure that tasks connect to prior knowledge and contexts outside the classroom (Significance). In this study I clarify the links between elements of the NSW Quality Teaching model to the recognised important elements of Cooperative Learning (Johnson & Johnson, 1994). The following tables show the key elements of Cooperative Learning required in classrooms (Johnson & Johnson, 1994) (Table 3.2) as well as the QTm dimensions and elements (NSW Department of Education and Training, 2003c) (Table 3.3). These tables and particularly Table 3.4, which demonstrated the clear connections between the two models, were used as fundamental starting points for the research. Clarifying these connections, with the idea of verifying such connections in “real” classrooms and with “real” classroom teachers was a significant aspect of this work and indeed provided the material to answer sub-research question 1 Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom? This research question examined the relationship between Cooperative Learning and quality of
teaching as defined by the Quality Teaching model (QTm) (NSW Department of Education and Training, 2003a) and was initially answered by researching the literature. Further analysis of data received from the semi-structured interviews, reflective diary entries, classroom observations and professional learning sessions’ action plan development helped to further examine the way in which the QTm aligned with Cooperative Learning. It also became apparent after analysis of the data and literature that the use of CL in early career teachers also led to the development of a democratic classroom environment. I was able to discern what the early career teachers’ initial understandings of Cooperative Learning were in relation to good pedagogy; as well as how they demonstrated these understandings in their initial practice /pedagogy. Further analysis, re-examination and re-analysis of the literature and the evidence of the classroom practice and understandings led to the hypothesis that when teachers use CL they deliver high quality teaching (as measured by QT) and early career teachers can deliver CL when provided with meaningful professional learning.

The following table (Table 3.2) summarises the Cooperative Learning key elements selected in this study based on the work of Johnson and Johnson (1984).

Table 3.2

Cooperative Learning Key Elements for Study

<table>
<thead>
<tr>
<th>Face to face interaction</th>
<th>students working together /interacting as a group, talking and sharing as a team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common goal</td>
<td>each member of the group is working towards a common goal or outcome, i.e. there is one task being completed</td>
</tr>
<tr>
<td>Individual accountability</td>
<td>each student responsible for learning all parts of the material / task or completing and sharing their own part of a task or having a specific role to fulfil within the task</td>
</tr>
<tr>
<td>Positive interdependence</td>
<td>teacher set up of cooperative goal structures to ensure group success when individual goals are met students to develop a sense of “group”</td>
</tr>
<tr>
<td>Small group skills (social skills)</td>
<td>interpersonal skills training and reflection</td>
</tr>
<tr>
<td>Reflective thinking</td>
<td>learners analyse and reflect on group functioning as well as task outcomes</td>
</tr>
</tbody>
</table>

The following table (Table 3.3) summarises the dimensions and elements of the NSW Quality Teaching Model.
Table 3.3

*Dimensions and Elements of NSW Quality Teaching Model*

<table>
<thead>
<tr>
<th>NSW Quality Teaching Model's Dimensions and Elements (NSW Department of Education and Training, 2003c)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intellectual Quality</strong></td>
<td>Quality Learning Environment</td>
</tr>
<tr>
<td><strong>Deep Knowledge</strong></td>
<td>Explicit Quality Criteria</td>
</tr>
<tr>
<td><strong>Deep Understanding</strong></td>
<td>Engagement</td>
</tr>
<tr>
<td><strong>Problematic knowledge</strong></td>
<td>High expectations</td>
</tr>
<tr>
<td><strong>Higher order thinking</strong></td>
<td>Social support</td>
</tr>
<tr>
<td><strong>Metalanguage</strong></td>
<td>Students’ self-regulation</td>
</tr>
<tr>
<td><strong>Substantive Communication</strong></td>
<td>Student direction</td>
</tr>
</tbody>
</table>

The following table (Table 3.4) summarises the perceived links between the Quality Teaching Dimensions and Elements (NSW Department of Education and Training, 2003c) and Cooperative Learning key elements (Johnson & Johnson, 1994).

Table 3.4

*Perceived Links between the Quality Teaching Dimensions and Elements and CL*

<table>
<thead>
<tr>
<th>Cooperative Learning Key Elements</th>
<th>Links to QT</th>
<th>Links to QT</th>
<th>Links to QT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intellectual Quality</td>
<td>Quality Learning Environment</td>
<td>Significance</td>
</tr>
<tr>
<td><strong>Cooperative Learning requires individual and group efforts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face to face interaction / common goal</td>
<td>Deep understanding Substantive communication</td>
<td>Engagement</td>
<td>Inclusivity</td>
</tr>
<tr>
<td>students working together /interacting as a group, talking and sharing as a team</td>
<td>Children constructing explanations and demonstrating reasoning, arguments to each other through Substantive communication and with face to face interaction (Deep Understanding)</td>
<td>Reciprocal, sustained discussion about concepts, ideas with students (scaffolding)</td>
<td>Students from all groups are included in face to face interaction (Inclusivity)</td>
</tr>
</tbody>
</table>

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Individual accountability

*each student responsible for learning all parts of the material / task or completing and sharing their own part of a task and / or having a specific role to fulfil within the task*

<table>
<thead>
<tr>
<th>Deep knowledge</th>
<th>Engagement</th>
<th>Inclusivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep understanding</td>
<td>High expectations</td>
<td>All students to be included by experiencing various roles and sub tasks - individual accountability - developing inclusivity</td>
</tr>
<tr>
<td>Higher order thinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substantive communication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific tasks the teacher designs with a focus on **Deep Knowledge** clearly links key concepts / ideas for each participant and the bringing together of these tasks to the group goal will heighten student understanding.

Each student is responsible for different tasks and the sharing of these will lead to **deeper understanding** of all.

When students are given individual tasks (**individual accountability**) that lead to a group task they are required to draw the information together as a whole group which requires analysis, evaluation and creation (**Higher-order thinking**).

Conversations (**Substantive communication**) required when individuals are required to bring their part of the task due to **individual accountability** to the group.

### Positive interdependence

*teacher set up of cooperative goal*

<table>
<thead>
<tr>
<th>Deep understanding</th>
<th>Student direction</th>
<th>Connectedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problematic knowledge</td>
<td>Social support</td>
<td>Inclusivity</td>
</tr>
<tr>
<td>Substantive communication</td>
<td>Groups taking ownership for lesson</td>
<td>Teachers find value and meaning beyond</td>
</tr>
</tbody>
</table>

95
structures to ensure group success when individual goals are met students to develop a sense of “group”

Higher order thinking

Cooperative tasks designed by teacher with a clearly focussed goal which should require students to focus and concentrate on links between concepts/ideas within topics or KLAs throughout the lesson (Deep understanding)

When students are encouraged to work on clearly defined sub-tasks that require a common goal but are given choices on how to reach that goal they are more likely to be encouraged to address multiple perspectives (Problematic knowledge) and / or solutions through Substantive communication

When students are given individual tasks that lead to a group task (positive interdependence) they are required to draw the information together as a whole group which requires analysis, evaluation and creation (Higher order thinking)

Conversations (Substantive communication) required when individuals are required to bring their part of the task due to individual accountability to the group in order to fulfil the group ‘goal’ (positive interdependence)

direction through positive interdependence (during analysis, evaluation and creation of end group task) (Student direction)

Students are positively linked by being encouraged to work on clearly defined sub-tasks that require a common goal are given choices (through student direction) on how to reach that goal

the classroom and students work together (positive interdependence) to explore these aspects and share with an authentic audience (Connectedness)

Participation from all through positive interdependence develops Inclusivity

Conversations (Substantive communication) required when individuals are required to bring their part of the task due to individual accountability to the group in order to fulfil the group ‘goal’ (positive interdependence)
Reflective thinking
learners analyse and reflect on group functioning as well as task outcomes

Problematic knowledge
Substantive communication
Higher order thinking
Deep understanding

Students who address multiple perspectives (Problematic knowledge) and/or solutions through Substantive communication are likely to develop reflective thinking about the task.

When students are given individual tasks that lead to a group task they are required to draw the information together as a whole group which requires analysis, evaluation and creation and reflection (Higher-order thinking). This leads to Deep understanding.

Social support

Strong mutual respect encouraged in cooperative tasks and reflective thinking will focus students and teacher on group and individual social skills as they value contributions from each member (Social support).

Inclusivity

Students from all groups are included (Inclusivity) and social skills are developed in all group members throughout cooperative tasks and are reflected upon during, and at end of task.

The following table (Table 3.5) summarises the anticipated links showing those elements not linked to CL marked by an asterisk.

Table 3.5
Linkage of NSW Quality Teaching Model’s Dimensions and Elements with CL

<table>
<thead>
<tr>
<th>NSW Quality Teaching model’s dimensions and elements (NSW Department of Education and Training, 2003c)</th>
<th>Quality Learning Environment</th>
<th>* Explicit quality criteria</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep knowledge</td>
<td>* Background knowledge</td>
<td>* Cultural knowledge</td>
<td></td>
</tr>
<tr>
<td>Deep understanding</td>
<td>* Knowledge integration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problematic knowledge</td>
<td>Inclusivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher order thinking</td>
<td>Connectedness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Metalanguage</td>
<td>* Students’ self-regulation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I anticipated that five elements of Intellectual Quality can be linked to all five elements of Cooperative Learning. I did not assume a link between high use of Metalanguage and CL elements. It is not apparent that there is a clear link between Explicit Quality Criteria, an element of the Quality Learning Environment dimension, as this is about the detailed criteria regarding the quality of the work expected by the teacher. Nevertheless, perhaps students working together cooperatively are more likely to remind each other to check the quality of their work as they work on tasks in unison. I have not however included this in my table of anticipated links. I have also not included Students' self-regulation, an element of the Quality Learning Environment dimension, as this element is linked to students regulating their own behaviour and it is not anticipated that there would be a relationship between self-regulation and students working in a CL lesson. However, it could be argued that when students work cooperatively they help to regulate each other’s behaviour with reminders to get back on task. It is the teacher’s responsibility to some extent to help with regulation of student behaviour through allocation of tasks and roles and through explicitly focussing on social skills development. All other elements of the QLE dimension are seen as being inextricably linked to CL as indicated in the above table. Only two elements of the Significance dimension (Inclusivity and Connectedness) can be linked explicitly to the Cooperative Learning elements. I did not anticipate that CL lessons will mean teachers are more likely to score highly in Background Knowledge, Cultural Knowledge, Knowledge Integration or Narrative than if they were teaching a non CL lesson. These anticipated links were to be tested in the research study. For more information on the NSW Quality Teaching model please see Appendix One.

**Linking CL, QT and Democracy Classrooms: the principles emerging**

As a result of gathering the multiple sources of research data a picture emerged of particular types of classrooms evolving when CL was implemented - the teachers thought more deeply about the affective and social aspects of their teaching. The democracy feel of these classrooms became evident. This then became the subject of a search for the theoretical underpinnings that could explain the perceived link. The following table (Table 3.6) demonstrates how it was envisaged that an inclusive democracy classroom using CL would look. It clarifies the evidence of democracy that may be apparent in classrooms that focus on Cooperative Learning and quality teaching building on Chapter 2 which identified and clarified these signifiers of
democracy in relation to the literature. These signifiers of connections between democracy, quality teaching and CL were monitored over the course of the study although this was an iterative process with revisits to earlier data common and continual and new themes emerging.

Table 3.6  
A Democracy Classroom with a Democracy Stance  

<table>
<thead>
<tr>
<th>Indicators (Signs Of Democracy) of Such Classrooms</th>
<th>Cooperative Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Culture of communication and Democratic school culture</td>
<td></td>
</tr>
<tr>
<td>• Willingness to listen (Vinterek, 2010)</td>
<td>Individual accountability</td>
</tr>
<tr>
<td>• Willingness to express thoughts (Vinterek, 2010)</td>
<td>Positive interdependence and a sense of group</td>
</tr>
<tr>
<td>• Share perspectives</td>
<td>Face to face interaction</td>
</tr>
<tr>
<td>• Dialogue</td>
<td>Common goal</td>
</tr>
<tr>
<td>• A classroom of many voices and ears (Vinterek, 2010)</td>
<td>Face to face interaction</td>
</tr>
<tr>
<td>• ‘Deliberative dialogues’ - to promote equality, freedom and justice for all (Vinterek, 2010); --- to promote shared work and collective action (McCoy &amp; Scully, 2002)</td>
<td>Individual accountability</td>
</tr>
<tr>
<td>• Climate of trust (Finnan et al., 2003)</td>
<td>Reflection</td>
</tr>
<tr>
<td>• High self esteem- affective domain (Baumeister et al., 2003) (Bloom et al., 1973) Improved relationships</td>
<td>Reflection</td>
</tr>
<tr>
<td>• Responsibility</td>
<td>Individual accountability</td>
</tr>
<tr>
<td>• Trust in the ability of oneself (Ekman, 2007; Vinterek, 2010)</td>
<td>Individual accountability</td>
</tr>
<tr>
<td>• Risk taking</td>
<td>Common goal</td>
</tr>
<tr>
<td>• Tolerance and sense of justice (Thomas &amp; Witenberg, 2004)</td>
<td>Individual accountability</td>
</tr>
<tr>
<td>• Making choices, forming opinions (Vinterek, 2010)</td>
<td>Positive interdependence</td>
</tr>
<tr>
<td>• Active engagement</td>
<td>Common goal</td>
</tr>
<tr>
<td>• Respect and tolerance (Vinterek, 2010)</td>
<td>Individual accountability</td>
</tr>
<tr>
<td>• Recognition of equal worth</td>
<td>Positive interdependence</td>
</tr>
</tbody>
</table>

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• Democratic sentiments—open-mindedness, decision making with others, taking others’ perspectives (Nagda et al., 2003)

2. Community of practice (Wenger, 1998) and Rich learning community

• Tolerance
• Respect
• Concern for one another (Greene, 1993)
• Shared ways (Wenger, 1998)
• Shared discourse (Wenger, 1998)
• Pro-social behaviours (Morcom & Cumming-Potvin, 2010)
• All learners participate in classroom life (Florian & Linklater, 2010)

3. Inclusive practice

• Increasing participation and decreasing exclusion (Florian & Black-Hawkins, 2011)
• Respect and respond to human differences in ways that include learners in what is available in daily classroom life (Florian & Black-Hawkins, 2011)
• High self-esteem, improved relationships (Slavin, 1987b)
• Trusting relationships (Ferguson-Patrick, 2008)
• Learners trusted to make good decisions about learning (Florian & Black-Hawkins, 2011)
• Opportunities for learning that will be part of a shared experience - participation in a community with equity demonstrated through unity, not “sameness” (Florian & Linklater, 2010).

4. Social learning

• Positive, respectful relationships (Ryan & Patrick, 2001)

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<table>
<thead>
<tr>
<th>Contribution</th>
<th>Psychological Constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of belonging (Osterman, 2000)</td>
<td>Positive interdependence</td>
</tr>
<tr>
<td>Opportunities to talk about values (Lovat &amp; Toomey, 2007)</td>
<td>Positive interdependence</td>
</tr>
<tr>
<td>“relational trust” (Bryk &amp; Schneider, 2003)</td>
<td>Interpersonal skills</td>
</tr>
<tr>
<td></td>
<td>Individual accountability</td>
</tr>
</tbody>
</table>
The development of these connections outlined above, were vital for the methodology of the study. They provided the cornerstone of the research and clarification of the central concepts to be compared so possible linkages could be made. The connections were scrutinised in “real”, or authentic, classroom contexts.

**Study Design: Participants**

In total four early career teachers in NSW, who worked in Independent and Catholic schools, and who indicated they had an interest in utilising Cooperative Learning as a teaching strategy, were involved in the study. The “early career” teachers, in their first, second or third year of teaching were willing to promote learning strategies with a cooperative focus in their classrooms and were eager to participate in the seven month study. The selection of these teachers involved a process of first approaching all primary schools in the Newcastle/ Lake Macquarie staffing area (part of the then Hunter / Central Coast region), to determine if they had employed beginning teachers on a full time basis in the previous three years. The principals were asked to provide the details of teachers who were eligible to participate so that an invitation could be extended to them, with the principals first seeking the consent of the teacher prior to providing this information to the researchers with interested early career teachers notifying the researcher of their willingness to participate. Finally parental/ guardian consent was sought from the students in those classes where teachers and principals gave consent. Elizabeth and Josephine became the first year teachers’ cases for analysis and that Jill and Bill’s observations and reflections would be examined as representative of later years’ early career teachers (in their second and third years of teaching).

All participants were female with the exception of Bill who was in his second year of teaching. Elizabeth, Bill and Jill were all employed on a permanent basis. Jill taught 22 students in years five and six (aged 10-13) in an independent Christian College which catered for Kindergarten (5 years) up to year 12 (18 years). Bill and Elizabeth both taught in Catholic schools – Bill in a larger regional primary catholic school teaching 25 eight and nine year olds and Elizabeth in a smaller rural primary catholic setting teaching 20 six to eight year olds. Josephine was employed on a year’s contract also in a large Independent Non-Denominational K-12 school where she taught a year five / six (ages 11, 12, 13) class with 25 students. All had completed four year undergraduate teaching degrees (BT/BA) at the same large regional university which had three different campuses catering for primary teaching. All participants ranged in age from mature – over 45 to young (22 years). Their schools ranged from
being close to a large NSW city to rural. However even the rural schools were only 80kms from this large city.

Table 3.7

Participants' information summarised

<table>
<thead>
<tr>
<th>Name</th>
<th>Jill</th>
<th>Bill</th>
<th>Elizabeth</th>
<th>Josephine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Qualifications</td>
<td>4 year undergraduate teaching degree (BT/BA Primary)</td>
<td>4 year undergraduate teaching degree (BT/BA Primary)</td>
<td>4 year undergraduate teaching degree (BT/BA Primary)</td>
<td>4 year undergraduate teaching degree (BT/BA Primary)</td>
</tr>
<tr>
<td>Years of Teaching and Status</td>
<td>3 Permanent Full time</td>
<td>2 Permanent Full time</td>
<td>1 Permanent Full time</td>
<td>1 Casual / temp Full time</td>
</tr>
<tr>
<td>School Context</td>
<td>Large K-12 school (665 total students) close to beach, Metropolitan 1% indigenous students</td>
<td>Primary K-6 school (307 total students) close to beach, Metropolitan No indigenous students</td>
<td>Primary K-6 school (74 total students)</td>
<td>Provincial Large K-12 Metropolitan (718 total students)</td>
</tr>
<tr>
<td>Index of Community Socio-Educational Advantage (ICSEA)*</td>
<td>School ICSEA value 1030</td>
<td>School ICSEA value 1094</td>
<td>School ICSEA value 1029</td>
<td>School ICSEA value 1052</td>
</tr>
<tr>
<td>School Distribution</td>
<td>Bottom, 7% Middle 24%, 37% Top 32%</td>
<td>Bottom 5% Middle 11%, 24% Top 60%</td>
<td>Bottom 14% Middle 46%, 15% Top 24%</td>
<td>Bottom 9% Middle 28%, 28% Top 35%</td>
</tr>
<tr>
<td>No. of Students in Class</td>
<td>22</td>
<td>25</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>Age of Students Taught</td>
<td>Years 5 and 6 (Stage 3)</td>
<td>Year 3 (Stage 2)</td>
<td>Year 1 / 2 (Stage 1)</td>
<td>Year 6 (Stage 3)</td>
</tr>
<tr>
<td>Age of Students Taught</td>
<td>Ages 10-13</td>
<td>Age 8 and 9</td>
<td>Age 6,7,8</td>
<td>Ages 11,12,13</td>
</tr>
<tr>
<td>Classroom Observation</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: * http://www.myschool.edu.au/AboutUs/Glossary#G2 from the Myschool website

The Index of Community Socio-educational Advantage (ICSEA) was created by the Australian Curriculum, Assessment and Reporting Authority (ACARA) specifically to enable meaningful comparisons of National Assessment Program — Literacy and Numeracy (NAPLAN) test achievement by students in schools across Australia. ICSEA should be interpreted with the assistance of the About ICSEA fact sheet, the Guide to understanding 2012 ICSEA values and the ICSEA 2012 Generation Report.

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The variables that make up an ICSEA value use family background information provided to schools directly by families, including parental occupation, and the school education and non-school education levels they achieved. In some cases, where this information is not available, ICSEA uses Australian Bureau of Statistics (ABS) Census data on family background to determine a set of average family characteristics for the districts where students live. The ICSEA variables also include two school characteristics: whether a school is in a metropolitan, regional or remote area; and the proportion of Indigenous student enrolments. The Average ICSEA value is 1000. Distribution of students – Australian Distribution Bottom Quarter 25% Middle Quarters 25% 25% Top Quarter 25%.

**Study Design: Procedures for Data Collection**

A seven month commitment was established with each of the four teachers including an obligation to design and teach at least one CL lesson a week, allow observation of a number of these CL lessons over this period of time, attend professional development sessions with the researcher and other early career teachers, keep an action research plan and write a reflective diary. The observed lesson had to adhere to certain pre designated criteria of it being a CL lesson including careful consideration of grouping structures. As well as an instructor on CL in the professional learning sessions, my own role, as the researcher, was to become an “educative mentor” during this research journey. The following table (Table 3.8) outlines the phases of data collection.

<table>
<thead>
<tr>
<th>Data Collected at Different Phases of Research</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Data collection linked to phases of research</th>
<th>Phase 1 May</th>
<th>Phase 1 Jun/Jul</th>
<th>Phase 2 Jul/Aug</th>
<th>Phase 2 Sep/Oct</th>
<th>Phase 3 Oct/Nov</th>
<th>Phase 3 Nov/Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>First semi structured interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Classroom observations – QT and CL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional learning session 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher action research plan developed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher implementation of CL- at least one lesson per week with teacher reflective diary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Observations – CL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional learning session 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher action research plan developed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher implementation of CL- at least one lesson per week with teacher reflective diary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
diary

Professional learning session 3

Teacher action research plan developed

Teacher implementation of CL- at least one lesson per week with teacher reflective diary

Final Classroom observations – QT and CL

Final semi structured interview

Data was collected at:

Two semi structured interviews each with individual participants - audio taped

Three group professional learning sessions with all participants of 2 hours duration (see Appendices 3, 4, 5). These sessions were held at the University of Newcastle in July, September, November involving collegial group discussion, professional learning activities and reflective activities designed by the researcher and culminated in action plan writing at the end of each session. The sessions provided action plans for analysis.

Classrooms: Eight coded classroom observations for each teacher (one hour maximum) using both the NSW Quality Teaching model’s coding instrument (NSW DET, 2003(a) and the Cooperative Learning instrument (Ferguson-Patrick, 2006). Videotaped classroom observations of QT and CL and detailed field notes (see Appendices 2 and 6 for instruments).

The research was split into three phases. The main research question “How can professional development in Cooperative Learning improve pedagogy for early career teachers and how does this link to classrooms with a democracy stance?” was split into 4 sub-questions and was examined over the three phases as described below.

Phase 1

During Phase 1 sub research question 1a: Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom? was considered by collecting and reflecting upon multiple sources of data (the research literature, the initial interviews, the initial classroom observations and early reflective diary entries) and beginning the refinement of themes that emerged. The data was collected from June to July and was continually re-analysed to ascertain common themes and patterns using Nvivo software within this period. Persistent analysis of this
initial data was continuous throughout the implementation of the interventions in Phase 2 and Phase 3 and continued long after collection of data ceased.

Phase 1 of the research also involved collecting and appraising data relevant to Sub Question 1b and 1c: How do the early career teachers demonstrate the development of understandings of CL and QT perspectives? How do the early career teachers demonstrate CL and QT in their initial and final classroom practice? Both initial understandings and practices of CL and QT were examined in Phase 1. Initially a semi-structured interview was conducted in June with each participant prior to the period of intervention of professional learning. The questions focused on teachers’ perceptions of Cooperative Learning and teachers’ practices in Cooperative Learning (if they had any knowledge of it). Three separate classroom observations per participant of what these early career teachers had identified as a good Quality Teaching and good Cooperative Learning lesson were videotaped in Phase 1, in June and July. These lessons were coded according to the QTm and the CL proformas. Detailed field notes were taken by the researcher during the observation of these lessons and these same lessons were randomly assigned to be re coded by a research colleague. The lessons were coded twice considering both CL and QT, once to ascertain whether elements of Cooperative Learning were present in the lesson, and again to ascertain the extent to which elements of the Quality Teaching model was evident in these lessons. These initial lesson coding results from the QT and CL instruments were then graphed and compared using excel.

As indicated previously in chapter 2 to determine the quality of classroom pedagogy the Quality Teaching model rating system was used. In this model each of the eighteen elements of the QTm is described by a five point observational scale. The QTm is coded for each element 1-5 on a Likert Scale. Each of the item-rating scales for each of the three dimensions (see Appendix Two) makes distinctions based on whether or not the quality of pedagogy described is observed; the number of students who are engaged in that manner; and the proportion of the time these students were engaged (Ladwig, 2005). These rating scales and coding descriptors help to clarify the relationship between the pedagogy observed in lessons and the high quality pedagogy described by the QTm. These observational rating scales and coding descriptors have been used in a number of studies of classroom pedagogical practices especially in NSW where the model has been adopted as an important professional development tool (Edge, 2012b). The research colleagues were experienced lesson observers using this coding instrument as they had been involved in the Systemic Implications of Pedagogy and Achievement in NSW Public schools (SIPA) research study (2004-
(Griffiths, Amosa, Ladwig, & Gore, 2007) which involved 665 classroom observations.

For the purpose of coding the Cooperative Learning occurring in the classrooms a coding instrument developed by the researcher (Ferguson-Patrick, 2006) was used. It was designed after examining other recent research about Cooperative Learning in Australia (Gillies & Boyle, 2006) as well as internationally (Veenman et al., 2000) and drawing on research from Johnson and Johnson’s model of Cooperative Learning (Johnson & Johnson, 1994). It was tested with a number of teachers prior to use in the project and adjusted and modified to take account of their responses. The CL instrument included five categories with clear descriptors and was also coded for 1-4 on a Likert Scale. The research colleagues were trained how to code using this instrument.

Phase 2

To consider how these understandings and practices were changing Phase 2 of the research continued to examine the research questions 1b. How do the early career teachers demonstrate the development of understandings of CL and QT perspectives? and 1c. How do the early career teachers demonstrate CL and QT in their initial and final classroom practice? Two collegial group meetings for professional learning occurred during this next phase (Phase 2) with all discussions recorded and action plans collected from teacher participants. One professional learning session occurred after the initial three classroom observations and participants were able to learn more about Cooperative Learning at this session. Observations from lessons as well as responses from the initial interviews about their understandings of CL were used to plan this initial professional learning session. Each participant was asked to write an initial action plan for how they would implement CL in their classroom.

After this session two more classroom observations of CL lessons per participant occurred and were videotaped between July and September. Field notes were taken by researcher and once again these were randomly double coded by the research colleagues. Discussions were held to determine agreed scores between the researchers. At the same time participants were encouraged to keep a reflective diary and these were further analysed to determine how their understandings were developing and whether these understandings of CL were enacted in classroom practice. Each teacher participant was encouraged to analyse and reflect on their teaching of Cooperative Learning and develop new ideas for action. Discussions about anecdotal observations of Cooperative Learning lessons enabled teachers to reflect on their teaching and improve after reflection. Reflective diary entries were
emailed to the researcher throughout this phase. They were asked to reflect on one CL lesson a week but the number and size of diary entries varied between participants (from as little as three in number to a maximum of eight). The researcher’s own reflection on professional learning session 1 and analysis of coded observations, field notes and conversations as well as analysis of teacher needs stated in reflective diaries and action plans were ongoing during this phase and helped decide upon the focus of the following professional learning session. Professional learning session two occurred at the end of this phase of the research in September.

**Phase 3**

To determine further changes to understandings and practices of CL and QT, Phase 3 of the research further examined research question 1b. *How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?* and 1c. *How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?* Teacher participants continued to analyse and reflect on their teaching of Cooperative Learning and develop new ideas for action by writing an action plan at each professional learning session. Teachers were also encouraged to continue to reflect on their teaching through the use of reflective diaries. The researcher reflected on professional learning session 2 and examined teachers’ action plans and further analysed their classroom observations to help to develop professional learning session 3 in November. The final three classroom observations of each teacher in CL and QT were conducted in November / December followed by the final semi-structured interview in December. Coding scores in QT and CL were analysed with the mean average of Likert scores from multiple observations graphed using excel from each data collection period.

After the period of field based research was completed the information sources gathered were collated to answer research question 1d. *How do these final understandings and practices of CL and good pedagogy relate to a democratic classroom?* Emerging themes that had been found from interviews, observations and reflective diaries continued to be synthesised with thematic analysis following the principles of coding according to Creswell (2012). Evidence was grouped into codes and then organised into themes. These themes were regrouped as the data was further explored using a type of grounded theory (Bazeley, 2007; Creswell & Plano-Clark, 2011) in order to relate them in a theoretical model.

The overall research question: 1. How can professional development in Cooperative Learning improve pedagogy for early career teachers and how does this
link to classrooms with a democracy stance? was examined by means of the sub research questions throughout the research study with all sources of data and explanations of that data used to explore the question. Analysis sources included the literature review along with the various coding of lessons using the formal lesson coding tools and the continual analysis and refinement of the themes that emerged from the field notes and interview transcripts using Nvivo software.

Table 3.9
Summary of timeline of research data collection and analysis

<table>
<thead>
<tr>
<th>Phase &amp; Research Question</th>
<th>Data Collection</th>
<th>Analysis</th>
<th>Timeline of Data Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a. Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom?</td>
<td>Literature review</td>
<td>Analysis of first semi-structured interview for understandings about Cooperative Learning and good pedagogy-coding for common themes and patterns will be assisted by using Nvivo software (Bazeley, 2007).</td>
<td>Interview One - June</td>
</tr>
<tr>
<td>1b. How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?</td>
<td>Semi-structured interview One - June</td>
<td>Analysing data (classroom observations; literature from the field) from different angles/perspectives - undertake refinement of the themes that emerge; understandings and practice about Cooperative Learning and good pedagogy-coding for common themes and patterns will be assisted by using Nvivo software (Bazeley, 2007).</td>
<td>QTm classroom observations and CL classroom observations June / July</td>
</tr>
<tr>
<td>1c. How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?</td>
<td>The study included a semi-structured interview at the first meeting Initial classroom observations (QT and CL) 3 per participant videotaped and student conversations audio taped, field notes and some lessons double coded by other researcher</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Phase 2

1b. How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?
1c. How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?

<table>
<thead>
<tr>
<th>Class</th>
<th>Action</th>
<th>Professional learning session 1 – July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom observations (CL) (two per participant)</td>
<td>Analysing data (action plans, reflective diary)</td>
<td></td>
</tr>
</tbody>
</table>
field notes taken and some lessons double coded by research colleague

Two professional learning meetings – action plans written

Reflective diary entries

Teacher participants analysed and reflected on the teaching of Cooperative Learning and developed new ideas for action (using reflective diary entries). Discussions about anecdotal observations of Cooperative Learning lessons enabled teachers to reflect on their teaching and improve after reflection. Researcher reflection on professional learning session 1 and analysis of classroom observations to develop professional learning session 2

Analysis of coded observations, field notes and conversations as well as analysis of teacher needs stated in reflective diaries were ongoing during this phase and helped provide data to formulate the organisation of the next professional learning session

Phase 3

1b. How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?

1c. How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?

<table>
<thead>
<tr>
<th>Reflective diary entries</th>
<th>Teacher participant analysed and reflected on the teaching of Cooperative Learning and developed new ideas for action (using reflective diary entries).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional learning meeting 3- action plans</td>
<td>Professional learning session 3 – November</td>
</tr>
<tr>
<td><em>Final Classroom observations (QT and</em></td>
<td>Reflective diaries collected July-November</td>
</tr>
</tbody>
</table>
CL) 3 per participant videotaped and student conversations audio taped, field notes and some lessons double coded by research colleague

Semi-structured interview Two December

Discussions about anecdotal observations of Cooperative Learning lessons enabled teachers to reflect on their teaching and improve after reflection. Researcher reflection of professional learning session 2 and analysis of classroom observations developed professional learning session 3

Coding scores in QT and CL were analysed. The mean average of Likert scores from multiple observations were graphed using excel from each data collection period.

Final analysis of data

1d. How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?

Analysis of all data collected over the study

Emerging themes found from interviews, observations and reflective diaries were synthesised with thematic analysis following the principles of coding according to Creswell (Creswell, 2012). Evidence was grouped into codes and organised into themes. These themes were regrouped as the data was further explored using a type of grounded theory (Bazeley, 2007; Creswell & Plano-Clark, 2011) in order to relate them in a theoretical model.

Post study

Action research ensures that the self-reflection of each teacher participant was a cyclic spiral which incorporated planning, observation, action and reflection which led to change in understandings and practice. The teachers made decisions for themselves to drive their own action research projects and at the same time I used observation and other data to determine the needs of the participants and thus my own action research drove the planning of the professional learning sessions.
The figure below summarises the research design in a flow chart (Figure 3.2).

**Figure 3.2**
Research design: Procedures for data collection

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**Study Design: Mixed Data Sources and Methods of Analysis**

The data gathered was coded to clarify the emerging themes. The use of multiple data sources and “thick description” (Ryle, 1949) of the data helped to clarify and reveal the picture of what was emerging from the data, and the coding checks strengthened the reliability of this emerging picture. An experienced colleague was used to code QT lessons and CL lessons, alongside myself, in order to check for inter-rater reliability of the coding process. We worked together before we went in the field to rate videoed classrooms and train ourselves to look for key features. Once in the field we rated observations individually and then compared notes and discussed results to clarify our ratings.
Use of Multiple Data Sources

Multiple data sources were used in order to reconcile discrepancies and to ensure contrasting views were evident. Using multiple methods to collect data (video, observation, interview, professional learning conversations) validated the research and lead to a deeper understanding of both Cooperative Learning and its relationship to quality teaching. The multiple sources of data were scrutinised in order to ascertain common features and themes and to determine how these may have changed over time.

Interviews

Interviewing can take a variety of forms, but a semi-structured interview as used in this study, allowed me to keep within broad parameters of the theme of study but allowed re-ordering of questions depending on responses given and provided opportunities to follow up on lines of investigation that emerged (Minichiello, Aroni, Timewell, & Alexander, 1995). The semi-structured interview is one way of enabling in-depth interviewing and allows the researcher to understand participants’ perspectives and experiences as they express these in their own words. Interviews allowed opportunities to elicit information without comment or response but some digression of conversation was required to build trust and a learning community environment (Stringer, 2004). The interviewing situation is usually regarded as a one way process where the researcher gets but does not give information. Additionally, a qualitative interview seeks to cover both fact and meaning and strives to listen to the explicit descriptions as well as to what is said between the lines (Kvale, 1996). At times it is necessary to listen to the message, and then send it back in order to confirm what is being said, is understood. In a focussed interview the interviewer leads the respondent towards certain themes “but not to certain opinions about these themes” (Kvale, 1996, p.34). Interviewing can take a variety of forms, but a semi-structured, or focused interview, allows the researcher to use the broad topic to guide the interview (Minichiello et al., 1995). The semi structured interview approach used in this study allowed me to also make changes to the interview questions to assist the flow of the interview and the logical order of the questions as the interview schedule was not fixed and at times ordering of questions changed depending on responses given. As a result, although the intention was to have a semi-structured interview all the main questions were asked of all participants, with slight changes to the questions and at times an omission of a question if it had previously been answered with another question.
Each participant was interviewed twice, once at the first meeting and once at the last meeting. The questions focused on teachers’ perceptions of Cooperative Learning and teachers’ practices in Cooperative Learning. The final version of the interview also included some “ice breaker questions” to encourage the participants to relax and chat informally about their teaching experiences in the program prior to the more detailed questions about Cooperative Learning and good teaching. It also included some questions to enable them to reflect overall on their involvement in the project, the extent to which they had been able to commit to the project, and the extent to which the classroom observations influenced their teaching preparation (see final interview schedule attached as Appendix 7).

The interviews were conducted face to face at the participants’ schools after school hours. It was the intention for the initial interview to be conducted with each participant at the very first meeting but this didn’t occur for all. One participant had their interview after the three initial lesson observations had occurred as it was not possible to find a suitable time for the interview (before or after school hours) prior to these. However all interviews were conducted prior to the first professional learning session in Cooperative Learning.

The interviews were recorded with an Olympus digital recorder and this was then downloaded to the computer and could be listened to and transcribed using transcription software. Each interview lasted between about 30 minutes and almost 60 minutes. Transcription of the interviews took almost 4 hours for some of the interviews. The transcription of interviews from audio taping ensured accuracy of recall in a chronological manner as suggested by (Kvale, 1996) and also allowed the researcher to revisit the words to assess the actual meanings the interviewee may have intended and not imposing my own meaning on the words and actions of others (Maxwell, 1996).

Emerging themes that were found from the interviews, were synthesised with thematic analysis following the principles of coding associated with grounded theory (Strauss & Corbin, 1990) in order to describe the main issues identified by participants (i.e. descriptive, or open coding), to identify the links between issues raised by participants (i.e. topic or axial coding), and to propose higher order conceptualisation of the main themes which have emerged (i.e. analytic or selective coding) (Strauss & Corbin, 1990). As DeWalt and DeWalt (2002) pointed out even though the researcher may expect certain themes and patterns of thought, it “is the source of new hypotheses and a better understanding of the phenomenon from the point of view of the participants” (pp. 172-3) that is what Strauss and others refer to as the development of grounded theory. In the end after exhaustive scrutiny the researcher can only say that
she has done her best to present the participant view as truly as possible (Mishler, 1990).

Classroom Observations

**Cooperative Learning.**

The Cooperative Learning coding scale, devised by the researcher, was based on other recent research examining Cooperative Learning in Australia (Gillies & Boyle, 2006) as well as most directly based on Johnson and Johnson’s (1994) model of Cooperative Learning. The scale uses a 1 (*observed not at all*) to 4 (*observed almost always*) rating of what was observed from the teacher with detailed comments made by the researcher and another research colleague to add to the reliability of the observation. After scoring lesson observations and discussing the coding scores to develop inter-rater reliability an overall score was assigned for each of the CL elements.

The elements of the Cooperative Learning coding scale are clarified as follows with the key elements of CL according to definitions from Johnson & Johnson (1994) shown alongside (CG – Common Goal, IA – Individual Accountability, PI – Positive Interdependence, SS – Social Skills).

Table 3.10

**CL Evidence and Key Elements of CL**

<table>
<thead>
<tr>
<th>CL Evidence</th>
<th>Description / Definition</th>
<th>Links to Key Elements of CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies selected:</td>
<td>Uses a range of Cooperative Learning strategies designed to encourage student discussion / cooperation</td>
<td>IA, PI, SS</td>
</tr>
<tr>
<td>Language of cooperation:</td>
<td>Uses language that reflects the fact that Cooperative Learning strategies are being employed</td>
<td>talks about roles (IA), responsibilities for tasks (PI), compromising (SS), decision making (SS)</td>
</tr>
<tr>
<td>Language of encouragement:</td>
<td>Encourages children to work together and use each other as a resource</td>
<td>encourages listening, taking turns, seeking clarification, building on ideas (SS) and (PI)</td>
</tr>
<tr>
<td>Reinforces student reflection:</td>
<td>Utilises proformas that encourage monitoring of cooperative skills and reflection</td>
<td>use of encouragement, reflection sheets for group processes and tasks) (SS), (IA)</td>
</tr>
<tr>
<td>Establishes interdependence in the students' groups:</td>
<td>1. mutual goals in order to promote goal</td>
<td>CG, PI</td>
</tr>
</tbody>
</table>
2. division of the task in order to achieve task interdependence; IA, PI
3. division of resources to achieve resource interdependence; IA, PI
4. assigning different roles for role interdependence IA, PI

These classroom observations were then graphed to demonstrate each teacher’s scores in Cooperative Learning (according to the Cooperative Learning scale devised by Ferguson-Patrick) across the seven months. Each teacher was observed:

- For three lessons in Phase 1 of the study (in June and early July);
- For two lessons in Phase 2 of the study (during July to September);
- For three lessons in Phase 3 of the study (between October and December).

For CL classroom observations, a four point scale was used to code the five areas seen as important for CL to have occurred. Each of the five areas could therefore score a range of 1-4 and 5-20 overall. For each of the five CL areas, it was deemed important to score a 3 or a 4 (with 3 being this area of CL was observed a number of times in the lesson, and a 4 being it was observed almost always throughout the lesson the CL language was used and or strategies were selected to support appropriate parts of the lesson). A coding of 1 indicated that the CL was not visible in the lesson being observed and a code of 4 meant that no CL was visible in the lesson.

The mean average of Likert scores from multiple observations were calculated from each data collection period so in Phase 1 three classroom observations for CL occurred and the mean average of these Likert scores were noted for that period. A table was produced to compare the use of CL from beginning of intervention to the end. The table indicated the number of different strategies used; the number of times language was used that reflected the fact that Cooperative Learning strategies were being employed (see below with explanations of Table headings above Table 3.11). A comparison of the use of CL from the beginning of the intervention to the end was produced in tabular form. Codings were used and were supplemented by rich description (using video-recording and audio-taping of classroom activities when required to remember any details). The lesson notes also carefully tracked the teacher’s comments and strategies used during the lesson. These field notes added to the data when coding lessons and were used when discussing coding with the research colleague. It is important to note that the whole class was videoed during
these observations with the researcher following the teacher’s interactions with students during group phases of the lesson so that conversations could be listened to.

**Quality teaching.**

The instrument designed to code lessons related to the QTm was developed by Ladwig and Gore for classroom observations related to Quality Teaching and is available for teachers use in *A Classroom Practice Guide* (NSW Department of Education and Training, 2003c). The Quality Teaching (QT) observation instrument is attached as Appendix 2. For classroom observations, a five-point scale was used to code the six elements within each of the three QT dimensions (IQ, QLE, SIG), for a range of 6-30 within each dimension, and 18-90 overall. The dimensional constructs had a theoretical mid-point of 18. That is, with coding using a 5 point observation scale with 1 being the lowest and 5 being the highest, the scores for each of the three dimensional constructs could range between a low of 6 and a high of 30, so the mid-point is 18 rather than 15, as would be expected with a 0-30 range. For the elements, with a rating scale between 1 and 5, the theoretical mid-point was 3. A coding of 1 indicated that the element was not visible in the lesson being observed and a dimensional code of 6 meant that no element of the dimension was visible in the lesson. Ratings (as used in the Quality Teaching document) were used and were supplemented by rich description developed from video-recording and audio-taping classroom activities during the lesson as well as carefully tracking the teacher’s comments and strategies used during the lesson. These field notes added to the data when coding lessons and could be used when discussing coding with the research colleague.

Participating teachers’ classes were observed by the researcher as an observer for three lessons during the first phase of the study (June / July) and then three final lessons during the final phase of the study (November/ December) and were coded using the QT coding instrument at the same time as the Cooperative Learning coding instrument. The initial and final lesson observations were coded using the QT coding instrument, to test the relationships between Cooperative Learning and Quality Teaching. Additionally two lesson observations occurred in the middle of the study (in Phase 2) to code teachers in CL as a result of professional learning in CL so a total of eight observations per teacher. After the first professional learning session teachers were encouraged to teach at least one Cooperative Learning lesson a week. The final observations at the end of the three professional learning sessions were designed to clarify the relationship between the two models and to provide a final coding of the pedagogy of the teacher as well as any improvement in Cooperative Learning lessons.
Reflective Diaries

**Reflective diaries – Teacher participants.**

Diary reflections using a proforma (attached as Appendix 8) for use by teacher participants was developed to help teachers record their reflections throughout the project. Reflective questions were developed from the reflective proformas used in the University of Newcastle Professional Experience Internship manuals these were used to help teacher participants reflect in their diaries. These reflections enabled teachers to focus on their cycles of planning, observation, action and reflection and encouraged the teacher researcher to reflect on their implementation of CL. Many of questions have clear links to the NSW Quality Teaching model requiring reflection about the Intellectual Quality, Quality Learning Environment and Significance of the lesson. Other questions focused on their use of Cooperative Learning for this lesson and what they learnt about Cooperative Learning as well as what further questions they had about Cooperative Learning.

**Reflective diary – Researcher.**

Diary reflections, using a proforma (attached as Appendix 9), was used by the researcher, to help record reflections throughout the project. This was developed from both a model used by student teachers at the University of Newcastle as a reflective learning diary to assist student teachers to reflect on their teaching (Grushka, Hinde McLeod, & Reynolds, 2005) as well one used by academic partners in a school partnership action learning study diary developed by myself and two colleagues (Reynolds et al., 2005). Van Manen (1995) argues that there are four kinds of reflection: “anticipatory reflection, which is reflection before taking action; active or interactive reflection, variously called reflection-in-action or contemporaneous reflection; recollective, retrospective reflection that helps us make sense of prior experiences; and a fourth category called mindfulness or pedagogical tact” (Hinde McLeod & Reynolds, 2003; Reynolds & Grushka, 2002, p.55). The diary proforma is based on the “for and on action” aspects of Van Manen’s aspects of reflection asking for reflection for action (or contemporaneous reflection) and on action (retrospective reflection and mindfulness). Habermas’ (1976) notions of technical, practical and critical reflection (as cited in Reynolds et al., 2005) also required me to examine all aspects of reflection including the important aspect of critical reflection. This aspect of reflection ensured I examined issues beyond the classroom and how moral and social issues such as equity can inform reflections as well as understanding power relationships in teaching and in the action research process.
Professional Learning Session Proceedings

The professional learning sessions were recorded and analysed to explore emerging themes about understandings and use of Cooperative Learning. Common themes and patterns were examined assisted by using Nvivo software.

Professional learning session 1 – July.
(Summary in Appendix 3)

Professional learning session 1 included an overview of CL, its definition and benefits and its research background. It also included an overview of Action Research what is it; how it can help us in teaching better; and what the action plan cycle looks like. It also focused on the importance of reflection and introduced reflective diaries and how to keep them. It summarised some of the research about good teaching and the links to CL and then focussed on how to develop social skills in our students; some strategies and structures for CL; how to plan for CL in our units of work and how CL fits into our outcomes based syllabi. The final focus was on how to plan a CL lesson.

Professional learning session 2 – September.
(Summary in Appendix 4)

The second professional learning session began with a focus on reflection of the first professional learning session using some reflective CL strategies including lightning writing and the placemat strategy (see below)

Some examples of CL strategies (Jolliffe, 2007; McGrath & Noble, 2005; Murdoch & Wilson, 2004)

<table>
<thead>
<tr>
<th>Lightning writing</th>
<th>Placemat strategy</th>
<th>Think, pair, share</th>
<th>Bundling</th>
<th>Numbered heads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write as much as you can about...in two minutes- share with a partner...together summarise the main points of both your writing</td>
<td>On a piece of paper split into 4 each write your thoughts, ideas on...turn the paper read your group’s responses and combine into joint summary statement about...</td>
<td>Think about...pair up, talk about your joint ideas about...</td>
<td>On stick it notes/ paper write ideas responses to key headings and then share yours with other group members, bundling similar responses / concepts and devising a summary from all group members</td>
<td>Number students and put all 1s, 2.s together etc. To ensure heterogeneous groupings</td>
</tr>
</tbody>
</table>
The participants were asked to write an action plan following this reflection. Reflections of the researcher were shared from classroom observations as well as a revisiting of the definition of CL as a result of these CL observations. The importance of a social skills focus in CL was highlighted as this had not been observed in classroom observations. I then focused on their own reflections modelling strategies in response to their espoused need for further examples. I modelled Think/pair/share, revisited Placemat and introduced Bundling to demonstrate how these strategies related to an understanding of positive interdependence and individual accountability. I used Numbered Heads as a grouping and CL strategy and talked about the use of roles for individual accountability. We then revisited implementing a CL lesson – where to start; how to build class cohesion and have a social skills focus. Then we discussed the importance of reflection on both social skills and task for CL and the types of CL lessons, both formal and informal that we could develop using the Decision Tree (Jolliffe, 2007). We then spent time matching CL structures to phases of a lesson (orientation, guided discovery, exploration, reflection) so that we could decide whether we might use a CL strategy in our planning. Teachers were given time at the end to consider the writing of a CL lesson linked to their current unit of work. We finally examined some “blockers” that stop teachers using CL to try and overcome these and then each teacher spent a short amount of time revisiting their action plans in the light of that session.

Professional learning session 3 – November.
(Summary in Appendix 5)

In session 3 the researcher found the need to revisit the definition of CL, its key elements and again the importance of social skill development as it was clear that teachers did not understand this crucial aspect of CL. We spent time revisiting strategies and structures of CL (to ensure we had individual accountability and positive interdependence). We unpacked a videotaped lesson on CL of one of the participants and discussed what was happening- and related this to the Quality teaching model. We then revisited good lesson planning, some problems we had outlined with CL and how we could overcome them and finally wrote the next action plan also reflecting on the three professional learning sessions overall.

Table 3.11
Sources of Data and Abbreviations Used in Study

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td></td>
</tr>
</tbody>
</table>

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Study Design: Data Analysis through Iterative Interpretive Coding

Coding is one method of working with the data to enable the researcher to build knowledge and constant coding and recoding was used in this study to draw out key themes. Strauss & Corbin (1990) argued that the excellence in the research lies heavily on how excellent the coding has been and so it is important to make explicit the understandings and procedures taken.

First Coding: Free nodes

At the beginning of the study a preliminary exploratory analysis (Cresswell, 2012) enabled me to consider the general sense of the data and consider how to organise this initial examination. The initial interviews had been conducted and I needed to clearly understand what the teachers understood of Cooperative Learning and quality pedagogy in order to start to plan the professional learning sessions. This coding related to one of the initial research questions, Why teach Cooperative Learning and what are the links between CL and good pedagogy? As this interview data and the initial classroom observation notes were explored a number of broad themes emerged. This “lean coding” (Cresswell, 2012, p.244) or broad brush or “bucket” coding (Bazeley, 2007) allowed me to chunk the transcripts into the following broad themes.

Table 3.12
Free Nodes

<table>
<thead>
<tr>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
</tr>
<tr>
<td>Students</td>
</tr>
<tr>
<td>Reflection</td>
</tr>
<tr>
<td>Quality teaching</td>
</tr>
<tr>
<td>Peer tutoring</td>
</tr>
<tr>
<td>Organisation</td>
</tr>
<tr>
<td>Open ended tasks</td>
</tr>
<tr>
<td>Number of students in class</td>
</tr>
<tr>
<td>Needs of participants</td>
</tr>
<tr>
<td>Feeling threatened</td>
</tr>
<tr>
<td>Challenges</td>
</tr>
<tr>
<td>Assessment</td>
</tr>
<tr>
<td>Achievable for group</td>
</tr>
</tbody>
</table>
This initial interview data was explored but it also needed to be examined in relation to the classroom observations. It was felt these initial broad themes did not allow me to break the data down into the nuances needed to explore the teachers’ classroom practices and understandings of CL so the coding was then revisited. In order to explore research question 1b: **How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?** a second form of coding occurred.

**Second Coding: CL related**

During the next phase, from August to December, the data collected continued. This included mid and end of study classroom observations, reflective diary entries as well as the final interviews. This data were examined and during the subsequent writing process, more refined codes were developed to build a description of what was occurring in the teachers’ classrooms, particularly in relation to CL. Memos were written throughout this process, see table 3.13 below for example of this coding with descriptions. This microanalysis allowed me to develop awareness of the richness of the data and the ideas that can be gained from it (Bazeley, 2007). “Coding is a way of ‘fracturing’ or ‘slicing’ the text, of resolving data into its constituent components” (Bazeley & Jackson, 2013, p.74). These free nodes (the nodes first examined in first coding) were refined as follows in an attempt to create some conceptual order in the coding system.

Table 3.13

**Description and Definitions of Codes**

<table>
<thead>
<tr>
<th>Coding</th>
<th>Description / definitions of codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits of CL</td>
<td>Acceptance of others students learning to accept other cultures etc.</td>
</tr>
<tr>
<td>Benefits of CL</td>
<td>any mention of how CL is beneficial for learning/ social</td>
</tr>
<tr>
<td>Teacher adaptation</td>
<td>Achievable for group- when the teacher mentions whether the task is able to be completed by the group, how the teacher adapts the task, activity for the group to make it achievable</td>
</tr>
<tr>
<td>Practical notions of CL</td>
<td>appropriate noise level Cooperative Learning as having appropriate noise level okay</td>
</tr>
<tr>
<td>Asides not relevant</td>
<td>Things to avoid coding – not relevant to research questions anything in the interview that is not related to the interview or needed for analysis</td>
</tr>
<tr>
<td>Assessment</td>
<td>anything related to assessment of student work</td>
</tr>
<tr>
<td>Assessment of cooperative skills</td>
<td>social skills are important and should be assessed as well as task outcomes/ indicators</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cultural mix</td>
<td>importance of different cultures in groups</td>
</tr>
<tr>
<td>Decision making skills</td>
<td>importance of students making decisions together in groups</td>
</tr>
<tr>
<td>Definition of CL</td>
<td>any formal definition attempt of CL</td>
</tr>
<tr>
<td>Disadvantages of CL</td>
<td>when teachers mention how CL can disadvantage students skills / outcomes</td>
</tr>
<tr>
<td>Engagement</td>
<td>any reference to how students are engaged in tasks / learning</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>mention of enjoyment levels of students</td>
</tr>
<tr>
<td>Explicit teaching</td>
<td>importance of explicit teaching -of task skills, CL skills</td>
</tr>
<tr>
<td>Focus on group work</td>
<td>teacher mentioning of group work and attaching similarities to CL even when it is obviously just a group work focus not CL</td>
</tr>
<tr>
<td>Frequency of use</td>
<td>how often the teacher mentions that they use CL groups</td>
</tr>
<tr>
<td>Good teaching</td>
<td>any mention of what is good pedagogy</td>
</tr>
<tr>
<td>Grouping structures</td>
<td>any mention of how the group is structured</td>
</tr>
<tr>
<td>Higher order thinking</td>
<td>any mention of HOT in teaching</td>
</tr>
<tr>
<td>Individual accountability</td>
<td>each student responsible for learning all parts of the material / task, or completing and sharing their own part of a task, or having a specific role to fulfil within the task</td>
</tr>
<tr>
<td>Interest</td>
<td>activities / learning experiences mentioned that kids love</td>
</tr>
<tr>
<td>lifelong learning</td>
<td>linking teaching and learning to lifelong learning</td>
</tr>
<tr>
<td>Links to KLAs</td>
<td>which KLAs are commonly used for coop lessons</td>
</tr>
<tr>
<td>Needs of participants</td>
<td>any mention of the needs of the teacher in regards to teaching (either teaching generally or Cooperative Learning)</td>
</tr>
<tr>
<td>Non-group work</td>
<td>anything that shows students are not doing coop group work but are trying to work independently</td>
</tr>
<tr>
<td>On task behaviours</td>
<td>any mention of students being on task</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>any mention of how students help / teach each other</td>
</tr>
<tr>
<td>Positive interdependence</td>
<td>linking of students interdependently, where students must work together to solve a problem, contribute to discussions, share resources and promote each other’s learning, that establishes a task as a Cooperative Learning task</td>
</tr>
<tr>
<td>Significance</td>
<td>teachers’ mention of tasks that are relevant to students’ lives</td>
</tr>
<tr>
<td>Social skill development</td>
<td>relating CL to the development of social skills</td>
</tr>
<tr>
<td>Special needs</td>
<td>mention by teachers of difficulty of incorporating their special needs students into the group work</td>
</tr>
</tbody>
</table>
Specific task criteria  any mention of use of explicit criteria for task
Student decision making  importance of students taking some responsibility for deciding how to complete things
Student preferences  how students prefer to work- preference for individual or group work and teacher direction or student direction
Student regulation  students able to self-regulate
student relationships  any reference to students working together and how this can affect their relationships in or out the classroom
student strengths  mention of how strengths of students can be drawn upon to support group work process
Talk  importance of talk in CL group work
Teacher questioning/ teacher monitoring role  importance of teachers’ role questioning the students for further info
Team planning  mention of anyone else that supports use of CL at school
Values  links to values and CL
Nine Australian values (Curriculum Corporation, 2003): Care and compassion; doing your best; fair go; freedom; honesty and trustworthy; integrity; respect; responsibility; understanding, tolerance and inclusion

As a result of this long process I had too many codes and this ultimately became confusing but this is an essential step in getting a clear and composite picture of the data. A great encapsulation of the problem is given by Strauss; “We create categories like God creates raindrops!” (Richards, 2005, p.102). At this early stage of coding intellectual manipulation of the data became difficult because of the amount of initial codes, but as Miles and Huberman (1994) state that data analysis requires data reduction, display and interpretation and the analysis also allows verification. The researcher examines the text and reduces the ideas to a few important concepts throughout this process. By the end of this phase 90 codes were established. Each main theme was broken into smaller themes – so was organised from the broad theme to the narrow themes. Below are some examples of the way some of the ideas and themes were categorised and re-categorised in a hierarchical tree diagram.

Table 3.14
Example of Hierarchical Tree Diagrams from Second Coding

<table>
<thead>
<tr>
<th>Sub Codes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Learning</td>
<td>Appropriate noise level</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Definition of CL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frequency of use</td>
<td></td>
</tr>
</tbody>
</table>
Heterogeneous grouping
Individual accountability
Positive interdependence
Social skill development
Teachers’ role

Teaching perceptions
- Of own weaknesses
- Of own strengths
- Lifelong skill
- Integrated students
- Enjoyment
- Benefits of Cooperative Learning

Third Coding: Changes over time

A decision was made to explore the full data set again - to immerse myself in the total data from before, during after the intervention. Two teachers (one in their first year – Elizabeth and one in their second year – Bill) were selected and from this re-reading of transcripts from final interviews as well as from classroom observations and reflective diary entries a number of larger themes and subthemes were refined. Data were examined for any changes in understandings about Cooperative Learning and good pedagogy. By rereading and rethinking the data the idea of a democracy classroom became apparent – it was not something that the researcher had originally envisaged as a theme and when the idea became apparent a number of thoughts and behaviours became apparent through this lens over the period of study. The first research question developed into Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom? as a result of this stage of coding.

At this time the initial main research question changed from Can the implementation of professional development in Cooperative Learning through action research improve aspects of pedagogy of an early career teacher? to How can professional development in Cooperative Learning improve pedagogy for early career teachers and how does this link to classrooms with a democracy stance?

Table 3.15
Themes (Codes) as a Result of Examining Data from Two Teachers Bill and Elizabeth

<table>
<thead>
<tr>
<th>Themes</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>decision making</td>
</tr>
<tr>
<td>Teacher</td>
<td>Teacher role: active or passive</td>
</tr>
<tr>
<td>Teacher</td>
<td>Teacher preparation- Design of task: content/ rich task (Intellectual Quality IQ) or social skills (SS) (process?)</td>
</tr>
<tr>
<td>Teacher</td>
<td>developing classroom culture - Democracy</td>
</tr>
</tbody>
</table>
At this time a decision was made to now revisit the initial interviews in the light of what was learnt by exploring all the data collected and also by interpreting the results in the light of making comparisons to the literature. This phase included the data from all phases and I particularly wanted to explore the concept of understandings of CL as it was becoming apparent from classroom observations that there were varied and different understandings being enacted in practice. It was also apparent that the teachers’ role in CL was varied and different. A refined tree node was established for this purpose called Initial interview themes with a tree diagram (Figure 3.3) shown below:

Figure 3.3
Initial interview themes

<table>
<thead>
<tr>
<th>Development of Classroom Culture (Democracy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good learning</td>
</tr>
<tr>
<td>Learner disadvantages</td>
</tr>
<tr>
<td>Positive interdependence</td>
</tr>
<tr>
<td>Student direction</td>
</tr>
<tr>
<td>Student engagement</td>
</tr>
<tr>
<td>Student social support</td>
</tr>
<tr>
<td>Teacher attitude to CL negative</td>
</tr>
</tbody>
</table>

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Fourth Coding: Refinement of CL

A final refinement of ideas understandings of CL, about teacher role and task design was decided from the above refinement. “Coding on”, a term established by Lyn Richards (Bazeley, 2007) was now embarked upon in order to reflect a conceptual advance of each main code as shown below. Understandings about CL were now re-coded taking the third coding to a more explicit level in terms of the three categories: Understandings of CL, Teacher role in CL and Task design in CL.

<table>
<thead>
<tr>
<th>Understandings of CL</th>
<th>Heterogeneous grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Individual accountability</td>
</tr>
<tr>
<td></td>
<td>Positive interdependence</td>
</tr>
<tr>
<td></td>
<td>Social skill development</td>
</tr>
<tr>
<td></td>
<td>Reflection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teacher role in CL</th>
<th>Teacher role: the extent to which they needs to understand they have a clear role in ensuring the Intellectual Quality of a task-planning, explicit teaching, monitoring, scaffolding, assessing, reflecting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teacher role: careful allocation of roles, sub-tasks</td>
</tr>
<tr>
<td></td>
<td>Teacher role: Passive- Wants student participation, decision making, innovative thinking (tends to sit back and watch) - Student direction</td>
</tr>
<tr>
<td></td>
<td>Teacher role: Active-involvement with class, groups, individuals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task design in CL</th>
<th>Task design-related to content-Deep understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Task design-related to group work and skills-Social support</td>
</tr>
<tr>
<td></td>
<td>Task completion- change of role (passive to active)</td>
</tr>
<tr>
<td></td>
<td>Task-choice of how to complete- Student direction</td>
</tr>
<tr>
<td></td>
<td>Task design-Connectedness of task to real world purpose</td>
</tr>
</tbody>
</table>

Fifth Coding: Individual differences

Eleven broad themes (major and minor) were developed from these above codes and these were refined again as shown in the sixth and seven coding. After examining the three areas above as well as areas identified in the third coding, it became obvious from the analysis of interview and classroom observation data that the teachers were enacting a CL classroom in different ways, and, additionally, all have evidence of developing a particular classroom culture - a democracy classroom was emerging.
Research question 1d was examined more fully at this stage of coding, *How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?*

Table 3.17

**Major CL Themes**

<table>
<thead>
<tr>
<th>Understandings of CL</th>
<th>Heterogeneous grouping</th>
<th>Individual accountability</th>
<th>Positive interdependence</th>
<th>Social skill development</th>
<th>Reflection</th>
</tr>
</thead>
</table>

**Minor CL themes**

1. Learner disadvantages from CL
2. Student direction when considering CL
3. Student engagement in CL
4. Student social support in CL
5. Teacher attitude to CL negative
6. Teacher attitude to CL positive
7. Teacher challenges using CL
8. Teacher role in CL - preparation, design of task
9. Good learning / teaching (pedagogy using QTm)

**Development of classroom culture (Democracy)**

democracy, relationships, social skills, student risk taking

**Sixth Coding: refining the CL coding**

**Major theme 1: Understandings of CL.**

I decided to the recode the initial interviews with Understandings of CL and break down this major code into the finer and essential elements of CL according to the model of CL used in this study (Johnson & Johnson, 1994). The major elements needed for successful CL were listed as codes and I recoded all instances of Understanding of CL into these areas.

- Grouping – heterogeneous grouping
- Individual accountability
- Positive interdependence
- Social skill development
- Reflection (about task or social skills)
A consideration was also made when examining teachers’ understandings of CL to think about the instances when teachers mentioned the benefits of CL to see if it was a pedagogy that they thought was useful and if so why. This code became:

- Benefits of using CL (teacher attitude positive).

### Seventh Coding: Teacher perception of role

After this initial examination of their understandings of CL, a decision was made to examine the other minor themes within this major theme CL in the data in order to clarify exactly what each teacher thought about their role in CL which has become apparent in the literature as being crucial for successful CL.

**Major theme 1: Understandings of CL.**

#### Minor theme – CL and teacher’s role – Teacher role in CL for it to be successful

After re-examining the literature, to refresh my “theoretical sensitivity” (Bazeley, 2007) about the teacher’s role in CL, particularly focussing on the recent article by (Ruys, Van Keer, & Aelterman, 2011) and the work of De Lievre, Depover, and Dillenbourg (2006) a decision was made to examine the role of the teacher in four identified areas; cognitive role, affective role, social role, organisational role. De Lievre et al argued that the organisation required by the teacher prior to and during implementation of CL work helps to develop such a classroom environment that develops a democracy stance. They argued that the roles that teachers take on help to affect this environment. It is also important to note that CL is successful when teachers carefully consider their own roles in planning and implementing CL tasks.

The table illustrates what this role means in this research study in terms of understandings and also in practice taking into consideration earlier coding which helped clarify what I would be able to include in here.

**Table 3.18**

What Teacher Role in CL means in this Research

<table>
<thead>
<tr>
<th>Teacher Role in CL Based on (De Lievre et al., 2006)</th>
<th>How Does This Role Look Like in Practice? Links to CL</th>
<th>How Does this Role Look Like in Practice? Links to QT Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive role</td>
<td>Planning (social skills)</td>
<td>Planning (IQ content, student direction, connectedness), explicit teaching, scaffolding, assessing (deep, etc.)</td>
</tr>
<tr>
<td>Focus of teacher is on task linking, structuring, analysing</td>
<td>Reflecting</td>
<td></td>
</tr>
</tbody>
</table>
This table was refined and adapted during this coding process after realising there was a distinct “prior to implementation role”, when teachers needed to make decisions about how they will structure CL tasks, considering such aspects as group size and allocation of students to groups, assigning roles and setting rules as well as actually designing tasks (Gillies, Ashman, & Terwel, 2008; Gillies & Boyle, 2010; Gillies & Boyle, 2005). This “prior to implementation role” was called the structuring role as teachers considered the key elements of CL in their considerations prior to implementation.

The following four roles identified by De Lievre et al. (2006): cognitive role, affective role, social role, organisational role incorporated a fifth identified role, the metacognitive role. However for the purposes of this study the metacognitive role has been incorporated within the cognitive and affective roles as it is a regulating role that teachers use when regulating both cognitive and affective learning. This is identified and captured for our understanding by the practice of reflecting during these two role descriptions.

Table 3.19
Teacher Role Prior (Structuring Role) and during CL (Implementation Role) and Identification in Practice

<table>
<thead>
<tr>
<th>Teacher role in CL</th>
<th>How does this role look like in practice? Links to CL</th>
<th>How does this role look like in practice? Links to QT model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive role</td>
<td>Planning (social skills) Reflecting *</td>
<td>Task design-related to content-Deep understanding</td>
</tr>
<tr>
<td>Focus of teacher is on task linking, structuring, analysing</td>
<td></td>
<td>Task design-related to group work and skills-Social</td>
</tr>
<tr>
<td>Affective role</td>
<td>Encourages innovative thinking</td>
<td>Social support</td>
</tr>
<tr>
<td>Consideration of feelings arising during CL- teacher needs to encourage, making it fun and worthwhile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social role</td>
<td>Social support, active involvement, ensures student participation, decision making</td>
<td>Student direction</td>
</tr>
<tr>
<td>Help students share ideas construct knowledge</td>
<td></td>
<td>Social support</td>
</tr>
<tr>
<td>Organisational role</td>
<td>Allocation of roles, sub-tasks</td>
<td></td>
</tr>
<tr>
<td>Organising learning process</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Support

Task design-Connectedness of task to real world purpose
Reflecting *

Affective role
Consideration of feelings arising during CL- teacher needs to encourage, making it fun and worthwhile
Encourages innovative Thinking Reflecting *

Social role
Help students share ideas construct knowledge
Social support, active involvement, ensures Student participation, decision making

Organisational role
Organising learning process
Allocation of roles, sub-tasks Making appointments to check on group work process, distributing materials

Note. *Reflecting –metacognitive role

Eighth Coding: CL and QT

After examining coding / themes about CL it was then decided to examine those aspects of CL related to good pedagogy as defined by the QT model in a more nuanced way.

Table 3.20
Aspects of CL linked to good pedagogy

Good pedagogy
- Student understanding (Deep understanding)
- Student engagement in CL and in learning in general (Engagement)
- Student direction when considering using CL (Student Direction)
- Social support by students – supporting behaviours and comments (Social Support)
- High expectations – risk taking in relation to CL and learning in general

Challenges experienced from CL and good teaching and generally
- Teacher attitude negative
- Learner disadvantages from using CL

Democracy- Class culture
- Developing a democracy stance
- How do teachers view their classrooms as a democratic classroom (relationship building)

There were, therefore, four major themes being examined in the data:

1. Understandings of CL and its implementation
   - Key elements of CL (definition)
   - Benefits of CL
Teacher role and its enactment in practice

2. Challenges experienced by using CL and teaching in early years
   - Negative attitude from teachers
   - Learner disadvantages from using CL

3. Understandings of good pedagogy
   - Student understanding
   - Student engagement
   - Student direction
   - Social support
   - High expectations

4. Democracy- Development of classroom culture
   - Relationship building
   - Social skills development
   - Values focus evident
   - Encouraging risk taking in students

**Ninth Coding: A democracy stance**

As teachers grow to understand and use CL effectively and consider if and how this leads to effective practice in their classrooms, (an examination of research questions 1b. *How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?* and 1c. *How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?*) evidence of a democratic culture in the classroom started to emerge (examining further research question 1a. *Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom?* and 1d. *How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?)

I started to consider how the development of a classroom culture was similar to the notion of developing a “democracy stance” (Vinterek, 2010) in their classroom. Vinterek claimed that certain teacher-led democracy signifiers can be seen in classrooms with an “atmosphere of tolerance and respect, encouraging people’s self-esteem in order to promote willingness and the ability to express one’s thoughts as well as a willingness to listen to others” (p. 371). The signs of a positive, secure and nurturing classroom culture became evident after further analysis of the classroom observations and it was decided to monitor this over the duration of the project and to consider these to be democratic values. In classrooms that promote democratic values...
it is likely that bullying is reduced, student well-being is enhanced and conditions for learning are improved as students are given opportunities to talk about values (Lovat et al., 2009). The affective domain is seen as very important in education (Johannessen, Grønhaug, Risholm, & Mikalsen, 1997), and (McBer, 2001) argued that students rate teachers as excellent when they show empathy and encourage them, as well as when they demonstrate interest in their students and make them feel secure. Similarly teachers who are nurturing and develop positive relationships help to promote learning in their students (MacDonald Grieve, 2010). In classrooms that promote democratic values it is likely that bullying is reduced, student well-being is enhanced and conditions for learning are improved as students are given opportunities to talk about values (Lovat et al., 2009). It was thus seen as important to ascertain the values exhibited to clarify any links there may be between these values, the practices exhibited in these classrooms and the teachers' views on what they were trying to achieve in the classroom.

A further examination of all the data (the interview data, the classroom observations, reflective diary and action plan entries) as well as a re-examination of the literature around building a democratic classroom led me to develop the following coding structure as shown in the table below (table *)

Table 3.21
A democratic classroom

<table>
<thead>
<tr>
<th>Culture of communication and Democratic school culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Culture of communication and democratic school culture</td>
</tr>
<tr>
<td>• Willingness to listen (Vinterek, 2010)</td>
</tr>
<tr>
<td>• Willingness to express thoughts (Vinterek, 2010)</td>
</tr>
<tr>
<td>• Share perspectives</td>
</tr>
<tr>
<td>• Dialogue</td>
</tr>
<tr>
<td>• A classroom of many voices and ears (Vinterek, 2010)</td>
</tr>
<tr>
<td>• ‘Deliberative dialogues’ to promote equality, freedom and justice for all (Vinterek, 2010)</td>
</tr>
<tr>
<td>• Climate of trust (Finnan et al., 2003)</td>
</tr>
<tr>
<td>• High self-esteem- affective domain</td>
</tr>
<tr>
<td>• Improved relationships</td>
</tr>
<tr>
<td>• Responsibility</td>
</tr>
<tr>
<td>• Trust in the ability of oneself (Ekman, 2007; Vinterek, 2010)</td>
</tr>
<tr>
<td>• Risk taking</td>
</tr>
<tr>
<td>• Tolerance and sense of justice (Thomas &amp; Witenberg, 2004)</td>
</tr>
<tr>
<td>• Making choices, forming opinions (Vinterek, 2010)</td>
</tr>
<tr>
<td>• Active engagement</td>
</tr>
<tr>
<td>• Respect and tolerance (Vinterek, 2010)</td>
</tr>
<tr>
<td>• Recognition of equal worth</td>
</tr>
<tr>
<td>• Democratic sentiments-open mindedness, decision making with others, taking others’ perspectives (Nagda et al., 2003)</td>
</tr>
</tbody>
</table>

2. Community of practice (Wenger, 1998) and Rich learning community

• Tolerance
- Respect
- Concern for one another (Greene, 1993)
- Shared ways (Wenger, 1998)
- Shared discourse (Wenger, 1998)
- Pro-social behaviours (Morcom & Cumming-Potvin, 2010)
- All learners participate in classroom life (Florian & Linklater, 2010)

3. Inclusive practice
- Increasing participation and decreasing exclusion
- Respect and respond to human differences in ways that include learners in what is available in daily classroom life
- High self-esteem, improved relationships (Slavin, 1987b)
- Trusting relationships (Ferguson-Patrick, 2008)
- Learners trusted to make good decisions about learning (Florian & Black-Hawkins, 2011)
- Opportunities for learning that will be part of a shared experience - participation in a community with equity demonstrated through unity, not ‘sameness’ (Florian & Linklater, 2010).

4. Social learning
- Positive, respectful relationships (Ryan & Patrick, 2001)
- Sense of belonging (Osterman, 2000)
- Opportunities to talk about values (Lovat & Toomey, 2007)
- ‘relational trust’ (Bryk & Schneider, 2003)

It was then possible to link these codes to CL demonstrating that CL helps to develop a democracy classroom as shown in the table below (table *) further examining the research question 1d. How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?

Table 3.22
A democratic classroom and CL

<table>
<thead>
<tr>
<th>Culture of communication and Democratic school culture</th>
<th>CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Willingness to listen (Vinterek, 2010)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Individual accountability</td>
</tr>
<tr>
<td></td>
<td>Positive interdependence</td>
</tr>
<tr>
<td></td>
<td>and a sense of group</td>
</tr>
<tr>
<td></td>
<td>Face to face interaction</td>
</tr>
<tr>
<td>• Willingness to express thoughts (Vinterek, 2010)</td>
<td></td>
</tr>
<tr>
<td>• Share perspectives</td>
<td></td>
</tr>
<tr>
<td>• Dialogue</td>
<td></td>
</tr>
<tr>
<td>• A classroom of many voices and ears (Vinterek, 2010)</td>
<td></td>
</tr>
<tr>
<td>• “Deliberative dialogues” to promote equality, freedom and justice for all (Vinterek, 2010)</td>
<td></td>
</tr>
<tr>
<td>• Climate of trust (Finnan et al., 2003)</td>
<td></td>
</tr>
<tr>
<td>• High self-esteem- affective domain</td>
<td></td>
</tr>
<tr>
<td>• Improved relationships</td>
<td></td>
</tr>
</tbody>
</table>

134
• Responsibility

• Trust in the ability of oneself (Ekman, 2007; Vinterek, 2010)

• Risk taking

• Tolerance and sense of justice (Thomas & Witenberg, 2004)

• Making choices, forming opinions (Vinterek, 2010)

• Active engagement

• Respect and tolerance (Vinterek, 2010)

• Recognition of equal worth

• Democratic sentiments-open mindedness, decision making with others, taking others’ perspectives (Nagda et al., 2003)

Community of practice (Wenger, 1998) and Rich learning community

• Tolerance

• Respect

• Concern for one another (Greene, 1993)

• Shared ways (Wenger, 1998)

• Shared discourse (Wenger, 1998)

• Pro-social behaviours (Morcom & Cumming-Potvin, 2010)

• All learners participate in classroom life (Florian & Linklater, 2010)

Inclusive practice

• Increasing participation and decreasing exclusion

• Respect and respond to human differences in ways that include learners in what is available in daily classroom life

• High self-esteem, improved relationships (Slavin, 1987b)

• Trusting relationships (Ferguson-Patrick, 2008)

• Learners trusted to make good decisions about learning (Florian & Black-Hawkins, 2011)
• Opportunities for learning that will be part of a shared experience - participation in a community with equity demonstrated through unity, not "sameness" (Florian & Linklater, 2010).

Common goal
Individual accountability
Positive interdependence

Social learning
• Positive, respectful relationships (Ryan & Patrick, 2001)
  Face to face interaction
  Individual accountability
  Interpersonal skills

• Sense of belonging (Osterman, 2000)
  Positive interdependence

• Opportunities to talk about values (Lovat & Toomey, 2007)
  Positive interdependence
  Interpersonal skills

• “relational trust” (Bryk & Schneider, 2003)
  Interpersonal skills
  Positive interdependence
  Individual accountability

Concluding Remarks

The study used a mixed method design with both qualitative and quantitative data collection to build a series of four case studies to determine how professional development in Cooperative Learning through using an action research approach can improve the pedagogy of these early career teachers and demonstrate the development of a democracy classroom.

The main research question, How can professional development in Cooperative Learning improve pedagogy for early career teachers and how does this link to classrooms with a democracy stance? (Research Question 1) was examined and also split into four sub research questions. These questions were examined in different ways over the course of the study.

During Phase 1 sub research question 1a: Why teach Cooperative Learning and what are the links between CL, good pedagogy and a democracy classroom was considered alongside sub research questions 1b and 1c: How do the early career teachers demonstrate the development of understandings of CL and QT perspectives? How do the early career teachers demonstrate CL and QT in their initial and final classroom practice? Quantitative instruments, developed for use with the QTm and for CL, allowed the gathering of descriptive numeric observation data from the teachers over the six month period. During this phase, data from a semi structured interview allowed the researcher to examine the teachers’ initial understandings about Cooperative Learning and good pedagogy; and the initial classroom observations allowed analysis of the practices of CL and good pedagogy.

The second phase introduced the teachers to professional learning in CL so these understandings and practices could be further extended and analysed using
action plan and reflective diary data while the semi structured interviews and classroom observations continued. To consider how these understandings and practices were changing Phase 2 of the research examined the research questions 1b. *How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?* and 1c. *How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?* The action research approach employed allowed both teachers and the researcher to examine understandings and practices and this guided further lesson development and the final professional learning session.

The third phase examined the teachers’ final understandings of CL and good pedagogy as a result of this final professional learning session. An examination of how they demonstrated these understandings and practices in their final classroom observations of CL lessons were also analysed alongside the final semi structured interview. Phase 3 of the research further examined research question 1b. *How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?* and 1c. *How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?* Emerging themes found from interviews, observations, reflective diaries and action plans were synthesised with thematic analysis following the principles of coding according to Creswell (Creswell, 2012). Evidence was grouped into codes and organised into themes with themes regrouped as the data was further explored using a type of grounded theory (Bazeley, 2007; Creswell & Plano-Clark, 2011) in order to relate them back to the main research question *How can professional development in Cooperative Learning improve pedagogy for early career teachers and how does this link to classrooms with a democracy stance?*

After Phase 3 of the research design an examination of the triangulated data allowed a determination of how professional development in Cooperative Learning through using an action research approach can improve the pedagogy of these early career teachers and demonstrate the development of a democracy classroom which further considered 1d. *How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?*

The coding in this research project was systematic and exhaustive and involved various phases linked to the action research design of the methodology. This methodology chapter examined how these signs of democracy are strengthened by the use of CL and how certain elements in the quality teaching model increase through the use of CL when developing democracy classrooms.
The following three results chapters (chapters four, five, six) examine the results that address the sub research questions. In Chapter 4 *How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?*; in Chapter 5 *How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?*; and in Chapter 6 *How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom are examined.*
Chapter Four:

RESULTS and IMPLICATIONS: Early career teachers demonstration of the development of understandings of CL and QT perspectives

Overview

This chapter examines the four teachers’ initial understandings about Cooperative Learning (CL), the relationship between these understandings and the NSW Quality Teaching model (QTm), and how they changed and developed over time as a result of professional learning opportunities provided. Understandings are defined as the teachers’ ability to interpret, master knowledge about, and appreciate what CL as a strategy involves as well as how these constructions were reflected in their interpretations of pedagogy within the QTm. It interrogates research sub question 1b. How do the early career teachers demonstrate the development of understandings of CL and QT perspectives?

To be able to ascertain any differences there may have been after the professional learning, it is necessary to consider what the four early career teachers understood about CL and QT at the beginning of the study. An examination of their initial interviews (I1) allowed preliminary understandings to be explored. An important part of this initial interview was allowing them to define what they saw as Cooperative Learning as well as their general understandings of CL demonstrated throughout the interviews generally. Cooperative Learning has some quite unique features that many teachers who are not totally familiar with it as a strategy do not appreciate. The most commonly agreed upon definition of Cooperative Learning is that it is a structured style of learning which involves:

- heterogeneous groups,
- participating face to face in clearly defined tasks,
- completing tasks with a common goal,
- ensuring all students participate through careful allocation of roles or sub-tasks,
- ensuring positive interdependence,
- ensuring individual accountability and,
- time for reflection based on both task outcomes and social skills.

(Gillies & Boyle, 2006; Johnson & Johnson, 1994; Slavin, 1987a)

Initial understandings were ascertained by interview, which also involved an interrogation of their definitions of CL as well as encouraging discussion around their
ideas of what is good teaching. Initial understandings were also ascertained through initial classroom observations in both CL and QT. In the development of the results for each of the case studies, the material was divided into comments and observations that related to CL Grouping and Social Skills; and observations related to CL Pedagogical Skills and Understandings. In the Grouping and Social Skills area, comments and observations related to the use of heterogeneous groups and their reflective comments based on social skill development were assessed, as well as an examination of how the development of these social skills had led to the development of relationships in the classroom. Pedagogical Skills and Understandings included the understandings of CL as a pedagogy including the use of face to face tasks with a common goal, participation through sub tasks and roles for individual accountability and ensuring positive interdependence. Understandings about their teacher role in developing these skills were also explored as the literature has shown that understanding of their role in CL is paramount for success in CL (see Chapter 2, pp.28-31). Differences between first year and later year teachers were also examined. Pedagogical interpretations of CL and QT were examined in relation to clarifying their understandings of how CL and QT were linked. Thereafter it was possible to see how these understandings were enacted in their initial three classroom observations (CO) using both the Quality Teaching and Cooperative Learning coding scales prior to the professional learning sessions to ascertain changes in their understandings of CL and QT. Pedagogical interpretations of CL and QT were examined in relation to understandings of how CL and QT are linked as indicated in Table 4.1 below. (See an expanded explanation in Chapter 3 (pp.94-97) in Table 3.4)
Table 4.1

**Understandings of links between CL and QT**

<table>
<thead>
<tr>
<th>CL key elements</th>
<th>Quality Teaching dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Links to Intellectual Quality (IQ)</td>
</tr>
<tr>
<td>1. Groupings and social skills</td>
<td></td>
</tr>
<tr>
<td>Small group skills (social skills)</td>
<td>Substantive Communication</td>
</tr>
<tr>
<td>2. Pedagogical understandings of CL</td>
<td></td>
</tr>
<tr>
<td>Face to face interaction / common goal</td>
<td>Deep Understanding Substantive Communication</td>
</tr>
<tr>
<td>Individual accountability</td>
<td>Deep Knowledge Deep understanding Higher-order Thinking Substantive communication</td>
</tr>
<tr>
<td>Positive interdependence</td>
<td>Deep Understanding Problematic knowledge Substantive communication Higher-order thinking</td>
</tr>
<tr>
<td>Reflective thinking (based on social skills and task)</td>
<td>Problematic Knowledge Substantive Communication Higher-order Thinking Deep understanding</td>
</tr>
</tbody>
</table>

Elizabeth (1st year teacher)

**Knowledge and understanding of CT.**

Table 4.2

*Elizabeth’s Definition of CL (as demonstrated by initial interview (I1) and second interview (I2))*

<table>
<thead>
<tr>
<th>Initial definition from interview</th>
<th>Final definition from interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Learning is obviously mixed ability, and it’s good for sort of, developing</td>
<td>It would be just working in groups and achieving similar outcomes for the task at</td>
</tr>
</tbody>
</table>
social skills and getting the students to work together, and also giving them something different probably from the norm, from you know, what they do sort of all day, that working individually, yeah it gives them a break from that. It’s good in a sense that it gets different personalities together and it starts, it’s that sort of foundation for having, or building good group work and social skills, but having that foundation of building tolerance and acceptance of others and their beliefs, cultures, ideas and opinions. (I1)

Table 4.3
Elizabeth’s Early and Later Understandings of CL (as demonstrated by I1, I2, AP and RD). ¹

<table>
<thead>
<tr>
<th>Early Understandings of CL</th>
<th>Later Understandings of CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and Social Skills</td>
<td>Relied on similar working groups most of the time in her CL groups as she felt the routine was important for these young students:-</td>
</tr>
<tr>
<td>Recognised the importance of using heterogeneous groupings (mixed ability) for CL.</td>
<td>...if I do a Cooperative Learning activity like with Cameron because I know he doesn’t like change, I’ll always get him to work, so then he’ll be involved and the other children move, so then he’ll be involved rather than sort of sitting at other desks and his eyes will dart over to his and if someone else is sitting there and they knock anything or anything’s out of its place, he’s off, so yeah that’s probably what I’ve changed, because the first couple of times I got him to move to other desks it just didn’t work…(I1)</td>
</tr>
<tr>
<td>I try to get them to work with different groups each time (I1)</td>
<td>Made fewer references to social skills and its links to CL but recognised CL’s success in developing these social skills in her students:-</td>
</tr>
<tr>
<td>Understood the importance of social skills and that CL is a strategy that helps to develop these skills.</td>
<td>...you can see like the kids are sort of socialising more together outside the classroom too, not sort of sticking with the same groups…(I2)</td>
</tr>
<tr>
<td>…social skills, obviously being sharers rather than takers, is a big thing…(I1)</td>
<td>Understood a change in group size improved her success in CL as well as the importance of sub tasks for CL:-</td>
</tr>
<tr>
<td>…Cooperative Learning obviously helps with social participation because they’re having to work together and if the teacher has clear expectations before they go into group work then the students sort of know how they are to behave and to work in that sort of social group…(I1)</td>
<td>...Students in smaller groups work better AND breaking down tasks into mini activities helps students stay on task (AP)</td>
</tr>
<tr>
<td>Assessed students’ social skills prior to group work implementation: getting to know her students was a priority before she felt confident to implement CL:-</td>
<td>¹ Italics indicates key elements of CL throughout this chapter</td>
</tr>
<tr>
<td>...last term was sort of more about getting to know the little personalities. You know what groups are going to work; you know even though it’s mixed ability, you know which personalities are going to work better than others. So in that first term there wasn’t much at all going on really (I1)</td>
<td>142</td>
</tr>
</tbody>
</table>
2. Pedagogical CL understandings

Recognised CL as something different to the “norm”, i.e. not the normal pedagogy in her classroom. **Individual based** work is the usual pedagogy.

Pedagogical practices, including her structuring teacher role, helped her to develop her students’ collaborative work habits. Understood it is important to ensure she considered the key elements of CL prior to implementation:-

...if the teacher has clear expectations before they go into group work then the students sort of know how they are to behave and to work in that sort of social group... (I1)

Understood the need to take small steps in her initial plan when considering experimenting with different CL strategies demonstrating her own reflection:-

...Reflections have enabled me to change by adapting and adopting new strategies but not changing the structure of strategies too much too soon so students don’t lose teacher and group expectations (AP)

Did not recognise reflection as a key element of CL for her students

Understood importance or **positive interdependence and individual accountability** through reference to equality in groups:-

...just encouraging, making sure every member’s equal I think is really big... (I1)

Understood that CL requires **face to face participation** and the importance of **individual accountability**:-

...trying to encourage talk, trying to encourage their ideas, and trying to get everyone involved, is sort of my role... (I1)

Understood the need for a clear focus on the task (not just the social skills) and the power of CL for her students to achieve a deeper understanding as a result of working together

Teacher role related mostly to her cognitive and affective role. Her explicit teaching and scaffolding became more apparent:-

...providing explicit expectations during working in groups...also like modelling the activities ... (I1)

Understood the need for a common goal, as well as the importance and benefit of discussion in **face to face** tasks,

...they’re relating to, relating what the task is to themselves and they’re expressing it to their partner and I’ve...found they’re more talking about what they need to talk about... (I2)

Recognised the importance of reflection:-

...stopping every so often sort of going talking about what the activity involves or commenting on a group that is working well... (I2, 6)

Understood her students are becoming more positively interdependent and willing to be **individually accountable** in the group:-

...I wrote in his report the other day how much he’s improved in working in groups whereas before he’d be one of those kids that’d sit back and let everyone else do it... (I2)

**Summary CL.**

Initially, Elizabeth stated CL was not her usual pedagogy; she used mostly individual based work, but was taking small steps with CL. She mentioned the need to experiment and knew that she needed to try to ensure her students are given accountability to ensure they all work on the task together and this demonstrated her
early understandings of the importance of individual accountability and positive interdependence.

After the period of intervention, Elizabeth built on her initial understandings of the need for heterogeneous groups and recognised the need for routine practices for her students as she felt this helped to stabilise and support her special needs students. She understood the need to focus on social skills and believed the focus on social skills as well as the fact that smaller group sizes were more appropriate for her young students had led to success in CL. She understood the importance of developing a good CL task (not just the social skills) and that she needed to ensure individual accountability so that freeloading didn’t occur in her explanations of CL.

Understanding of QT.²

Table 4.4
Elizabeth’s Early and Later Understandings of QT (I1, I2, AP and RD)

<table>
<thead>
<tr>
<th>Early Understandings of QT</th>
<th>Later Understandings of QT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td></td>
</tr>
<tr>
<td>Understanded that Deep understanding (IQ) can be achieved from students working together in mixed ability / heterogeneous groups.</td>
<td>Understood importance of high expectations: there was an understanding of this in relation to the quality of work (the activities), providing explicit expectations during working in groups...also like modelling the activities ...(I2), but also to expectations of social skills needed for working in groups.. ...explicit teaching you know explicit teaching of what is expected of working groups ... just yeah showing expectations...(I2)</td>
</tr>
<tr>
<td></td>
<td>Understood that a QLE needs high Social Support: when stated her classroom has a supportive environment that the students feel comfortable in maybe due to their well-developed social skills</td>
</tr>
<tr>
<td>2. Pedagogical interpretations of CL and QT</td>
<td></td>
</tr>
<tr>
<td>Links Deep understanding (IQ) with positive interdependence as students’ share their ideas through face to face interaction, ...[CL] can improve their learning outcomes</td>
<td>Described her strengths as a teacher having improved in confidence in language use and her Explicit Quality Criteria (QLE), ...like my language is probably better ... in</td>
</tr>
</tbody>
</table>

² Bold indicates key elements from the QTm throughout this chapter
because sometimes, like with mixed ability, say with the more sort of able student, they can sort of prompt, and their thoughts can kind of bring, you know, maybe thoughts and ideas that another student may not have had to light. (I1).

Understood face to face tasks involve children constructing explanations and demonstrating reasoning, arguments to each other through Substantive communication (IQ) and with face to face interaction which can lead to Deep understanding (IQ).

Demonstrated understanding that this type of reciprocal, sustained discussion about concepts, ideas with students (scaffolding other students) can develop Substantive communication (IQ).

Understood how CL and a common goal can aid Inclusivity (SIG)
...in any work environment, in any group, you bounce ideas off one another, which I mean is yeah, you sort of feed each other and you can bounce ideas and two minds are better than one, or more than two minds. So yeah, it can sort of, it can help with the equal learning outcome, in that way. ...(I1)

CL tasks with Individual Accountability encouraged Elizabeth to focus on Deep knowledge (IQ) through Substantive communication (IQ),
...well obviously they’ve all got something to say, they want to be involved, they want to get their bit down, and so that will keep them on task...(I1)

terms of like explaining how I want things done...(I2)

Not observed in CO: referring to procedural information rather than in relation to the quality of the work expected.

Understood links between face to face interaction and Substantive communication (IQ): a CL lesson should sound like students "passionately" talking about the topics of the task, talking and asking questions - the classroom will not be quiet,
...
...Talking, asking questions, ... becoming passionate about what they’re talking about, like yeah basically, obviously talking it’s not going to be a quiet little lesson...(I2)

Inclusivity (SIG) apparent as Elizabeth commented that all students should make contributions (through positive interdependence) in her class whatever their ability (AP)

Described increased Engagement (QLE) with CL tasks because of the Substantive communication (IQ) that is occurring around the learning outcomes of the task due to the Individual Accountability of students in the group,
...
...I’ve found they’re more talking about what they need to talk about where as if they’re individual and they’re talking it’s usually about what’s going on, on the weekend, and it’s that sort of thing so yeah they’re definitely more engaged...(I2)

Understood Student direction (QLE) leads to Engagement (QLE) in CL lessons that have Positive Interdependence,
...they were involved in, I don’t know, probably ownership, yeah ownership seems to work...(I2).

Summary of QT and CL linkages.
Initially Elizabeth linked her use of heterogeneous grouping to the Deep understanding her students would gain as a result of them sharing their ideas, expertise and knowledge and understandings. She also linked understandings about Engagement and Substantive communication to CL demonstrating that students were engaged in Substantive communication as they worked in groups, then they were more likely to be engaged. Her later emphasis on the importance of Explicit Quality Criteria to both task and social skills demonstrates her understanding of her
important role in identifying and reinforcing task requirements and the quality of these throughout the lesson as being as important as students engaged in **Substantive communication** through CL work. Understandings about **Engagement, Inclusivity and Student direction** were also linked closely to CL elements and practices in her final interview and through understandings demonstrated in classroom observations.

The following summarises Elizabeth’s understandings of CL and QT and how they linked (see Table 4.5). The elements under Quality Teaching dimensions are those that are demonstrated in Elizabeth’s interview, action plan and reflective diary comments as showing understandings in CL and QT.

Table 4.5

<table>
<thead>
<tr>
<th>CL key elements</th>
<th>Quality Teaching dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Links to Intellectual Quality (IQ)</td>
<td>Links to Quality Learning Environment (QLE)</td>
</tr>
</tbody>
</table>

1. Groupings and social skills

| Small group skills (social skills) | Deep understanding (I) | Social support (F) | Explicit quality criteria (F) | High expectations (F) |

2. Pedagogical understandings of CL

<table>
<thead>
<tr>
<th>Face to face interaction / common goal</th>
<th>Deep understanding (I)</th>
<th>Substantive communication (I) (F)</th>
<th>Inclusivity (I)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual accountability</td>
<td>Substantive communication (I)(F)</td>
<td>Engagement (F)</td>
<td></td>
</tr>
<tr>
<td>Positive interdependence</td>
<td>Deep understanding (I)</td>
<td>Student direction (F)</td>
<td>Inclusivity (F)</td>
</tr>
<tr>
<td>Reflective thinking (based on social skills and task)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. IQ – Deep understanding, Substantive communication.
QLE – Engagement, Explicit quality criteria, Student direction, Social support.
SIG – Inclusivity.
(I) relates to Initially.
(F) relates to Finally.

These results show that Elizabeth demonstrated initial understandings that **social skills** are important for CL and that they lead to a **Deep understanding**. However over time she also realised that when developing her students’ **social skills** this led to high **Social support**, and **High expectations**. She also saw that as she explained her expectations in terms of the quality of the work expected in her room; she also
explained what she expected explicitly in terms of her students’ social skills demonstrating an understanding of explicit quality criteria and development of social skills.

Elizabeth also demonstrated initial understandings that CL needed face to face tasks with a common goal - she understood that this could lead to a deeper understanding of all her students and that Substantive communication could also link to these understandings. She understood that CL would lead to increased Inclusivity. She demonstrated by the end of the study that Substantive communication was an important part of CL tasks with a common goal.

Elizabeth also demonstrated understandings that initially Substantive communication would be more likely with individual accountability in a CL task. She demonstrated this understanding also at the end of the study as well as the link to higher Engagement with individual accountability.

At the beginning of the study, Elizabeth understood that CL tasks promote positive interdependence and that this leads to deep understanding. However, by the end of the study, she also recognises that Student Direction can lead to higher Engagement when students are positively interdependent and that in a classroom where all students are positively interdependent that this leads to Inclusivity.

There are no understandings both initially or finally to the importance of reflection in CL.

The majority of Elizabeth’s initial understandings are in the Intellectual Quality dimension of the QTm and the majority of her final understandings are in the QLE dimensions of the QTm, with some understanding remaining in the IQ dimension with her linking Substantive communication as being an important part of CL.

Josephine (1st year teacher)

Knowledge and understanding of CL.

Table 4.6
Josephine’s Definition of CL (as demonstrated by I1, I2)

<table>
<thead>
<tr>
<th>Initial definition from interview</th>
<th>Final definition from interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Learning is, no matter what situation you’re found in and no matter what people you can actually all work together to achieve the task. So it’s just like work, you’re plonked with a group, make the most of it and go for it. I would love, like this guide of how to teach children to work cooperatively, whether it’s pairs or small groups or whatever, I would like a step by...</td>
<td>It is a small group of carefully chosen students that can work together to produce or achieve the lesson outcome and maybe more, just engagement, higher order thinking, that’s it. Knowing your students, knowing who they’re friends with, knowing their abilities, knowing their strengths and weaknesses, knowing them as well as you can and yeah... make sure there’s, and it...</td>
</tr>
</tbody>
</table>
can depend on the topic or the KLA, have a strength there, have a weakness there, you know like have a leader, have a follower, you know that sort of thing, mix it all up. (I2)

Step, like a flow chart of how to introduce it, what to try, did this work, no, go that way, did that work, yes, because I think it’s really valuable and I know from uni the group things really do scaffold your learning, just brainstorming and bouncing ideas off other people and yes I know assessments are a lot of, it’s you and you only but I just think it’s a great skill because no matter where these kids are going to work they’re going to be thrown into small groups, it’s a skill for life. So if we teach them in stage three it’d be great if we teach them how to be a cooperative member of a team, that’s knowledge that you know improves their learning and it’s a skill for life. (I1)

Table 4.7
Josephine’s Early and Later Understandings of CL (as demonstrated by I1, I2, AP and RD)

<table>
<thead>
<tr>
<th>Early Understandings of CL</th>
<th>Later Understandings of CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td>Used larger groups of 3 and 4 demonstrating her development of understandings in CL</td>
</tr>
<tr>
<td>Mainly used pairs – at ages 11 and 12 it would seem more appropriate at this age that larger groups be formed at times.</td>
<td>Realised the importance of ensuring heterogeneous groupings for CL</td>
</tr>
</tbody>
</table>
| Grouping should be teacher selected:– …you’re plonked with a group, make the most of it and go for it… | Understood need for a focus upon social skills:-
  - Respecting other people’s opinions, listening to others (RD) |
| Felt that randomness was not appropriate in her classroom | Not confident to randomly select groups; still careful teacher selection based upon strengths, skills, personalities rather than student selected (CO) |
| Did not group heterogeneously, at times grouped on seating arrangements:– …they actually do really enjoy group work but I want them to get better at it, be more productive and not just have it socially (I1). | …I learnt that next time we do group work I am not going to let them choose friendship groups, I’m going to assign groups to give students a fairer go…(RD) |
| They were asked …to work together with the person next to you… and the teacher commented these were similar ability pairs suggesting that her table groupings were ability grouped. | I really like the random groups and keeping the noisy friends apart (RD) |
| No comments to support her understanding of how she develops her students’ social skills. | |
| Felt that CL could disadvantage some students and negatively affect their self-esteem:- …Well the dominant characters in the class can take over and shut people down – they can end up taking their resources so there can be a negative affect with the dominant | |
2. Pedagogical CL understandings

Lack of confidence in implementing CL:—
...I would like a step by step, like a flow chart of how to introduce it... (I1)

Values CL as a lifelong skill and pedagogy and recognises how it can aid scaffolding, brainstorming and sharing and building upon ideas

Recognised CL as assisting students to work harmoniously through being positively interdependent:—
...Cooperative Learning is, no matter what situation you’re found in and no matter what people you can actually all work together to achieve the task... (I1)

Understood her social and structural teacher role, as shown here:—
...you need to teach students how to work cooperatively, how to take turns and respect other people and you need to teach them the roles... (I1)

No comments of the importance of reflection in CL.

Recognised need for positive interdependence:—
...no matter what people you can actually all work together to achieve the task... (I1)

She had some understanding of how to establish positive interdependence in the students’ groups by ensuring she had a mutual goal in order to promote goal interdependence and by considering the division of resources to achieve resource interdependence.

Understood importance of designing face to face task and how a common goal requires compromise:—
I think if your cooperative lesson’s working it’ll be that engaged buzz that they’re just talking, talking, talking about being on task and compromising. (I2)

Understood importance of her reflection in action cognitive role as she ensures individual accountability of all students:—
...I was just a facilitator if there was a bit of a disagreement going on well ok come back, is this compromise? Is this, ok what role did you have last time? Well do you think you can have a different one? ... (I2)

Understood importance of group work reflection to improve CL skills:—
...I think you need to reinforce how to be good group member you can’t just teach it once and think well they’re going to hang on to that and they’re going to do it, I think every now and then you’ve got to come back and reinforce you know those rules just like you do the class rules... (I2)

Summary CL.

Initially, Josephine mentioned she selected her grouping from convenience (usually where students were already sitting). She stated she was not confident in CL but saw it as a valuable and life-long skill and recognised how it could bring harmony to the classroom. She recognised that her students need to be interdependent but was not sure how to achieve this.

After the intervention period, she mentioned her use of larger group sizes and her beginning experimentation of random grouping had led to successes in CL. She also mentioned the importance of positive interdependence (PI) and individual
accountability (IA) and comments indicate her beginning understandings of how to achieve this. She mentioned a marked improvement in her students' social skill development, especially in regards to compromise, and attributed this to her facilitation in CL activities.

**Understanding of QT.**

Table 4.8

*Josephine’s Early and Later Understandings of QT (I1, I2, AP and RD)*

<table>
<thead>
<tr>
<th>Early Understandings of QT</th>
<th>Later Understandings of QT</th>
</tr>
</thead>
</table>

1. Grouping and social skills

**Social skills** not well developed at this stage:-

...you’ve got to be so careful who you put with who (I1).

Used pairs, did not feel confident with larger group sizes and using pairs maybe helped her to manage these difficult personalities more easily in the start of this group work process. Suggested **Students’ self-regulation** (QLE) not high.

Josephine believed that group size is dependent on the situation (Intellectual Quality of the task?) and students (abilities / personalities?) and observed that her group sizes "worked" (I2).

Successful CL can’t occur until teacher knows their students well enough (e.g. their strengths, abilities, social circles) to be able to achieve the right group dynamics (I2).

Believed student self-selection of CL groups led to non-achievement of task outcomes due to personalities getting in the way of learning outcomes and productivity suggesting lack of social skill development impacting upon **Student self-regulation** (QLE) and **Engagement** (QLE) (I2)

...I learnt that next time we do group work I am not going to let them choose friendship groups, I’m going to assign groups to give students a fairer go..(RD)

**Social support**: Josephine’s highlight in the teaching year was the bond she formed with her class through sport and a school camp. It sounds as if there is now incredible mutual respect between her students and herself which could be linked to social skill development and relationship building.

2. Pedagogical interpretations of CL and QT
Links Engagement (QLE) and good learning with enjoyment of learning:-
...I think good learning needs to have the enjoyment factor...(I1)

Related noise, buzz and ideas sharing, when working towards a common goal, as an integral part of her classroom in order to promote student Engagement (QLE).

Believed freeloading students can occur in CL not understanding how individual accountability can ensure all are accountable and how Social support (QLE) is a necessary part of CL:-
...it [CL] can definitely stop children from thinking for themselves they rely on someone else to come up with the ideas or prompts that sort of thing so it can definitely stop them for thinking of their own ideas and thinking of where to go to find the information because someone else will do it for them ...(I1)

Josephine demonstrated an understanding that in her classroom students should work together in CL on a face to face task with a common goal with Substantive communication (IQ):-
...there would be on-task noise, and they'd be bouncing ideas off each other like creative buzz and noise...(I1)

Believed they should be able to work together to achieve the common goal and a Deep understanding of the task:-
...no matter what people you can actually all work together to achieve the task...(I1)

Class wanted marks broadcast in the classroom setting as a group, she observed the building of positive relationships (high Social support -QLE) based on learning achievements - students would cheer and clap each other when the marks were read out (I2).

When describing what CL looks/sounds like in the classroom Josephine stated that there’s an Engaged buzz (Engagement-QLE in the room with all the students talking as their aim to complete the common goal through Substantive communication (IQ) and comprising and working together demonstrating strong Social support (QLE) (I2).

Demonstration of risk taking on the part of the students as they take on roles (Individual accountability) in debating they haven’t previously (CO). This is linked directly to High expectations (QLE).

Effort of implementing CL is worth it, including risk taking from High expectations (QLE) and Engagement (QLE) of some students:-
...it is worth the time and effort to teach the students how to work co-operatively as it has many benefits. (RD)

Struggled with Individual Accountability for maximum participation as she tries to ensure Inclusivity (SIG) of students:-
...All students participated in the learning, but the participation was uneven. I am still finding that group work is being hindered by dominant characters, whilst a few others are unmotivated in their learning...(RD)

---

Summary QT and CL linkages.

Initially, Josephine believed her students were not good self-regulators (Students’ self-regulation) and struggled with groups larger than pairs as a result. She saw a clear link between Engagement and the common goal of a CL task but still struggled with “freeloading” students as a result of not ensuring Individual accountability and developing social skills. Later she varied her group size but they were still linked to group dynamics. Towards the end of the study her random grouping (heterogeneous grouping) suggested they began to develop a Deep understanding of tasks and Engagement was higher. She had worked carefully on developing social
skills and Social support was evident. As a result of face to face tasks with a common goal, their Substantive communication was higher as well as risk taking due to her High expectations. She still struggled with how to achieve Individual accountability and saw a link with this and Inclusivity but still struggled with how to develop Deep understanding and Engagement for all.

The following summarises Josephine’s understandings of CL and QT and how they linked (see Table 4.9). The elements under Quality Teaching dimensions are those that are demonstrated in Josephine’s interview, action plan and reflective diary comments as showing understandings in CL and QT.

Table 4.9

<table>
<thead>
<tr>
<th>Links to QT Dimensions with Elements for Josephine’s Students</th>
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</thead>
<tbody>
<tr>
<td><strong>CL key elements</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1. Groupings and social skills</td>
</tr>
<tr>
<td>Small group skills (social skills)</td>
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<tr>
<td></td>
</tr>
<tr>
<td>2. Pedagogical understandings of CL</td>
</tr>
<tr>
<td>Face to face interaction / common goal</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Individual accountability</td>
</tr>
<tr>
<td>Positive interdependence</td>
</tr>
<tr>
<td>Reflective thinking (based on social skills and task)</td>
</tr>
</tbody>
</table>

**Note.** IQ – Deep understanding, Substantive communication. QLE – Engagement, Explicit quality criteria, Student direction, Social support. SIG – Inclusivity. (I) relates to Initially. (F) relates to Finally.

Josephine had limited understandings of CL at the beginning of the study. She knew CL required her students to work face to face with a common goal and this would lead to higher Engagement due to Substantive communication. By the end of the
study, Josephine demonstrated more understanding of CL, maintaining that CL required *face to face* interaction and a *common goal* and that this would lead to higher *Engagement* as well as encouraging *Substantive communication*. She recognised too the understandings of the link with high *Social support* in CL *face to face* tasks. Finally she recognised that *individual accountability* is important in CL tasks and her *High expectations* and inclusive classroom environment linked to this understanding.

The majority of her understandings are in the Quality Learning Environment dimension of the QTm.

**Bill (2nd year teacher)**

**Knowledge and understanding of CT.**

**Table 4.10**

*Bill’s Definition of CL (as demonstrated by I1 and I2)*

<table>
<thead>
<tr>
<th>Initial definition from interview</th>
<th>Final definition from interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>To me Cooperative Learning is a small group of people put together to self-regulate and learn something new and through doing that developing an idea about how to learn as well. That’s my ideal, it’s not always the case. (I1)</td>
<td>...it’s just a group of people sitting together having an educational experience and that doesn’t have to be some sort of formal HSIE or something like that, it’s just, when I was doing a different degree, I did a philosophy course and one of the, I can’t remember who said it or where it was written but education doesn’t happen in a vacuum, it happens in a dialogue with other people, so anything which is sort of kids having some sort of educational dialogue as a small cluster, is a Cooperative Learning lesson now too, I know I probably said at the start of the year they have to produce something but that’s not always the case. [Well it doesn’t have to be to produce something written it could be to produce something oral- R]. But they may not even get to that point because it could just be the social dimensions of what’s going on in the group which is your teaching point in the future, or your teaching point right there and then. Stop the whole class let’s have this little teaching point and now let’s go and work on that in your group work. (I2)</td>
</tr>
</tbody>
</table>

**Table 4.11**

*Bill’s Early and Later Understandings of CL (as demonstrated by I1, I2, AP and RD).*

<table>
<thead>
<tr>
<th>Early Understandings</th>
<th>Later Understandings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td>Stated that he ensured CL groups are changed at the beginning of every term</td>
</tr>
<tr>
<td>Said used groups of 4 - 6 most commonly</td>
<td></td>
</tr>
</tbody>
</table>
Selected groups according to ability, gender and social skills to ensure there was an even mix of students (heterogeneous groupings).

Recognised that his students should be able to work with everyone:-
...I’m big on the ‘you don’t have to like everyone’ but you’ve got to learn to work with everyone…(I1)

Did not recognise that as the teacher teaches the social and group work skills required for successful CL, then these social relationships would as a result improve:-
...I mean I would never put in groups at this age, I would never put children that clash really badly, I would never ever put them in a group together because then the whole process breaks down and you just have to sit with one group the whole time I’ve found ...(I1)

and the room setup is changed every three weeks
...to keep the students socialising… (I2)

Stated he grouped heterogeneously in all observations, stating they were random grouped more often in the final observations.

Emphasised too the importance of stopping at times and reinforcing social skills in his lessons:-
...it could just be the social dimensions of what’s going on in the group which is your teaching point in the future, or your teaching point right there and then. Stop the whole class let’s have this little teaching point and now let’s go and work on that in your group work...(I2)

2. Pedagogical CL understandings

Understood the need for all to work together on a common goal;-
..I’ve got to make sure everyone in the group’s going to have a job in the task, so it’s got to be big enough for a group to be able to do…(I1)

The understanding of the need for both roles and subtasks was not evident initially. One student, who was time keeper during these initial observations, simply watched the time;-

Understood need for individual accountability and positive interdependence to meet the common goal,
...I would expect them to be engaged with what they’ve volunteered to do and that’s simply because they’ve volunteered to do that section…(I1)

...also to make sure that everyone’s deciding or everyone’s doing something...(I1)

Understands that the task needs to be sizable to ensure all have a sub-task for individual accountability;-
..I’ve got to make sure everyone in the group’s going to have a job in the task, so it’s got to be big enough for a group to be

Understood importance of face to face tasks incorporating a common goal for success:-
...education doesn’t happen in a vacuum, it happens in a dialogue with other people, so anything which is sort of kids having some sort of educational dialogue as a small cluster, is a Cooperative Learning lesson now…(I2)

Understood that organisation for positive interdependence ensuring students have roles for individual accountability leads to more success with CL;-
...I just like to have the roles just to be organised, that’s the type of person I am, I’m just an organised type of person so it’s not essential, in the end I said earlier that, it naturally happened towards the end, people just naturally came forward and they were the leader…(I2)

Demonstrated the importance of reflection in CL focussing on both task and social skill outcomes and the importance of stopping at times and reinforcing social skills in his lessons:-
...it could just be the social dimensions of what’s going on in the group which is your teaching point in the future, or your teaching point right there and then. Stop the whole class let’s have this little teaching point and now let’s go and work on that in your group work...(I2)
Summary CL.
Initially although Bill understood that groups should be heterogeneous he selected them carefully to ensure there was an even mix (abilities, social skills, gender) and he commented on the importance of everyone having to get along. However despite this even at the end of the study he did not use true random grouping - always selecting carefully and justifying this with reference to the high number of special need students. His group sizes decreased as he realised that larger groups often don’t work as successfully. He started out with an understanding of the need for group roles and developed a growing understanding for the need for subtasks to ensure successful IA as well as a need for his own role requiring checking of groups to ensure they are constantly monitoring both roles and group task input. He also developed a growing understanding of the power of reflection later in the study.

Understanding of QT.

Table 4.12
Bill’s Early and Later Understandings of QT (I1, I2, AP and RD)

<table>
<thead>
<tr>
<th>Early Understandings of QT</th>
<th>Later Understandings of QT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td></td>
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<tr>
<td>He understood the need for explicit teaching of group work and social skills in order to ensure Substantive communication (IQ) occurs throughout the lesson:- … I’ve also put a bit of time in at the start of this term because I knew I was going to be working in groups a lot so I spent two full lessons at the start of the term, how to work in groups and how one person should be, and to split the roles up and how one person should do this and one person should do that and then this person’s job is to make sure everyone contributes…(I1)</td>
<td>Bill demonstrated that once social skills have been developed later in the year due to strong Social support (QLE), then CL becomes easier to manage, …a good group work lesson can just happen straight off the cuff, if the kids are used to working in groups, like towards the end of third term…(I2)</td>
</tr>
<tr>
<td>Bill grouped his students heterogeneously in all observations, stating they were random grouped more often in the final observations. However his comment about random grouping due to the high numbers of special needs students, demonstrated that Social support (QLE) from other students may not also be strong:- …I definitely couldn’t do it [random grouping] with this class, which has been an absolute nightmare, there’s too many problems…(I2)</td>
<td></td>
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<tr>
<td>2. Pedagogical interpretations of CL and QT</td>
<td></td>
</tr>
<tr>
<td>Bill demonstrated the importance of Explicit quality criteria and his students’</td>
<td>Bill saw a link between Engagement (QLE) and Social support (QLE) and</td>
</tr>
</tbody>
</table>
understandings of group work processes before embarking on an activity. He stated that students need to "know about group work" (I1) which suggested he taught students about the roles and responsibilities (positive interdependence) of a group prior to implementing CL tasks.

Demonstrated understanding of the need for the explicit teaching phase to promote Deep understanding (IQ). His constant reminders during other lessons about that task showed ability to remind of criteria and task expectations to encourage effective student understanding:-

...I could take at least half even more of the lesson just to introduce the task, make sure everyone knows what they need to do and then at the start of each lesson after that, a reminder and an indicator of where they should be up to...(I2)

Bill demonstrated his understanding of how Deep understanding (IQ) can be promoted when students’ work cooperatively sharing their knowledge and expertise with each other through positive interdependence and Substantive communication (IQ):-

...I find is a real benefit to both sides because you can’t help someone who doesn’t know how to do it unless you know it fully yourself. So it’s getting them to, and verbalise what they do know to help the lower kids...(I1)

Students’ self-regulation (QLE) is promoted as he learnt to design tasks with a common goal and high intellectual quality considering Student direction (QLE):-

...I had some people saying “oh you know let’s ask this dude about this question” so they’re asking the computer, the help within the computer so they were actively searching themselves instead of just shooting their hand up “oh Mr I don’t get it, what have I got to do here?” they were doing, they were responsible for their own learning and that was good to see...(I2)

Inclusivity (SIG) understandings were promoted in his classroom through tasks with individual accountability:-

...the social, the tolerance has developed in some way ...there’s been a recognition of some people’s hidden sort of strengths...(I2)

Substantive communication (IQ) was clearly linked to busy noise (Engagement) (QLE) when engaged in CL tasks with positive interdependence:-

...You can tell when there’s too much noise you can tell whether it’s social or busy. And if it’s a busy type of noise it doesn’t bother me whatsoever, it’s got to be there. Good group work is some kind of conversation or dialogue happening...(I2)

Deep understanding (IQ) was linked to positive interdependence:-

...at least when you put them in a group of four or a group of five if one person doesn’t understand it there’s four other people there who’s going to see it straight away ...(I2)

---

Summary QT and CL links.

Bill understood at the end the importance of encouraging Substantive communication for successful group work processes. He however noted that there was not always good Students’ self-regulation in his classroom. This improved over the study as he clearly defined tasks and encouraged more Student direction in his tasks. Bill understood the need to design tasks and ensure students know the expectations and develop a Deep understanding. He also understood the need to ensure Substantive communication does occur through resource interdependence.
However he did acknowledge that he needed to refer students to the criteria regularly and that Engagement would increase when his tasks had significance. He had developed an understanding of the need for Inclusivity and the need to draw students’ attention to the multitude of strengths in the classroom after the professional development sessions.

The following summarises Bill’s understandings of CL and QT and how they linked (see Table 4.13). The elements under Quality Teaching dimensions are those that are demonstrated in Bill’s interview, action plan and reflective diary comments as showing understandings in CL and QT.

Table 4.13

<table>
<thead>
<tr>
<th>Links to QT Dimensions with CL elements for Bill’s Students</th>
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<tbody>
<tr>
<td><strong>CL key elements</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>1. Groupings and social skills</strong></td>
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<td><strong>2. Pedagogical understandings of CL</strong></td>
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<td>Face to face interaction / common goal</td>
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<td><strong>Reflective thinking</strong> (based on social skills and task)</td>
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<tr>
<td>Note. IQ – Deep understanding, Substantive communication. QLE – Engagement, Explicit quality criteria, Student direction, Social support. SIG – Inclusivity. (I) relates to Initially. (F) relates to Finally.</td>
</tr>
</tbody>
</table>

Initially, Bill understood that developing small group skills in his classroom will lead to higher Substantive communication in his CL tasks. By the end of the study
he also understood the link between strong **Social support** and the group and **social skills** in his classroom as he used CL tasks.

Finally, Bill understood that **face to face** CL tasks with a **common goal** were linked to high **Engagement** and that strong **Social support** assisted with this. He also recognised the link between giving students’ choices through **Student direction** in **face to face** tasks, that they were more likely to have strong **student self-regulation**.

He also had a **final** understanding of these elements being linked to **PI**, as well as the fact that when students were working with **positive interdependence** they were more likely to be engaged. He saw a link finally between **individual accountability** and **Inclusivity** as he knew that he needed to include all social groups in his lessons.

Initially, Bill understood that CL tasks required his students to be **positively interdependent** (**PI**) and that this lead to **Deep understanding** as they worked together with sustained interactions through **Substantive communication**. He also demonstrated an understanding that **PI** would be more likely if he explicitly explained the task and the quality of the work expected, and that his students would need to examine this criteria together when working towards the **common goal** with **PI**.

He also had a **final** understanding of these elements being linked to **PI**, as well as the fact that when students were working with **PI** they are more likely to be **engaged**. He saw a link finally between **individual accountability** and **Inclusivity** as he knew that he needed to include all social groups in his lessons.

Bill had the strongest understandings between CL and the QLE by the end of the study compared to the other QTM dimensions.

**Jill (3rd year teacher)**

**Knowledge and understanding of CL.**

**Table 4.14**

**Jill’s Definition of CL (as demonstrated by I1 and I2)**

<table>
<thead>
<tr>
<th>Initial definition from interview</th>
<th>Final definition from interview</th>
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<tbody>
<tr>
<td>Cooperative Learning is I think for a learning tool I think it can be amazing, however you just can’t do it. So you’re important…Yes I am very important, because what I do is going to have an outcome on those children, and I need to make sure, and I need to not just have, I’m not just the beginning and say &quot;ok this is what’s happening&quot; you need to be constantly, monitoring those children, and giving them that sense of achievement for them to be able to give you what you want them to give</td>
<td>It’s an essential teaching strategy to give the best learning chances of learning and developing for our children, that’s it basically. I think it’s an essential tool and I’m so grateful that I learnt about it and I’m so, I love using it. ME: And it has what kind of groups? Oh multi, mixed abilities. I always look at the task so they’re achievable and so that it’s linked, they have some knowledge, they have to build the knowledge base first, if I</td>
</tr>
</tbody>
</table>
you. Is that not what you wanted? No that’s fine, so Cooperative Learning is a learning tool where you’re important... Yes and the students are important and the environment’s important, the classroom’s important, you know the task like you said, the questioning, the information everything, there isn’t one part that’s less important for the chain, if you were to connect it like a chain, every link, everyone is an important link, if there was a crack in one of the links the whole thing, I believe would fall apart. (I1)

don’t build the knowledge base first, can the whole thing because they’re just going to look at you and you’ll have behavioural problems...Yeah but you’ve got to make it so that they want to do it and there’s a purpose for it. The significance in the learning is so very, very important, you know. (I2)
1. Grouping and social skills

Jill’s students mostly worked in groups of 4 or 6. She did allow friends to self-select groups at times and these appeared to be of the same gender but she then assured the mix of ability (heterogeneous) by joining two groups together to make a group of 4.

Jill considered the children’s personalities to help her to make decisions about how to group them:

...Ok, I really need to, I believe with Cooperative Learning, you need to be able to, number one, put children together that get on with each other, if there’s a child there that’s going to be in any way shape or form intimidated by another child, do not put them together at all because you’re only going to cause that child to be uncomfortable and clam up...(I1)

She organised her room so that mixed abilities sat near each other for support. She self-selected her groups to ensure there was heterogeneous grouping. Jill’s students mostly worked in groups of 4 or 6. However she commented that successes were rare if there were more than 4 students demonstrating the understanding of group size as being important for CL:

...the workload is too, spanned out too much for the children...(I1)

Jill understood that the increased use of CL develops social skills of her students:

...Students do develop social skills when they work in Cooperative Learning groups...(RD)

Understood that CL develops life-long learning skills (social skill development) when they have the benefits of working with others:

...I find I can accomplish more work doing Cooperative Learning than I can having the children solo and also I feel it’s beneficial for them to work with others with their peers as well...(I2)

2. Pedagogical CL understandings

Jill had the students keep a log, with rotating roles, “to keep them accountable” and to show who has contributed which allowed students to obtain praise for their contributions. This showed an understanding of how she ensured students who feel they can freeload can’t in her classroom and demonstrates too, a strong understanding of individual accountability.

Understood that CL helps develop positive interdependence and individual accountability:

...However with a cooperative group everybody’s responsible for the content...(I2)

...you need to involve all group members...(CO)

...It’s like a piece of a jigsaw puzzle- you need to split the task ...(CO)

Understood that roles have certain responsibilities and highlights the need for fairness (individual accountability).
*interdependence* with all working together on one problem (*common goal*) which develops their overall understandings:-

...More ideas, the students come up with, instead of just having one brain and one mind, coming up with three or four ideas you’ve got four minds here that’ll come up with four each...(I1)

Jill demonstrated understandings of the need for group *reflection*. There was evidence of good oral reflection on group processes in CO as well as knowledge and understanding of task.

Jill was aware of the need for a common goal and positive interdependence,

...However with a cooperative group everybody’s responsible for the content... (I2)

Jill developed an understanding that the division of resources can ensure *individual accountability and positive interdependence*.

...You need to be inclusive and have everybody’s ideas in the planning... (CO)

Understood the need to ensure there are no freeloaders and that some checking is required to ensure all are *individually accountable*.

...students in mixed ability groups are to be checked and made clear that the work is to be carried out by all members of the group not only the high achievers...(RD)

**Summary CL.**

Jill was able to use a metaphor of CL being like a chain with all the participants involved in a CL task, including herself as a teacher, being one of those links. She recognised that if someone did not complete their part of the task or *common goal* that the chain will fall apart. She saw her own role as being explicitly linked in this process as she has had to design the task outcome, monitor and question the students who are engaging with that task. She also recognised the learning environment and the classroom culture being of importance too in this process. Jill’s understanding of CL was the most sophisticated of the four teachers in this initial phase of the study ensuring she considered *face to face participation, a common group goal, individual accountability and positive interdependence*. These understandings continued to develop by the end of the study. She also was aware of the need for *reflection* and there was some attempt to focus on the group work processes as well as the task.

**Understanding of QT.**

Table 4.16
*Jill’s Early and Later Understandings of QT (I1, I2, AP and RD)*

<table>
<thead>
<tr>
<th>Early Understandings of QT</th>
<th>Later Understandings of QT</th>
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</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td>161</td>
</tr>
</tbody>
</table>
She noted her special needs students needed careful consideration to ensure they are fully supported in her classroom demonstrating her understandings of Inclusivity when grouping.

...the group work can be damaging to those children if it’s not structured properly, you’ve got to take into account those children so much... (I1)

Her understandings of Social Support were strong but it is apparent that her class needed to develop this so that there was not negativity in the classroom or student exclusion or put downs,

...Ok, I really need to, I believe with Cooperative Learning, you need to be able to, number one, put children together that get on with each other, if there’s a child there that’s going to be in any way shape or form intimidated by another child, do not put them together at all because you’re only going to cause that child to be uncomfortable and clam up... (I1)

Heterogeneous groups were considered to ensure Deep understanding of all students,

...Also you’ve got to look at it and think “ok who’s got the strengths in this group and how can I use these strengths to help this child who doesn’t have these strengths but needs to be build up” all these things go through your head at the same time when you’re putting them in... (I2)

Jill stressed the importance of a safe learning environment and the importance of Inclusivity where students were able to be risk takers

...a classroom guideline that we’ve had from day one at the school and they developed those themselves, which was really good and we also we always reflect on that, so it’s really a safe, a safe environment is upmost importance... (I2)

Recognised that problem solving skills were developed as a result of a CL as students needed to debate, share ideas and compromise through Substantive Communication,

...Also problem solving skills are addressed and developed throughout Cooperative Learning... (RD)

2. Pedagogical interpretations of CL and QT

Jill understood the importance of High expectations and valuing the contributions of all (individual accountability) demonstrating evidence of high Social support in this classroom.

you will need to support him but not do it for him* and you ...need to see that each person knows what each person has done... (CO)

Understood that Deep understanding resulted when students used each other’s ideas as they were positively interdependent

...More ideas, the students come up with, instead of just having one brain and one mind, coming up with three or four ideas you’ve got four minds here that’ll come up with four each... (I1)

Deep understanding was developed when students worked in CL groups through discussion and Substantive communication due to positive interdependence

...you’ve got other peers there that may ask different questions, may go on a different tangent, a different angle, look at it from a different point of view, the topic, the type of research, the way it’s going to be presented, in comparison, so there’s more brains working then just one brain... (I2)

Risk taking was important for good learning to occur in Jill’s classroom demonstrating her understanding of the need for High expectations for all students. She had challenged her students to take risks and also pushed constantly to get the best from her students due to individual accountability,

...I am really happy with the way their thought process has changed and how open they are now to accepting a mistake and going out there and saying something, knowing that, thinking to themselves "oh this
...you've always got to validate everything and get a different opinion on some things and be open to change, be open to others cultures and belief and yeah, so I think the group work is good for that...(I1)

She linked understandings about Student direction and Engagement together. As she gave her students choices, independent of her approval, she saw more student Engagement with the tasks occurred in her classroom as they tried to achieve the common goal,...children actually they discussed in their group so they were given a choice of a newspaper, a play, whatever it was they wanted to ... they ended up having a discussion, they voted on it, the newspaper got the first one so then Angus said ok the next one we do, and they had a group decision, the next one we do will be a play, so that's when the Burke and Wills one became a play and the Australia became the newspaper article. And that was a compromise as a group they discussed it...(I1)

may not be right, I may be way off track here but I’m going to actually have a go”...(I2)

Understood that high Engagement was necessary for Deep understanding and could achieve this through students working together to achieve the common goal,...if I say to them about the group task and how we’re still going to achieve a certain outcome at the end of the task but number one we’re going to have a lot more fun doing it, we’ll be working with our friends doing it, as peers doing it and the presentation will have a greater variety than to just one person...(I2)

Student direction was important as she understood how giving students choices in how a task proceeds helped to develop high Engagement, as well as ensuring all were involved through positive interdependence,...so they actually get to have the feedback and they get to by doing that they get to identify what each person is contributing and they also get to take ownership...(I2) ...you've got other peers there that may ask different questions, may go on a different tangent, a different angle, look at it from a different point of view, the topic, the type of research, the way it's going to be presented, in comparison, so there's more brains working then just one brain...(I2)

Social support was understood clearly in Jill’s classroom as her students developed social skills. She understood the importance of developing her quality learning environment so that her classroom was safe and students were able to take risks through individual accountability demonstrating her High expectations,...Respect, respect is a key issue in Cooperative Learning, you know learning to respect each other as another human being, learning to respect each other's weaknesses and to not to have the put downs and I think that's why my classroom is a safe environment because we've learnt to respect...(I2)

Student direction was also understood as being a necessary part of Jill’s classroom if she wanted to ensure all students progress at their own levels and at the same time contributing through
Summary QT and CL links.

Jill had a high awareness of the need for **Inclusivity** and **Social support** even from the outset of the study. Her understandings about **Deep understanding** were initially developed as students shared ideas in her classroom when working towards the **common goal**. She built her safe learning environment by ensuring **Inclusivity** in **heterogeneous groupings** where her **High expectations** ensured her students were risk takers. **Substantive communication** was high in her classroom and her students demonstrated **Engagement** as they were given opportunities for **Student direction** as they worked together with **positive interdependence**.

The following summarises Jill’s understandings of CL and QT and how they linked (see Table 4.17). The elements under Quality Teaching dimensions are those that are demonstrated in Jill’s interview, action plan and reflective diary comments as showing understandings in CL and QT.

Table 4.17

<table>
<thead>
<tr>
<th>CL key elements</th>
<th>Quality Teaching dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Links to Intellectual Quality (IQ)</td>
</tr>
<tr>
<td>1. Groupings and social skills</td>
<td></td>
</tr>
<tr>
<td><strong>Small group skills</strong> (social skills)</td>
<td>Deep understanding (F)</td>
</tr>
<tr>
<td></td>
<td>Substantive communication (F)</td>
</tr>
<tr>
<td>2. Pedagogical understandings of CL</td>
<td></td>
</tr>
<tr>
<td><strong>Face to face interaction / common goal</strong></td>
<td>Deep understanding (F)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Individual accountability</strong></td>
<td></td>
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</tbody>
</table>

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Initially, Jill understood that face to face tasks with a common goal could lead to high Engagement especially when there is high Student direction. She also understood that when students were given Social support, and with High expectations, they would be more likely to meet their task requirements through individual accountability (IA). She also saw a link between positive interdependence and Deep understanding and also the common goal with Inclusivity.

Finally, Jill understood there was a link between her developing her students’ social skills and her students having a Deep understanding of tasks as they used Substantive communication and as she ensured Inclusivity. She maintained her understanding throughout the study that when she has High expectations and allowed some Student direction, they were more likely to meet their task requirements through individual accountability (IA). She also linked Student direction to positive interdependence and to Engagement in her classroom. Finally, she began to understand the link between reflective thinking and the Social support in her classroom. She was the only teacher in the study that made a link, by the end of the study, with the key element of reflective thinking (reflection) in CL.

Jill made the most links to CL elements and IQ in the study and her final understandings were in both IQ and the QLE. She demonstrated a higher understanding of CL and QT links than any of other the other teachers.

Implications

Because there appeared to be clear differences between first year teachers’ understandings of CL and QT and 2nd and 3rd year (later year) teachers’ understandings of CL and QT, the data was analysed in two sections. It was apparent that all teachers linked understandings of the same QTm dimensions with the same key CL elements, even though there were some differences between the teachers with respect to the QTm elements identified. The following section clarifies the key

<table>
<thead>
<tr>
<th>Positive interdependence</th>
<th>Substantive communication (F)</th>
<th>Deep understanding (I)(F)</th>
<th>Student direction (F)</th>
<th>Engagement (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflective thinking</td>
<td>Social support (F)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note. IQ – Deep understanding, Substantive communication. QLE – Engagement, Explicit quality criteria, Student direction, Social support. SIG – Inclusivity. (I) relates to Initially. (F) relates to Finally.
similarities and differences between first year teachers and their slightly more experienced colleagues.

First Year Teachers and Understandings of CL Initially and After the Professional Development

**Definitions of CL.**

Both first year teachers rarely used this pedagogy prior to the study and their subsequent early understandings of its use in their classrooms were not well developed. Early comments from Elizabeth that CL allowed them to have a break from individual work, suggested that individually focussed work was the way her students typically work.

Both first year teachers initially understood the importance of using **heterogeneous groupings** (mixed ability) for CL. **Initially**, Josephine had not realised that the teacher can randomly group for this to occur and should not only be selecting students that work well together to form these groups. She also made the initial assumption that teachers should select the groups in CL, "you're plonked with a group", just like at work. **Finally**, Elizabeth grew in her understanding about CL as a strategy that helped to develop **social skills and group skills** as different types of personalities worked together and which helped to build acceptance and tolerance. Josephine demonstrated an **initial** lack of understanding of the influence of CL to develop **social skills** and a harmonious classroom environment. Her **final** understandings also mentioned the students should be carefully chosen. Josephine saw the importance of using her knowledge of students' strengths and skills to help with groupings as a group of **carefully chosen students** can achieve the heterogeneous nature of the grouping. She recognised the importance of **higher order thinking** in CL tasks so that they may achieve more than what was first designed by the teacher.

Elizabeth’s **initial** understanding of CL was that it was something different to the "norm", with a heavy focus on CL being predominantly about **social skills**. **Later** understandings from Elizabeth’s definition demonstrated that she understood the importance of focus on the task and how important it was for students to use and share each other’s strengths and weaknesses to complete this and achieve a deeper understanding as a result.

**Pedagogical CL understandings.**

**Confidence in CL as a pedagogy.**

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Both were initially not confident in using CL as pedagogy. Josephine and Elizabeth were still in their “induction phase” (Feiman-Nemser, 2001a) of teaching which for some can last for up to three years and they were more concerned with learning the context; designing responsive programs; creating classroom communities; enacting a beginning repertoire, and developing a professional identity. The lack of focus on pedagogy in induction processes in the early years of teaching has been identified previously as a problem with “new” teachers not clearly understanding their own role and responsibility for students’ outcomes (Gore, Williams, & Ladwig, 2006). A focus on pedagogy is needed to ensure teachers continue to grow and develop within the profession as well as gain confidence with CL, with its emphasis on both the social and academic outcomes of students and as an important pedagogical strategy for teachers.

Initially, Josephine stated that she did not feel confident working with CL and would like to be guided in how to do this, but she realised it is important and a skill for life. This demonstrated her enthusiasm and eagerness at being involved in the study and her willingness to learn. The predominant pedagogical practices of teachers at Josephine’s school were traditional and the use of Cooperative Learning was not common. The burden of an imposed curriculum and lack of professional freedom (Schamer & Jackson, 1996) can make new teachers like Josephine feel particularly unappreciated and inadequate. At the same time Josephine did not have other teachers modelling the pedagogy of Cooperative Learning, or mentoring her which is important (Ferguson-Patrick, 2011).

Understandings of key elements of CL and their roles in this pedagogy.

Positive interdependence and individual accountability.

Initially, both first year teachers demonstrated a lack of understanding of the key CL elements particularly in understanding the need for their students to be equal, to be positively interdependent (in relation to contributing to the common goal through individual accountability) and did not really understand how to achieve this interdependence.

Finally, they understood the need to develop an understanding of their own roles as facilitators of CL, such as their structuring role, and to consider aspects of organisation about CL prior to implementation of CL in their classroom. Decisions about how to structure the task, considering such aspects as “specifying social goals, determining group size and assigning students to group, arranging the classroom,
assigning roles, setting rules and designing tasks” (Ruys et al., 2011, p.1091) led to a deeper understanding of this pedagogy.

**Social skill development – relationships development.**

Although initially not focused on social skill development, by the end of the professional learning process, a focus on social skill development led to an understanding that they were then able to and willing to experiment with more random heterogeneous groupings. **Finally,** both teachers understood how CL can improve social behaviours in their classroom (Johnson, Johnson, & Stanne, 2000). If teachers focus on social and emotional skills then these kinds of settings promote positive academic outcomes (Malecki & Elliott, 2002). Pro-social behaviours have an effect of reducing bullying and harm intended aggression in students (Choi et al., 2011). This understanding supports the fact that if cooperative team skills (social skills) are explicitly taught, there is more likely to be increased group solidarity and less dysfunctional group work. As Ballantine and McCourt Larres (2007) argued, students need to develop the skills needed for effective teamwork, such as managing projects, time management and the ability to resolve conflict and to communicate effectively. In such a cooperative environment, the value of all students’ contributions leads to a classroom environment with strong mutual respect and positive relationships. This “communicative capacity” allow students to develop the kinds of trusting relationships that allow them to explore the multitude of viewpoints in their classrooms’ (Lovat & Toomey, 2007, p. 9). Positive relationships were understood by both teachers as being developed as a result of the focus on social skill development in their classrooms.

**First Year Teachers and Understandings of QT Initially and After the Professional Development**

**Intellectual Quality.**

**Groupings for deep understandings – positive interdependence.**

Initially, Elizabeth linked her use of heterogeneous grouping to the Deep understanding her students would gain as a result of them sharing their ideas, expertise and knowledge and understandings (through being positively interdependent).
Josephine on the other hand developed this understanding by the end of the study as she started to use random grouping and suggested they began to develop a Deep understanding of tasks.

Quality Learning Environment.

**Engagement and Substantive communication – positive interdependence.**

Later, Josephine recognised the understanding that **Engagement** was higher in her students as a result of the sharing of their expertise and strengths through **positive interdependence**.

Later, Elizabeth linked understandings about **Engagement and Substantive communication** (IQ) to CL demonstrating that when recognising and drawing on students’ knowledge and when students were involved in **Substantive communication** as they worked in groups, they were more likely to be engaged.

**Engagement: social skills and the common goal.**

Initially, Josephine believed her students were not good self-regulators (**Students’ self-regulation**) and she struggled with using groups larger than pairs as a result of these behaviour issues in her classroom. She worked carefully on developing **social skills** throughout the project and high **Social support** was finally more evident from students themselves. Finally, she also varied her group size to increase engagement levels, but her groupings were still more likely to be linked to group dynamics due to these less developed **social skills**.

Finally, Josephine saw a clear link between **Engagement** and the **common goal** of a CL task as she understood her students needed to work towards a **common goal** to remain engaged in the task. She still however struggled with “freeloading” students as a result of not ensuring **Individual accountability** when she developed her tasks, as well as by a lack of concentration on developing **social skills**.

**Engagement: student direction and positive interdependence.**

Finally, Elizabeth demonstrated understandings about **Engagement and Student direction** were also linked closely with increased positive interdependence. Giving her students more choices through **student direction** also led to higher **Engagement** levels and lack of need to focus on behaviour in Elizabeth’s classroom.
Significance.

**Inclusivity and social skills.**

Finally, as social skills developed due to an increased emphasis from Elizabeth in her classroom, Inclusivity increased.

**Teacher role in CL to develop CL tasks.**

Finally, Elizabeth’s emphasis on the importance of Explicit quality criteria to both task and social skills demonstrated her understanding of her important role in identifying and reinforcing task requirements and the quality of these throughout the lesson as being as important as students engaged in Substantive communication through CL work.

Finally, as a result of Josephine developing face to face tasks with a common goal her students’ Substantive communication was higher as well as their risk taking behaviours due to her High expectations. She still struggled with how to achieve Individual accountability and saw a link with this and Inclusivity but still struggled with how to develop Deep understanding and Engagement for all.

Second and Third Year Teachers and Understandings of CL Initially and After the Professional Development

**Definitions of CL.**

Bill initially linked CL with Students’ self-regulation - he believed that students help to keep each other on task through CL. He also recognised that not only do they complete a task, but they also learn about how to learn. Bill, as a second year teacher, increased his understanding of his role in CL and the need to allocate roles and subtask as well as monitoring students for successful CL. Bill’s definitions initially and finally both incorporated the notion that CL should involve learning about learning. He believed that a group work task can be designed to do just this - to encourage his students to think about the “social dimensions” of what’s going on. He did not realise that the intellectual quality of the task was just as important as the social skills he can concentrate on during the task. Jill’s definition, as a third year teachers, recognised the importance of cognitive outcomes, whereas Bill indicated they were not important, that it was the social dimension that drove his use of CL. Jill understood and utilised CL most successfully understanding all key elements and improving her capacities to ensure all these are enacted in her classroom for successful CL. Jill gave the most perceptive definition at the beginning of the study with her chain and links metaphor,
seeing herself as one of these important links. Interestingly she also used the notion of links in her final interview stressing the importance of her role in designing an achievable task that is linked (to prior learning experiences). By the end she mentioned the importance of it being an essential strategy as well as the importance of the task being achievable for all as well as being significant and purposeful.

**Pedagogical CL understandings.**

**Confidence in CL as a pedagogy.**

Both teachers developed confidence in their understandings of use of CL over the study as a result of the professional learning. Bill developed most in understandings about the key elements of *individual accountability* and need for *reflection* and Jill in her understandings of *CL strategies for positive interdependence* and *individual accountability*.

**Understandings of key elements of CL and their roles in this pedagogy.**

**Positive interdependence and individual accountability- use of CL strategies.**

Initially, in Jill’s classroom the students were already taking turns, listening to each others' ideas and accepting each other though her ability to design tasks with *positive interdependence*.

Finally, Jill’s understanding of using some CL strategies, as demonstrated in the professional learning sessions, improved over the study (and she was the only teacher who used some CL strategies), however it is noted than in a class where CL is already quite well established the use of these strategies was not really needed to demonstrate cooperation was occurring. Many of these strategies are excellent when starting out with CL as they ensure students take turns (e.g. talking tokens) and are *individually accountable* (e.g. the placemat strategy—see Jolliffe for description of many Cooperative Learning strategies (Jolliffe, 2007). In a class established on trust and respect, and where high expectations from the teacher do not allow students to “freeload”, these strategies were not required as much.

Bill’s confidence in CL, particularly in developing *individual accountability*, also developed over the study as he initially started out with an understanding of the needs for group *roles* in CL tasks to ensure *individual accountability*, to a later awareness of the need for subtasks to ensure successful *individual accountability*. 
**Social skill development – relationships development.**

Initially, Bill had a focus more on social skill development whereas Jill was more likely to realise the need for a focus on both the social and cognitive skills in her classroom, as well as the link to the importance of thinking skills development. Cooperative Learning enables the teacher to transfer responsibility for learning to the learners and Bill needed to understand he should equip them with social as well as cognitive skills needed for this responsibility. His mention of using a group work lesson as a lesson which is not assessing any kind of content is interesting. This seems to assume that Bill feels the sole purpose for a lesson could be about group work, in relation to social skill development, and can be designed without keeping at the forefront the importance of the Intellectual Quality of the task.

Later, in Jill’s classroom she understood that the learning environment and the classroom culture she created were of importance in developing these social skills. Social interdependence theory (Deutsch, 1949b; Johnson & Johnson, 1975; Lewin, 1946) posits that common goals are shared and each person’s success depends upon others and she in particular understands this. The interactions that occurred in her groups helped to facilitate the learning (Gillies, 2002) with positive relationships occurring as her students helped each other (Cogan et al., 2000) as well as helping to enhance their thinking.

**Social skills development- context challenges.**

Bill’s context provided challenges with his implementation of CL whereas Jill’s teaching context supported her immersion with this pedagogical focus. Despite Bill’s understandings of CL developing, he still found the number of special needs students in his room a challenge. Despite his good intentions at the beginning of the study and his understanding that his students should be able to work with everyone: “I'm big on the ‘you don’t have to like everyone’ but you’ve got to learn to work with everyone”…he found it difficult to accommodate their cognitive and social needs in his CL tasks. He also mentioned the challenge of a small classroom in his Catholic system school with desks too large to move easily and the challenge of grouping 25 year three and four students in table groups in a small space where all could also see the Electronic whiteboard.

**Some key CL elements only identified by later years teachers.**
Reflection focus

This key CL element was not addressed by either of the first year teachers but after the professional learning in CL both later year teachers had a more refined understanding of the power of and need for reflection in CL, particularly focusing on social skill development as well as task outcomes. This is in line with Blatchford et al who claim that the stages of the lesson that require briefing and debriefing help to enhance reflection and develop social skills (Blatchford et al., 2003). Bill developed a growing understanding of the need for reflection later in the study. He understood it was needed to develop social skills but commented that he had neglected to focus on it this year.

The language used by Bill did start to reflect his understanding of CL particularly in relation to the importance of highlighting the need of his reflective role as he reminded the students about roles / responsibilities for tasks and encouraged them to listen, take turns etc. A clear focus on social skills is just as important as a focus on how they group has met academic outcomes and interestingly despite the fact that Bill stated that CL is all about the social, he rarely explicitly taught what these skills were or asked them to reflect on these. The kinds of social skills that could be focussed upon in Bill’s year three classroom could be: respecting other people’s ideas and opinions, negotiating, mediating when others can’t agree, suggesting and persuading instead of bossing, making decisions in a group, managing time, summarising, or clarifying. Jill’s understandings of the importance of reflection developed more coherently as she understood that when students reflect on both task outcomes and social skill / group processing this increases both academic and social outcomes.

Innovative practices supported through context - increased early understandings in CL

Jill’s school context however, was such that the use of CL as a pedagogical practice was encouraged at the school. Her large well resourced classroom in the Independent school system could easily accommodate her 22 year five and six students. Her students, as well as students throughout the school, were encouraged to collaborate. The students in this context were more prepared for this approach and this would in turn influence the outcomes of the study.

Her initial understandings of CL were the most sophisticated of the four teachers ensuring she understood how a consideration of face to face participation, a common group goal, individual accountability and positive interdependence were taken into account. She also was aware of the need for reflection and there was some attempt to focus on the group work processes as well as the task. This led to a
growing understanding of all the key elements of CL over the study as a result of the professional learning in CL.

Second and Third Year Teachers Knowledge and Understandings of QT Initially and After the Professional Development

Pedagogical and CL understandings.

Intellectual Quality.

Substantive communication and Deep understanding for positive interdependence.

A focus on the importance of Substantive Communication is apparent from the two teachers. Initially, Bill understood the importance of Substantive communication for successful group work processes. Finally, he understood the need to carefully design tasks and ensure students know the expectations in order for them to develop a Deep understanding. He also understood the need to ensure that Substantive communication occurred through resource interdependence.

Initially, Substantive communication was also high in Jill’s classroom. Finally, she also developed understandings about Deep understanding as students in her classroom were encouraged to share ideas as they were positively interdependent.

Significance.

Groupings and links to Inclusivity – differences in Social support.

The difference in the two teachers’s understandings of Inclusivity was most apparent. Initially, Bill was not always able to successfully integrate all students successfully in his CL tasks as Social support from other students in Bill’s classroom is not strong and Bill understood that there was not always good student self-regulation in his classroom. His lack of emphasis on explicit teaching of social skills contributed to these issues in his classroom. Throughout the study however, Jill built her safe learning environment by ensuring Inclusivity in heterogeneous groupings and where her High expectations ensured her students were risk takers. Her understanding of the need to develop of a safe learning environment allowed this to occur. Finally, Bill also developed an early understanding of the need for Inclusivity and the need to draw students’ attention to the multitude of strengths in the classroom.

Quality Learning Environment.
Student direction leading to Engagement with common goal.

Finally, Bill also began to clearly define tasks and also encourage more Student direction in his tasks giving them responsibility for the common goal outcome.

Finally, understandings about Student direction was also important in Jill’s classroom as often she spoke about giving the students the opportunity to go off on different angles or tangents when completing tasks and her students demonstrate Engagement as they were given opportunities for Student direction.

Finally, Bill understood the importance of Explicit quality criteria as well as Significance (purpose for the task) as also being strongly linked to Engagement and he is the only teacher who recognised this link.

Teacher role in later year teachers.

Bill recognised his own role requiring checking of groups to ensure they were constantly monitoring both roles and group task input. Jill and Bill were teachers who carefully scaffold the teaching / learning experience by teaching social skills, assigning roles, and sub-tasks and these two teachers understood the need for their explicit structuring role (De Lievre et al., 2006; McWhaw et al., 2003).

QT and CL understandings - final comments.

Tables 4.2 to 4.17 have demonstrated that all four teachers demonstrated their understandings between CL and QT in different ways, so despite some similarities all have developed a different way of understanding the CL model and relating it to good pedagogy (in relation to the QTm). The table below establishes the differences and commonalities in understandings between the four teachers.

Table 4.18
Summary of Results

<table>
<thead>
<tr>
<th>Two first year teachers</th>
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<tbody>
<tr>
<td>Links to QT dimensions with elements: Elizabeth</td>
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<tr>
<td>IQ – Substantive communication, Deep understanding</td>
</tr>
<tr>
<td>QLE – Engagement, Explicit quality criteria, Student direction, Social support</td>
</tr>
<tr>
<td>SIG – Inclusivity</td>
</tr>
<tr>
<td>Links to QT dimensions with elements: Josephine</td>
</tr>
<tr>
<td>IQ – Substantive communication, Deep understanding</td>
</tr>
<tr>
<td>QLE – Engagement, Social support, *High expectations</td>
</tr>
</tbody>
</table>

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SIG – Inclusivity

Commonalities between the two first year teachers in IQ Deep understanding and Substantive communication and SIG Inclusivity elements. Both saw a link between Engagement and Social support in QLE and CL.

Later years teachers

Links to QT dimensions with elements: Bill

IQ- Substantive communication, Deep understanding

QLE- Student direction, *Students’ self-regulation, Engagement, Social support, *Explicit quality criteria

SIG- Inclusivity

Links to QT dimensions with elements: Jill

IQ- Substantive communication, Deep understanding

QLE- Student direction, Engagement, Social support, *High expectations

SIG- Inclusivity

Commonalities between the two later year teachers in IQ Deep understanding and Substantive communication and SIG Inclusivity elements and both saw a link between Student direction, Engagement, Social support in QLE and CL.

All four teachers made connections between Substantive communication (IQ), Deep understanding (IQ) and Inclusivity (SIG). All four teachers made links with more elements of QLE than any other dimension.

Note. *Differences between the two teachers within the same group

How Do the Early Career Teachers Demonstrate the Development of Understandings of CL and QT Perspectives?

First year teachers.

Early understandings of CL and its use in the first year teachers' were not well developed and they did understand initially the importance of using heterogeneous groupings (mixed ability) for CL. It was not their usual pedagogy with individual based work being more common, but by taking small steps with CL, and experimenting and knowing to ensure their students were equal (referring to the importance of individual accountability (IA) and positive interdependence (PI) they made advances in the pedagogy. Although an initial lack of understanding of the influence of CL to develop social skills and a harmonious classroom environment, and a lack of understanding of how their students need to be more interdependent but not being sure how to achieve this, led to lower CL scores in some aspects.
Both first year teachers demonstrated a final lack of understanding of the key CL elements particularly in understanding the need for their students to be equal, to be positively interdependent (in relation to contributing to the common goal through individual accountability) but not really understanding how to achieve this interdependence. They understood about developing an understanding of their own roles as facilitators of CL, such as their structuring role, where they needed to consider aspects of organisation about CL prior to implementation of CL in their classroom.

Both finally saw links between Engagement and the common goal of a CL task, Student direction and also when there was an increased emphasis on developing social skills inclusivity increased.

Later years of teaching teachers (in second and third year).

Both later years teachers had varied understandings of the use of heterogeneous groupings but both understood they were an important aspect of CL. Both were teachers who understood the need to carefully scaffold the teaching / learning experience by teaching social skills, assigning roles, and sub-tasks and these two teachers understood the need for their explicit structuring role.

Jill’s understandings of CL were far more sophisticated than Bill’s in the initial phase of the study demonstrating her clear understanding of key elements of CL providing an illuminating definition at the beginning of the study with her chain and links metaphor, seeing herself as one of these important links. She understood the need to include face to face participation, a common group goal, individual accountability and positive interdependence. She was also aware of the need for reflection.

Bill started out with an understanding of the needs for group roles in CL tasks to ensure individual accountability, to a growing awareness of the need for subtasks to ensure successful individual accountability as well as a need for his own role requiring checking of groups to ensure they were constantly monitoring both roles and group task input and he also developed a growing understanding of the need for reflection in CL later in the study.

Jill understood the need for CL strategies in CL but did not understand until she experimented with them that her class did not require these. In Jill’s classroom the students were already taking turns, listening to each others’ ideas and accepting each other though her ability to design tasks with positive interdependence so they did not require the use of some of the CL strategies introduced in the study. Bill however did not use these despite the fact that his students needed them. Despite the fact that Bill stated CL is all about the social, he rarely explicitly taught what these skills were or asked them to reflect on these and as a result turn taking, listening to each other and
accepting each others’ ideas were not as well developed. Bill was challenged by the number of special needs students in his room and despite his good intentions at the beginning of the study and his understanding that his students should be able to work with everyone he found it difficult to accommodate their cognitive and social needs in his CL tasks.

Understanding about student Self-regulation was varied in the later years teachers’ classrooms with Bill understanding the link with CL and **Students’ self-regulation** - he believed that students help to keep each other on task through CL- but noting there was not always good student self-regulation in his classroom. Jill had a high awareness of the need for **Inclusivity and Social support** even from the outset of the study and as a result her understanding of **High expectations** and **Students’ self-regulation** meant her students were well supported and as a result regulated their behaviours in such an environment. Both understood the link between Deep understanding and encouraging students to share ideas through **Substantive communication**. Bill also understood that he needed to clearly define tasks and encourage more **Students’ self-regulation** in his task design to develop deep understanding.

**Common Understandings QT and CL – All Teachers**

All teachers saw:

A link between CL and encouraging students to share ideas through **Substantive communication** through being *positively interdependent* and having a range of expertise in the group through **heterogeneous groupings**.

A link between **Inclusivity** and the development of **social skills** while providing high **Social support**.

This chapter has examined the four teachers’ initial understandings about Cooperative Learning and how these understandings related to their understandings of the NSW Quality Teaching model. It examined how understandings changed after the period of professional learning from evidence of comments made in interviews, action plan statements and reflective diary entries. The following chapter (Chapter 5) initially provides an overview of their practices demonstrated in initial interviews and enacted in initial classroom observations. It examines their practices as a result of the professional development in CL through looking at interviews, classroom observations, reflective diary entries as well as action plan reflections. Then Chapter 6 considers how teachers demonstrated both their knowledge about democracy classrooms and how they enacted this knowledge in their classroom practice. Teachers in democracy
classrooms need to both understand the democracy stance, and analysis of their practices demonstrated indicators or signs of democracy that were evident in such classrooms. I demonstrate how signs of democracy are strengthened by the use of CL.

Chapter Five:

RESULTS and IMPLICATIONS: Early Career Teachers’ Demonstration of Practice in Cooperative Learning and Quality Teaching

The previous chapter examined the development of the four teachers’ understandings of CL and QT from the initial implementation of the study to the final interviews. It clarified how their individual understandings changed after the period of professional learning using evidence from interviews, research and teacher classroom observations and reflective diaries as well as action plan statements. This chapter interrogates Research Question 1c: How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?

This chapter examines the four teachers’ initial practice in Cooperative Learning and the degree to which this practice related to the good teaching elements and dimensions of the NSW Quality Teaching model (QTm). Practice was seen in this study as the actual application in situ of the knowledge ascertained in the previous chapter. The evidence from the classroom situation (the common and agreed CL elements and coded QT elements) is used with interview, reflective diary and action plan comments to learn more about this practice. To ascertain any differences in their practices in CL, and the extent to which how this correlates with good teaching (using the QTm) after the professional learning, the classroom teaching practices at the beginning of the study were examined. Their initial interviews with explication of what practices they thought would relate to CL and good teaching provided one source of initial practices. Additionally the researcher analysed the initial classroom observations, using both the Quality Teaching and Cooperative Learning coding scales, to clarify the teachers’ practice in CL and QT prior to the professional learning in CL. Classroom observation graphs, illustrating these coded lessons, were developed for each teacher to coherently demonstrate both initial and final classroom observations of CL and QT.
The chapter will therefore provide an overview of their practices as asserted in the initial interviews as well as enacted in their initial classroom observations. It then examines their practices as enacted in subsequent classroom observations after the professional development in CL. It analyses their final interviews and classroom observations to consider any changes in practice over the six month period. The participants’ reflective diary entries as well as action plan reflections received during the study were also analysed to see how these also demonstrated changes in avowed practice in CL and QT.

A summary is provided of the similarities and differences between the four teachers’ initial and final practices. A particular focus was on the differences between first year teachers and more experienced teachers (albeit all early career teachers). This was to ascertain any differences in practice over years of teaching. In addition other factors, such as school and classroom context, may provide clearer evidence to judging the impact of such professional development and some of these aspects are discussed.

Table 5.1
Frequency of Use of CL Prior To and After (Interview Data)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Year of teaching</th>
<th>Frequency of use of CL / group work at beginning of study</th>
<th>Frequency of use of CL at end of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Josephine</td>
<td>1st</td>
<td>“Once a term” (she mentions group work used)</td>
<td>“A few times a week”</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>1st</td>
<td>“Once a week”</td>
<td>“It’s increased” (she mentions probably none before*)</td>
</tr>
<tr>
<td>Bill</td>
<td>2nd</td>
<td>“3 to 4 days a week”</td>
<td>“At least 2 a week” (commented this was more now)</td>
</tr>
<tr>
<td>Jill</td>
<td>3rd</td>
<td>“At least once a day (one session out of 3)”</td>
<td>“4 or 5 times a week”</td>
</tr>
</tbody>
</table>

When asked about the frequency with which they would use CL it was apparent that the use of CL was very different from their initial implementation in terms of frequency, and also whether this was recognised as generic group work or as Cooperative Learning group work. At the beginning of the study, the least amount of usage was from Josephine (once a term) and the most was from Jill (once a day). By the end of the study all teachers commented they were doing more now and although in some teachers it seemed as though the frequency of use had decreased e.g., Bill went from 3 to 4 days a week to at least 2 a week, he commented he does more now.
indicating that he had a better understanding of what CL actually was and he was using generic group work before, rather than CL group work.

Josephine’s use increased considerably over the study period of six months, from once a term to a few times a week. Interestingly Elizabeth acknowledged she probably was not implementing CL before (see Table 5.1 above), despite indicating at the beginning of the study she was using CL once a week. Bill and Jill’s implementation did not seem to have significantly changed in terms of frequency, although they both indicated an increase.

Table 5.2

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Strategy use</th>
<th>CL Language</th>
<th>Lang (Enc)</th>
<th>Reflection</th>
<th>PI (goals)</th>
<th>PI (task)</th>
<th>PI (resources)</th>
<th>PI (roles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elizabeth (initial)</td>
<td>0</td>
<td>2</td>
<td>&lt;2</td>
<td>0</td>
<td>&lt;3</td>
<td>&lt;2</td>
<td>&lt;2</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>&gt;2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>&gt;3</td>
<td>0</td>
</tr>
<tr>
<td>Change</td>
<td>+</td>
<td>=</td>
<td>=</td>
<td>=</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Josephine</td>
<td>0</td>
<td>&lt;2</td>
<td>&lt;2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Josephine</td>
<td>0</td>
<td>&gt;3</td>
<td>2</td>
<td>&lt;2</td>
<td>&lt;3</td>
<td>&lt;3</td>
<td>&lt;2</td>
<td>2</td>
</tr>
<tr>
<td>Change</td>
<td>=</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

| 2nd & 3rd year |              |             |            |            |            |           |                |            |
| Bill | 0 | 2 | 0 | <2 | <3 | <3 | <2 | 2 |
| Bill | 0 | 3 | 3 | 2 | 3 | 3 | <3 | <3 |
| Change | = | + | + | + | + | + | + | + |
| Jill | 0 | >2 | >2 | 2 | >2 | 3 | 0 | 2 |
| Jill | >2 | 4 | 4 | 4 | 4 | 3 | >3 | 3 |
| Change | + | + | + | + | + | + | + | + |

Note.
Strategy use - uses a range of Cooperative Learning strategies designed to encourage student discussion / cooperation
CL Language - teacher uses language that reflects the facts that Cooperative Learning strategies are being employed
Lang (Enc) - language used that encourages interdependence
Reflection - encourages monitoring of group processes and tasks
PI (goals) - establishes interdependence in the students’ groups with mutual goals in order to promote goal interdependence;
PI (task) - establishes interdependence in the students’ groups with division of task in order to promote task interdependence;
PI (resources) - establishes interdependence in the students’ groups with division of resources to achieve resource interdependence;
PI (roles) - Establishes interdependence in the students’ groups with assigning different roles for role interdependence.

Table 5.2 above demonstrates how the teachers in their 2nd and 3rd years increased in their use of CL over the study timeframe in all areas except Strategy use (for Bill). Teachers in their first year made some increases in use but this was less consistent; however both first year teachers also decreased their use in some aspects (positive interdependence in terms of dividing tasks into subtasks, splitting resources or giving roles). It is thus difficult to make any firm conclusions about the ability of first
year teachers to take up professional development opportunities such as CL, as there were obviously some contextual and personal factors in play here, but it does at least point to the fact that after a year in the classroom early career teachers can benefit from some targeted professional development on their pedagogy.
Elizabeth

Table 5.3

Elizabeth’s CL in Practice (as demonstrated in Classroom (CO), Reflective Diaries (RD), Action Plans (AP), Initial Interview (I1) or Final Interview (I2))

<table>
<thead>
<tr>
<th>Early practice</th>
<th>Later practice</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Grouping and social skills</strong></td>
<td></td>
</tr>
<tr>
<td>Grouped students heterogeneously. She considered ability levels and personalities (social skills) when forming her groups:-</td>
<td>Grouped students heterogeneously both on abilities and personalities …so that they can use each other’s strengths…(CO).</td>
</tr>
<tr>
<td>…I try to get them to work with different groups each time and try to separate the groups but at the same time keep in mind that there’s certain personalities that just won’t work…(I1)</td>
<td>Recognised the importance of using and sharing each other’s strengths and weaknesses to complete the task and therefore the need to heterogeneously group her students:- …I’m getting the strong writers with the weak writers so, and then the sort of middle group I’m kind of yeah [thinking about] more personalities, who clashes, who doesn’t clash…(I2)</td>
</tr>
<tr>
<td>Group sizes too large for the age and experience of the children - Elizabeth used mainly 3 to 4 member groupings although in the second observed lesson used groups larger than 4 (CO).</td>
<td>Reluctance to allow her students to work in any random group selection:- …when I really thought through who should go in what groups and how much better that worked because I just thought they can’t go together and they should go together and she’ll have to withdraw and you’ve really got to plan for it absolutely. Plan and put so much into your group structures, that’s, I don’t know if everyone’ll find that but with my class you’ve got to put so much thought into your group structures…(I2)</td>
</tr>
<tr>
<td>No explicit teaching of or reflection on CL skills during or end of lesson except for reference to turn taking and talking together to decide:-</td>
<td>Reliance on same working groups most of the time in her CL groups as she felt the routine is important for these young students (CO).</td>
</tr>
<tr>
<td>…discuss with your group… the majority need to decide… (CO)</td>
<td>Lack of focus on any particular social skill (CO).</td>
</tr>
<tr>
<td><strong>2. Pedagogical CL practices</strong></td>
<td></td>
</tr>
<tr>
<td>Experimented with individual accountability through resource interdependence- but the one piece of paper given to students was split down the middle by students (CO).</td>
<td>Dealt with domination of boys in mixed partnerships by ensuring individual accountability (using different coloured pencils)(CO).</td>
</tr>
</tbody>
</table>

3 Italics used to indicate key CL elements throughout this chapter
Lack of explicit teaching prior to implementation of task for successful CL and incorrect or incomplete application of CL strategies, e.g., *individual accountability* through task allocation:

...you're supposed to talk amongst yourselves not put your own ideas, or put a lot of ideas, but don’t split it up...(CO)

No role allocation so lack of positive interdependence (CO)

Lack of explicit teaching of roles for *individual accountability*: roles needed (mentioned a scribe in and a reader in CO) and explained that ...one person will need to read and ask the questions....

Demonstrated her understanding of ensuring *individual accountability* but confusion about roles was evident during initial CO- ...one of you writes...

(but a student is not selected), other students demonstrated confusion ...what do the rest of us do?...

which resulted in Elizabeth's comment of ...you talk about the questions...(CO)

Demonstration of CL strategies has become more evident:-

...I’ve definitely used different strategies (e.g., think, pair, share and using coloured pencils for writing tasks (AP)

Gave students common goal (menu for a picnic) and resource allocation (one piece of paper) which supported positive interdependence (CO).

Keen to introduce new strategies at end of study to ensure *individual accountability*:-

...I’m definitely introducing talking tokens, I think that’d be a really good strategy because they’re such, they’re a class full of gusto and I mean I love the enthusiasm but I think that’ll sort of be a good thing to use to sort of give everyone a chance ...(I2)

*Elizabeth made no reflective diary entries throughout the study

*Figure 5.1*  
Graph demonstrating Elizabeth's changes in practice with regard to CL elements
Description of CL observations for Elizabeth:

- Limited understanding of some of the main aspects (key elements) related to the practice of CL in her classroom.
- Biggest increase in use of CL strategies, ensuring students were interdependent with a *common group goal* (Int- goals) and resources shared in the group (Int-resources), e.g., one piece of paper for one task.
- No improvements in the areas of *reflection*.
- No clear demonstration of use of sub-tasks to ensure they were *positively interdependent* and *individually accountable* (Int-tasks).
- No specific roles (Int-roles) allocated for students.
- Understood the need for *positive interdependence* in CL through resource allocation, but not through roles or sub-tasks.

Table 5.4

*Elizabeth’s Early and Later Practice of QT (CO, RD, AP, I1 or I2)*

<table>
<thead>
<tr>
<th>Early practice</th>
<th>Later practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td></td>
</tr>
<tr>
<td>Used large groupings instead of pairs:</td>
<td>Used pairs in later observations to develop social skills through <em>Substantive communication,</em></td>
</tr>
<tr>
<td>led to decreased Engagement in <em>Face to face</em> interaction when working towards a <em>common goal</em> in CO</td>
<td>...Talk together and agree on the</td>
</tr>
</tbody>
</table>

---

4 Bold used to indicate QTm elements throughout this chapter
2. Pedagogical strategies- linking QT and CL

**Deep understanding** demonstrated in CL task, students demonstrated gave arguments and many also reasoned about needs and wants as they worked on **common goal** in CO

Connected **Background knowledge** with **Engagement**, when talked about a successful lesson:-

...and they had to practise with their partner how they would do that emotion and what is that communicating, how can our facial expressions communicate what we’re feeling, and I took photos of them, of doing that emotion and that’s how we were doing the artwork for it, and they just loved it...\((\text{I1})\)

Activities did not always seem related to the main concepts or ideas being studied so **shallow understanding** demonstrated in CL face to face tasks \((\text{CO})\)

**Student direction** is attempted but minimally as students given choices about who could be the scribe to ensure **individual accountability** through roles. Some ignored direction and all took on scribe role (splitting the paper into sections and writing on their own, demonstrated did not understand needed to be completed together) \((\text{CO})\).

Through **Substantive communication**, promotes a **Deep understanding** through **positive interdependence**:

...you need to discuss what goes in each hoop, the majority- that is most of the group- needs to decide- talk about why they go in each hoop...\((\text{CO})\)

**Pedagogical strategies**

Recognised her facilitative role in order to encourage **Higher order thinking** in her students as they worked towards the **common goal**:-

I was a facilitator like I sort of asked them open ended questions all the time to get them thinking and try and use higher order thinking \((\text{I2, I7})\)

**Individual accountability** \((\text{resource interdependence})\) led to increased **Engagement** through use of different coloured pencils for students \((\text{CO})\)

Struggled with concept of resource interdependence \((\text{for individual accountability})\) when pairs given one piece of paper, asked to divide down middle and write on their own half, then share writing \((\text{CO})\).

When students are given individual tasks \((\text{individual accountability})\) that lead to a group task they are required to draw the information together as a whole group which requires analysis, evaluation and creation \((\text{Higher-order thinking})\) – this step is not apparent in CO
Description of QT observations over time for Elizabeth:

- Elizabeth demonstrated a score of 17.33 for Intellectual Quality (IQ), one of 18 for Quality Learning Environment (QLE) and 14 for Significance (SIG).
- This indicates a higher score for Quality Learning Environment than for the other two Quality Teaching Dimensions.
- The total QT score (IQ+QLE+SIG) was 49.33.
- Elizabeth has made observed increases in the elements Deep knowledge, Substantive communication, Connectedness, Engagement, Social support, and Knowledge integration over the time period.
- In her final observations however, she has decreased in Deep understanding, Problematic knowledge, Student direction, Background knowledge, Inclusivity and Connectedness.
- She failed to be coded at all for Explicit quality criteria throughout the study’s six focused observations.

See Appendix 10 for QT observation scores tables.
understandings to both the initial and final practices Elizabeth demonstrated throughout the study to ascertain whether understandings and practices in CL can be linked. This table thus brings together the overall findings of Chapters 4 and 5.

Table 5.5

*Elizabeth’s Understandings and Practices of CL and QT Prior To and After the Professional Learning*

<table>
<thead>
<tr>
<th>CL key elements</th>
<th>Quality Teaching dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Links to Intellectual Quality (IQ) Links to Quality Learning Environment (QLE) Links to Significance (SIG)</td>
</tr>
<tr>
<td>1. Groupings and social skills</td>
<td>* Deep understanding (I) ** Substantive communication (F) * Social support (F) ** Social support (F) * Explicit quality criteria (F) * High expectations (F)</td>
</tr>
<tr>
<td>Small group skills (social skills)</td>
<td>* Substantive communication (I) (F) ** Higher order thinking (F) * Inclusivity (I)</td>
</tr>
<tr>
<td>2. Pedagogical understandings/practices of CL</td>
<td>* Substantive communication (I)(F) ** Engagement (F) ** Higher order thinking (F)</td>
</tr>
<tr>
<td>Face to face interaction / common goal</td>
<td>* Student direction (F) * Inclusivity (F)</td>
</tr>
<tr>
<td>Individual accountability</td>
<td>** Engagement (F) ** Higher order thinking (F)</td>
</tr>
<tr>
<td>Positive interdependence</td>
<td>* Inclusivity (F)</td>
</tr>
<tr>
<td>Reflective thinking (based on social skills and task)</td>
<td></td>
</tr>
</tbody>
</table>

Note. * understandings ** practices

These results show that Elizabeth demonstrated initial **understandings** that social skills are important for CL and that they lead to a **Deep understanding** and she demonstrated in final **practice** that **Substantive communication** is also high when developing her students’ small group skills. Her final **understandings and practices** also demonstrated that high **Social support** was important for developing social skills.
Other links between final understandings and practices were in **Deep understanding** when designing a task with a **common goal**, and **Engagement** when ensuring her students were individually accountable as well as the developing of **Deep understanding** through **positive interdependence**.

Her final practices were more apparent in the Quality Learning Environment and this is supported by classroom observations that indicated a higher score for QLE than for the other two Quality Teaching Dimensions. Classroom observations (**practice**) also show the biggest increase in use of CL strategies, ensuring students were **interdependent** with a common group goal (Int- goals) and that resources were shared in the group (Int-resources) for **individual accountability**.

**Josephine**

<table>
<thead>
<tr>
<th>Table 5. 6</th>
<th>Josephine's CL in Practice (CO, RD, AP, I1 or I2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early practice</td>
<td>Later practice</td>
</tr>
<tr>
<td>1. Grouping and social skills</td>
<td>Josephine often had students working in groups according to seating arrangements (it was unclear at times whether these were ability or mixed ability). These different processes did not demonstrate her understandings of the importance of heterogeneous groupings for CL. Began to use random selections according to her reflections: <em>...I love doing random groups sometimes as it brings the students out of their comfort zone, and this made some of my students work and try harder...</em> (RD)</td>
</tr>
<tr>
<td>Experimented by allowing students to select group members demonstrating her willingness to experiment with grouping at this early stage (CO).</td>
<td>Taught <strong>social skills</strong> throughout the study for successful CL: <em>...I taught them the personality traits of a successful group member and once they sort of learnt how to work in a group and what a good group member should look like and all that sort of thing it worked better. You know with the eye contact and the taking turns, it's just so basic but so important so once I taught them how to do it they were a lot better at it...</em> (I2).</td>
</tr>
<tr>
<td>2. Pedagogical CL practices</td>
<td><strong>Individual accountability</strong> demonstrated in CO: students were asked to split the task so that each student had responsibility for certain</td>
</tr>
<tr>
<td>Lack of understanding of <strong>positive interdependence</strong>: at the beginning of the study, did not provide one piece of</td>
<td></td>
</tr>
</tbody>
</table>
paper for the paired task later CO showed growing understanding of this and the common goal one piece of cardboard given to pairs and commented,

...work with your partner and decide on one product...(CO)

Her language use demonstrated the fact that Cooperative Learning was being employed and demonstrates also that she has encouraged children to work together and use each other as a resource.

paragraph headings

...Divide eight tasks into four and allocate fairly. That’s your next job...(CO)

**Individual accountability and positive interdependence** understood and demonstrated in reflective diary evidence and CO,

...The designation of tasks and roles worked really well. There are a number of students who fly under the radar and don’t work to their potential and they don’t think they’re capable of much. By me assigning roles and bringing themselves out of their shell to attempt something they would normally shy away from may have been a confidence boost for them to try a similar task in the future ...(RD)

...each speaker needs two points and they need to be elaborated upon [during the debate]... and ...why don’t you take turns saying and writing down...(CO)

**Positive interdependence** was realised as important,

...why don’t you take turns saying and writing down... (CO)
demonstrating her understanding of the need to split a larger task into smaller ones.

Recognised importance of her *cognitive role* to support group,

It was like you’re a referee and an encourager to try and, I always ask them questions and try to get them thinking more (I2)

Recognised importance of *reflection* in CL and started to demonstrate this in CO,

I think you need to reinforce how to be good group member you can’t just teach it once and think well they’re going to hang on to that and they’re going to do it, I think every now and then you’ve got to come back and reinforce you know those rules just like you do the class rules (I2)

Recognised that *Face to Face interaction* can lead to increased success of students as well as contribute to other learning not planned for,

It is a small group of carefully chosen students that can work together to produce or achieve the lesson outcome and maybe more...(I2)
Description of CL observations for Josephine:

- Middle observations (when professional learning sessions were occurring) demonstrated interesting results: a growth in understanding about developing mutual *interdependence* in terms of goals expected from group and relation to task design ensuring students responsible for different parts of the task.

- The final observations do not show high demonstration of these two aspects of CL but show increased observations of all other aspects. Over time Josephine has made increased changes in practice in all aspects of CL.

- The lower coded aspects in final observations in comparison with the middle observations may be ascribed to the time of year (final observations in December) as comments from Josephine indicated winding-down in terms of teaching at final stage of the teaching year. Josephine acknowledged all her assessments (individual assessment tasks used to write final parent reports) were over, she was unplanned and unready for her observed lessons.

- Scores of up to only 3 or 4 (indicating it is observed a number of times or throughout the lesson in three parts of the observation coding scale (*Language of CL*, *Positive interdependence* through goals and through tasks) out of a potential
eight elements indicates Josephine is on the way to developing good CL lessons but this is only at the beginning of the development.

Table 5.7
Josephine’s Early and Later Practice of QT (CO, RD, AP, I1 or I2)

<table>
<thead>
<tr>
<th>Early practice</th>
<th>Later practice</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social support</strong> promoted Deep understanding through partner work (individual accountability):<strong>...Well they all learn differently and their partners can help them understand...(I1)</strong></td>
<td><strong>Understood importance of grouping heterogeneously for Engagement:</strong>...Well I took them away from who they just socialise with and I because they were mixed ability you always had someone coming with a leading idea that the others could work off so once the structure was right the engagement was pretty successful ...(I2)**</td>
</tr>
<tr>
<td>High Social support follows from careful teaching of CL social and group work skills (taking turns, respecting each other’s viewpoints):...you need to teach students how to work cooperatively, how to take turns and respect other people and you need to teach them the roles...(I1)</td>
<td>And importance of not using friendship groups for all tasks:...The friendship groups didn’t work with learning outcomes the final product they presented, they were capable of more but their personalities just got in the way of that. (I2)</td>
</tr>
<tr>
<td>Random grouping led to Deep understanding and Engagement of all students:...considering I chose to have the student grouped randomly by picking a number, I was quite impressed with how they all worked together to achieve the lesson outcomes...students that would have not chosen to work together worked very well together...(RD)</td>
<td>**Individual accountability lead to higher Engagement by breaking tasks down into smaller steps (AP):**I think if you’re cooperative lesson’s working it’ll be that engaged buzz that they’re just talking, talking, talking about being on task and compromising and sorting things out and stuff which we learnt late in the year but it was good to see it was developing. (I2)</td>
</tr>
</tbody>
</table>
| **Substantive communication and Student direction** are promoted in her classroom through positive interdependence (some student direction in terms of choice in the activity although no significant control of time, pace or assessment was given):...Talk to your partner about the product design, there is one poster per pair and it’s your decision about how to make the product and the format...(CO) | **Deep understanding and Higher order thinking** are linked to Positive Interdependence:...Well they interact and they discuss things and someone will say something and someone will have another comment, someone will question something and they just go deeper and deeper, where as if they read, take notes, no higher order thinking, you’re not challenging yourself at all. I love...
everyone a fair go…(I1)

Acknowledges that there is high Engagement with CL group work (face to face tasks) but that often there is a lack of Deep understanding:-
…they actually do really enjoy group work but I want them to get better at it, be more productive …(I1)

that talking and listening it’s amazing how well you can use it, when you’ve got to report back to someone else (I2)

Struggled with Inclusivity and Deep understanding and Engagement for all students when planning CL activities with a common goal:-
…All students participated in the learning, but the success rate varied…Most students were engaged. I occasionally had to bring them back “on-task” as some boys continually remain unmotivated or lazy. ..(RD)

Positive interdependence supported Inclusivity: confidence of the students increased, in particular the lower ability students, because of the support with their learning that the higher ability students provided, but all could contribute (individual accountability):-
When you structure the groups correctly it’s like some students scaffold other students learning, you know like if you sort of put same ability groups I don’t think they’d get anywhere but you’ll find that some students can pull other students up and support their learning and that sort of thing and it gives them a bit more confidence to try things they wouldn’t have normally tried if they were in a same ability group so I found that everyone just scaffolded each other’s learning (I2).

Understood her role helps promote Deep understanding:-
…move around the room and help dig deeper and help the students with their task – so I’d need to be fluid…(I2)

Understandings the link between Substantive communication and when working towards a common goal:-
…I think if you’re cooperative lesson’s working it’ll be that …[students are] compromising and sorting things out…(I2)

High expectations of students ensure all are risk taking and starting to support each other through positive interdependence and individual accountability:-
…They wouldn’t have taken …I really had to push. I really had to push but they were starting to take risks…(I2)
Figure 5.4
Graph demonstrating Josephine’s changes in practice with regard to QT-CL links elements

Description of QT observations over time for Josephine:
- At the beginning of the study Josephine’s QT observation scores were 20 for Intellectual Quality (IQ), 21.66 for Quality Learning Environment (QLE) and 16 for Significance (SIG).
- This indicates a higher score for Quality Learning Environment than for the other two Quality Teaching Dimensions. Josephine’s scores in QT decreased considerably between the initial and final classroom observations. Josephine’s QT observation scores were 14 for Intellectual Quality (IQ), 16 for Quality Learning Environment (QLE) and 14 for Significance (SIG).
- The only increase is in Inclusivity. This may be ascribed to the time of year (final observations in December at the end of the school year) as comments from Josephine indicated a winding-down in terms of teaching at the stage of the year the final classroom observations occurred.
- Despite the Social support element indicating a decrease in the final observations, 2 of the final CO scored 4 or 5 except for the final observation scoring a 2 due to some comments made by Josephine being derogatory as the lesson was rushed and students were not given ample time to complete the task. This indicates that at most times Josephine has developed a classroom
environment where **Social support** is strong and all students’ contributions are valued.

(See Appendix 10 for QT observation scores tables)

The following table explores both the understandings that Josephine had initially at the beginning of the study, and how these developed in relation to the QTm over the course of the professional development. The table also compared these understandings to both the initial and final practices Josephine demonstrated throughout the study to ascertain whether understandings and practices in CL can be linked. This table thus brings together the overall findings of Chapters 4 and 5.

<table>
<thead>
<tr>
<th>Table 5.8</th>
<th>Josephine’s Understandings and Practices of CL and QT Prior To and After the Professional Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CL key elements</strong></td>
<td><strong>Quality Teaching dimensions</strong></td>
</tr>
<tr>
<td>1. Groupings and social skills</td>
<td><strong>Links to Intellectual Quality (IQ)</strong></td>
</tr>
<tr>
<td>Small group skills (social skills)</td>
<td><strong>Deep understanding (I)</strong></td>
</tr>
<tr>
<td>2. Pedagogical understandings/practices of CL</td>
<td></td>
</tr>
<tr>
<td>Face to face interaction/common goal</td>
<td><em>Substantive</em>* *<em>Substantive communication (I) (F)</em></td>
</tr>
<tr>
<td>Individual accountability</td>
<td><strong>Deep understanding (F)</strong></td>
</tr>
<tr>
<td>Positive interdependence</td>
<td><strong>Deep understanding (F)</strong></td>
</tr>
<tr>
<td>Reflective thinking (based on social</td>
<td></td>
</tr>
</tbody>
</table>
These results show that Josephine demonstrated initial understandings that when concentrating on developing her students’ social skills with high Social support that this lead to higher Engagement of her students in final practice. She demonstrated through practices that Substantive communication is higher when her students worked on face to face CL tasks and this also supported through her understandings. Final practices in individual accountability and positive interdependence were demonstrated with links to High expectations, Engagement, Deep understanding, Higher order thinking and High expectations although final QTM classroom observation scores do not always support the practices she talks about. However, her classroom observations in CL do demonstrate an increase in individual accountability and positive interdependence from initial observations. The use of the Language of CL and Positive interdependence through goals (Int-goals), and through tasks (Int-tasks) increased in practice. She was working towards developing High expectations and high Inclusivity and this was as a result of her ensuring her students were positively interdependent in CL tasks. She presented a portrait of a teacher who practised some key teaching features but did not really understand the impact of them until later.

Bill

Table 5.9
Bill’s CL in Practice (CO, RD, AP, I1 or I2)

<table>
<thead>
<tr>
<th>Early practice</th>
<th>Later practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td></td>
</tr>
<tr>
<td>Bill used groups of 4 and 6 - stated that he had been using group work a lot in his classroom and his older class of year 3 (ages 8 and 9) were able to cope with these larger group sizes at most times (CO).</td>
<td>Bill uses group sizes of mainly 3 or 4 students tending to use 3 more often towards the final observations demonstrating his understanding that each student needs a task and a role for his main task to work successfully (CO).</td>
</tr>
<tr>
<td>Bill tended to select his groups according to ability, gender and social skills to ensure there was an even mix of students knowing that their skills are not good enough to work with anyone, demonstrating he does not teach the</td>
<td>Commented about random grouping:-…Yeah I couldn’t do it with this class, next year I might be able to do it, I’ll see what happens next year, I definitely couldn’t do it with this class, which has been an absolute nightmare, there’s too many problems…(I2).</td>
</tr>
</tbody>
</table>
social skills necessary for all students to work well together:-
...I also consider the relationships between the kids... Particularly with the special needs kids, if they have a real problem with someone else they’re not going to be able to get over it, while the other person might be able to so I won’t put those two individuals together just to make it a little easier for special needs kids to integrate into that group...{(I1)}

Social skills not identified- no mention of turn taking, encouragement, listening to each other, decision making processes (CO).

Still showed careful consideration of ability levels and social skills when selecting groups (CO)

Focused on particular social skills at times, like reaching consensus or compromising, but there was no evidence of unpacking, teaching these skills to his students at any time during the observations:-
...how hard was it to reach consensus when in a larger group...{(CO)}

Assumes they knew what these skills were and how to enact them:-
...look at your group work skills and talk about how you are going to do this...{(CO)}

2. Pedagogical CL practices

Used roles but left it to the students to allocate these roles
...don’t forget to divide the jobs up... (CO).

There were sufficient roles (jobs) for the number of students (group leader, scribe, time keeper, reporter, ideas person) demonstrating an understanding of individual accountability (CO).

Taught students’ roles in order to ensure individual accountability:-
...because I knew I was going to be working in groups a lot so I spent two full lessons at the start of the term, how to work in groups and how one person should be, and to split the roles up and how one person should do this and one person should do that and then this person’s job is to make sure everyone contributes...{(I1)}

However without subtasks some students were unmotivated and tended to sit back and do little. One student, who was time keeper during these initial observations, simply watched the time (CO).

He was able to design a group task with common goal – one brochure with different tasks allocated, although the students decided how to allocate these and they were not always shared well. He also ensured resource interdependence with one poster, one book, or one brochure (CO).

A Common goal and individual accountability ensures positive interdependence,
...I hardly had any questions, they were all involved, they were all doing it, they were working together...{(I2)}

Understood positive interdependence and individual accountability needs monitoring from himself throughout the lesson, he gives his students reminders about this when they are working to ensure they are responsible members of the group,
...and then there’s the constant checking, so and I found that the constant reporting back stopping and reporting it and making them responsible to say “ok in 15 minutes time we’ve got to have something to tell other people or in half an hours’ time...” (I2)

...Each person has a pencil and you need to draw the picture together...who does what...that’s what I’m looking at...{(CO)}

Positive interdependence is assured through careful structuring of individual accountability measures,
...I use techniques to know who’s contributed to different bits and pieces like different coloured pencils was one of my favourite ones in the end and for computer work it was different coloured slides, on smart board presentations and PowerPoint presentations...{(I2)}

Understood importance of reflection but noted he had used it less this year,
...It’s interesting this year I haven’t used
| No CL strategies used initially (CO). | self-reflection and group reflection at the end of every lesson, end of group work lesson, where as last year I did that and this group hasn’t progressed as quickly with their skills of group work...(AP) |
Figure 5.5
Graph demonstrating Bill’s changes in practice with regard to CL elements

Summary / Description of CL observations for Bill:

- Although Bill’s practice in CL increase over the time period of 6 months, he only scores 3 in four of the eight categories.

- No CL strategies were observed (although one lesson reflection of a lesson not observed indicates he did try the “think, pair, share” strategy). Using CL strategies are ways he can ensure students are individually accountable.

- Student reflection (on social skills) was also poor and did not improve much (only 2 in final obs.) even though the professional learning sessions stressed the importance of a focus on social skills and reflection on these as well as the task completion in the reflection phase of a lesson.

- Positive interdependence did improve with group goals (Int-goals) and sub tasks (Int- task) (positive interdependence) receiving more importance and an understanding of roles and developing interdependence through resource allocation was observed more often in the final observations.

- The language used by Bill does start to reflect his understanding of CL as he reminded the students about roles / responsibilities for tasks and encouraged them to listen, take turns etc. (individual accountability).
Table 5.10
Bill’s Early and Later Practice of QT (CO, RD, AP, I1 or I2)

<table>
<thead>
<tr>
<th>Early practice</th>
<th>Later practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td>Understood the importance of developing group skills and the importance of Inclusivity. When social skills are highlighted and made explicit throughout activities it will promote the development of these social skills in future (through reflection):- …I did stop the whole class and pointed out to the children if I noticed a group working well and why they were working well… (RD).</td>
</tr>
<tr>
<td>Considers Inclusivity when grouping students (rather than heterogeneous grouping), …I also consider the relationships between the kids… Particularly with the special needs kids, if they have a real problem with someone else they’re not going to be able to get over it, while the other person might be able to so I won’t put those two individuals together just to make it a little easier for special needs kids to integrate into that group…(I1)</td>
<td></td>
</tr>
<tr>
<td>Understood the importance of Social support and how to value each other’s contributions (through positive interdependence):- …I wanted the brighter children to try and draw out the others. It was an activity to encourage reliance and to get the brighter children to accept the ideas of the strugglers and build up their confidence…(RD)</td>
<td></td>
</tr>
<tr>
<td>Substantive communication was important for CL in his classroom as he understood that a good CL lesson was one where there is evidence of Substantive communication. He denotes this as evidenced by “busy noise” (CO).</td>
<td></td>
</tr>
<tr>
<td>Social support was strong. Bill recognised that when grouping he needed to encourage supportive behaviours so he deliberately set up different sized groups to create tension on purpose so as to encourage discussion about the difficulties associated with larger groups. Added to this, he also admitted to putting together groups that had students he knew would &quot;clash&quot; as a teaching and learning experience (CO).</td>
<td></td>
</tr>
<tr>
<td>Substantive communication is encouraged as students are asked to observe their listening skills:- …you need to compromise, you need to listen…(CO)</td>
<td></td>
</tr>
<tr>
<td>2. Pedagogical practices linking CL and QT</td>
<td></td>
</tr>
<tr>
<td>Bill talked about students having certain roles but asked students to choose these (CO)</td>
<td>Bill understood the importance of Explicit quality criteria and promoting this by providing clear directions for the common goal.</td>
</tr>
</tbody>
</table>
Encouraged Students’ self-regulation through the use of roles (individual accountability):-
...we need to help people keep on track... (CO)

Despite the efforts to teach social skills, Bill commented on how at times his students were uninvolved in the task and that there was a lack of Students’ self-regulation:-
...I’ll go over and I’ll say to the group ‘why is one person over here doing nothing?’ and they’ll go “oh because he doesn’t want to or she doesn’t want to do this” (I1)

Talked about use of Explicit quality criteria and need for time spent introducing task before sending students off to work on common goal:-
...So it’ll just be reminders going back to the marking grid. This is what I’m after, this is what needs to be included, remember this is what’s going to do well this is what’s going to do just the job done and not so well...(I1)

He was aware of the need for sub-tasks (individual accountability) but expected students to also be able to divide these up themselves without assistance:-
.. don’t forget to split up the jobs... (CO)

He understood the need for roles and sub-tasks (individual accountability) but did not assign these and as a result there appeared to be much time wasting as students decided and argued about these demonstrating low Social support (CO)

Hasn’t considered the need for High expectations and to carefully plan an engaging task that students will want to complete:-
...you end up with child who sits there and does nothing and you have to make them get involved all the time, it’s a negative experience...(I1)

Engagement was an issue in early group work practices due to lack of understanding of sub tasks development (individual accountability) to ensure positive interdependence:-
...The chatting and that’s the big problem with groups so when the whole group gets off task then and no-one’s monitoring what they’re doing and no-one’s monitoring the time and no-one’s keeping a record of the decisions...(I1)

Social support to promote student understanding (through positive interdependence) was also promoted in his...
...so the bottom kids are willing to engage in that peer tutoring because there’s this group task that needs to get done. Which I find is a real benefit to both sides because you can’t help someone who doesn’t know how to do it unless you know it fully yourself. So it’s getting them to, and verbalise what they do know to help the lower kids...(I1)

He demonstrated understanding that as resources needed to be shared for CL tasks (positive interdependence), it encouraged Substantive communication:–

...the children were resource dependent so they had to rely on other group members...(RD)

There was a conscious attempt to give choices to his students in terms of their roles and also through giving them choice of who would complete each task (individual accountability), demonstrating Student direction, although control of the pace, timing and assessment of the lesson remained with Bill in the three lessons observed (CO).

Figure 5.6
Graph demonstrating Bill’s changes in practice with regard to QT-CL links elements
Summary / Description of QT observations for Bill:

- Bill’s final observation scores in QT show an increase in all three dimensions, the largest increase being in Intellectual Quality (IQ) and Significance. Initially, Bill’s QT observation scores were 18 for IQ, 20.66 for QLE and 13.33 for SIG. This indicated a higher score for QLE than for the other two dimensions. His final scores increased for all three dimensions to IQ-24, QLE-21.5 and SIG-19.

- Deep knowledge, Deep understanding, Higher order thinking, Substantive communication (Intellectual Quality); Engagement, High expectations (Quality learning Environment) and Knowledge integration, Inclusivity, Connectedness (Significance) increased over time for Bill.

See Appendix * for QT observation scores tables.

The following table (Table 5.11) explores both the understandings that Bill had initially at the beginning of the study, and how these developed in relation to the QTm over the course of the professional development. The table also compared these understandings to both the initial and final practices Bill demonstrated throughout the study to ascertain whether understandings and practices in CL can be linked. It thus presents an overview picture of Bill’s teaching as demonstrated in Chapters 4 and 5.

Table 5.11

**Bill’s Understandings and Practices of CL and QT Prior To and After the Professional Learning**

<table>
<thead>
<tr>
<th>CL key elements</th>
<th>Quality Teaching dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Links to</strong> Intellectual Quality (IQ)</td>
<td><strong>Links to</strong> Quality Learning Environment (QLE)</td>
</tr>
<tr>
<td>1. Groupings and social skills</td>
<td></td>
</tr>
<tr>
<td>Small group skills (social skills)</td>
<td>* Substantive ** Social support (F)</td>
</tr>
<tr>
<td></td>
<td>Communication (I)</td>
</tr>
<tr>
<td></td>
<td>** Substantive communication (F)</td>
</tr>
<tr>
<td>2. Pedagogical understandings/ practices of CL</td>
<td></td>
</tr>
<tr>
<td>Face to face interaction / common goal</td>
<td>** Deep understanding (F)</td>
</tr>
<tr>
<td></td>
<td>** Higher order thinking (F)</td>
</tr>
<tr>
<td></td>
<td>(I)</td>
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<td></td>
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</tr>
<tr>
<td>Individual accountability</td>
<td></td>
</tr>
</tbody>
</table>

203
Bill demonstrated that his understandings and practice matched consistently as he understood the importance of small group skill development for CL and how this might lead to high Social support and Substantive communication (both 4 or above in CO practice). His understandings of CL increased over time knowing that CL needs face to face tasks with a common goal and that individual accountability and positive interdependence are crucial for successful CL as well as Explicit quality criteria - this was demonstrated through final practice. Bill also saw the links to elements in practice and understandings from both IQ (Deep understanding and Substantive communication), and QLE (Engagement).

Jill

Table 5.12
Jill’s CL in Practice (CO, RD, AP, I1 or I2)

<table>
<thead>
<tr>
<th>Early practice</th>
<th>Later practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td></td>
</tr>
</tbody>
</table>

Jill had a sophisticated understanding of successful grouping, realising that groups larger than 4 rarely work successfully as,...the workload is too, spanned out too much for the children...(I1)

She often selected groups based upon ability and did at times talk to students about which abilities she was considering as she was selecting students (i.e., an “arty” with an “academic” student) (CO). ...What I wanted to do was balance the groups- does anyone have any questions or is not happy about their group?...(CO)

Considered heterogeneous nature of students to balance the groups

...Also you’ve got to look at it and think “ok who’s got the strengths in this group and how can I use these strengths to help this child
2. Pedagogical CL practices

Jill understood that CL requires face to face interaction. She ensured there was maximum face to face participation when she asked students to rearrange their when groups brought their information together (CO).

Jill had the students keep a log, with rotating roles, “to keep them accountable” and to show who has contributed which allowed students to obtain praise for their contributions. This showed an understanding of how she could avoid the students who feel they can freeload and demonstrates too, a strong understanding of individual accountability (CO).

*Individual accountability* was developed through use of a log as well as her role in keeping students on track:-

...so that's where the log comes in for the accountability, what input have you had here I can see what these girls have done but what have you actually done? “Hmm well I haven’t done anything”, well this isn’t good enough, ok and it’s noted this time so next time around you need to come up with at least six references and you need to do some research next time...(I1)

*Roles for individual accountability* used; students understood their responsibilities within these. Jill commented, you ....need to get your heads together and see what you have each done... to show evidence of individual accountability (CO)

Positive interdependence was demonstrated:-

“work together now to put the information together”,

“you need to map your own time”.

“you need to work together as a group” and “you need to involve all group members” (CO)

also showing evidence of her understanding of the common goal.

who doesn’t have these strengths but needs to be build up” all these things go through your head at the same time when you’re putting them in...(I2)

Understood the importance of individual accountability for positive interdependence:-

...It’s like a piece of a jigsaw puzzle- you need to split the task..(CO)

Jill reminded the students that ...

..each and every one of you have to say something...(CO)

in the presentation component of the task ensuring individual accountability:-

...I learned that my students are developing well in group work and that all students know that they are accountable for gathering information and presenting it with their peers...(RD)

She also made sure students held each other accountable in the reflection phase of the lesson:-

...Leaders held members accountable for their performance and contribution in reflection time...(RD).

Use of reflection is consistent throughout the latter part of study. Jill stated when using a graphic organiser (a placemat strategy)-

...use it as a tool to check that you have all these people’s points in your PP presentation...(CO).

This ensured all members of the group were included and recognised for their contributions:(I1)

...be confident enough to have a voice… (CO)

...take consideration- ask your partner… (CO)

...There’s no "I" in team ...(CO)

Jill demonstrated CL needs reflection on both social skills and task outcomes, she realised this needs carefully managing to ensure it was systematically considered by her students:-

...By doing the student evaluations [individual reflections after group work]. I’ve been doing that a bit more now as well, it’s been very positive so they actually get to have the feedback and they get to by doing that they get to identify what each person is contributing…(I2)

Strategies such as use of talking tokens (for
Tasks with a common goal ensured all ideas were put forward and decisions were made by the group due to positive interdependence:-

...you've always got to validate everything and get a different opinion on some things and be open to change, be open to others cultures and belief and yeah, so I think the group work is good for that... (I1)

Individual accountability were no longer required in Jill's class as all students felt comfortable and were able to contribute without fear of put downs:-

...Students discussed this idea and overall the class found the talking tokens placed a limit on their input. This would have been a good strategy for early in the year when students were more nervous about sharing information with one another...(RD)

Individual accountability was carefully considered through roles:-

...One of the roles is a “noise controller”. This persons job is to ensure all members are on tasks and that the group as a whole are tasks focused and not all talking at once. Materials organiser is another role which helps to regulate behaviour. They must ensure that each member had the equipment and resource materials needed. By doing this there is a lesser chance for behaviour problems because each member is encouraged to be task focused. Also the leader constantly checks on the progress of each member...(RD)

Figure 5.7
Graph demonstrating Jill's changes in practice with regard to CL elements
Summary / Description of CL observations for Jill:

- Jill’s initial observation scores in CL demonstrated the most understanding of the key CL elements at this initial stage of the study. She demonstrated a particularly good understanding of how to establish positive interdependence by ensuring there were sub tasks within the group for each group member to ensure individual accountability. A score of 3 depicted that there were several attempts to establish interdependence in the students’ groups with division of the task in order to promote task interdependence. At this early stage of the study Jill was not using any CL strategies or establishing interdependence through the division of resources to achieve resource interdependence.

- Her improvement from initial to final observations is a great deal higher in this area of establishing interdependence both through ensuring a common goal, as well as through sub-task distribution and in the giving of roles. The division of resources (to ensure individual accountability and positive interdependence), was markedly improved showing no initial use of this key element. She also improved in the area of reflection as she understood that when students reflect on task and social skill / group processing outcomes, this increased both academic and social outcomes.

Table 5.13
Jill’s Early and Later Practice of QT (CO, RD, AP, I1 or I2)

<table>
<thead>
<tr>
<th>Early practice</th>
<th>Later practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grouping and social skills</td>
<td></td>
</tr>
<tr>
<td>She is the only teacher that also mentioned how she “pre-groups”. During her explicit teaching phase she watched and listened to the students to determine who had strengths and Deep understanding about the content so she could consider this in her grouping. She noted her special needs students needed careful consideration at this time to ensure they were fully supported (Social support) through positive interdependence. Her comment:-...the group work can be damaging to those children if it’s not structured properly, you’ve got to take into account those children so much…(I1)</td>
<td>She wanted heterogeneous grouping but also understood the importance of students feeling comfortable and accepted within their groupings (Inclusivity)....What I wanted to do was balance the groups- does anyone have any questions or is not happy about their group?...(CO) This Social support and emphasis on Inclusivity was paramount in this classroom,...a classroom guideline that we’ve had from day one at the school and they developed those themselves, which was really good and we also we always reflect on that, so it’s really a safe, a safe environment is upmost importance...(I2)</td>
</tr>
<tr>
<td>2. Pedagogical strategies linking CL and QT</td>
<td></td>
</tr>
<tr>
<td>Social support was important, Jill ensured all students were held individually accountable but in a safe and nurturing environment:-</td>
<td>Face to face interaction meant students needed to compromise, debate and accept others viewpoints- all social skills that Jill identified for her students and which</td>
</tr>
</tbody>
</table>
Developed clear Explicit quality criteria to ensure students were aware of task and group work skills requirements (positive interdependence):
...clear guidelines set up for the children to say "ok this is what I'm asking, this is what's required of you", I've also introduced a marking criteria which I think has helped the children a lot actually...(I1)

Her mention of "roles, sharing, working as a group" (CO) also demonstrated how she promoted the group common goal and ensured they understood that they should support each other through positive interdependence to complete this (Social support and Inclusivity).

Her high Social support was also apparent as she identified how CL helps her access more students in each lesson:- [I can] get around to the students more, than say for if it's an individual task you may get to four students individually in one period...(I1)

Her High expectations and development of high Social support ensured her students were risk takers when trying to achieve the common goal:
...I am really happy with the way their thought process has changed and how open they are now to accepting a mistake and going out there and saying something, knowing that, thinking to themselves "oh this may not be right, I may be way off track here but I'm going to actually have a go"...(I1)

She also linked Student direction and Engagement together. As she gave her students choices in how they presented the common goal, independent of her approval, she saw more student engagement with the tasks occurring in her classroom:
...children actually they discussed in their group so they were given a choice of a newspaper, a play, whatever it was they wanted to do but like Lily wanted to do the newspaper, Angus wanted to do a play, they ended up having a discussion, they voted on it, the newspaper got the first one so then Angus said ok the next one we do, and they had a group decision, the next one we do will be a play, so that's when the Burke and Wills one became a play and the Australia became the newspaper article. And that was a compromise as a group they discussed it...(I1)

She should increase Problematic knowledge and Deep understanding:
...you've got other peers there that may ask different questions, may go on a different tangent, a different angle, look at it from a different point of view, the topic, the type of research, the way it's going to be presented, in comparison, so there's more brains working then just one brain...(I2)

Student direction was important to keep students on task and engaged (individual accountability):
...so they actually get to have the feedback and they get to by doing that they get to identify what each person is contributing and they also get to take ownership... (I2)

Developing Inclusivity and Social support were key priorities in Jill's practice to ensure positive interdependence:-
...Respect, respect is a key issue in Cooperative Learning, you know learning to respect each other as another human being, learning to respect each other's weaknesses and to not to have the put downs and I think that's why my classroom is a safe environment because we've learnt to respect.. (I2)

This is evidenced by students in classroom observations, they said it [group work] was a ...good thing, we can help each other, use each other's ideas...demonstrating positive interdependence (CO)

Intellectual quality was high when working towards a common goal, particularly helping students to develop Deep understanding through Substantive communication:-
...I find I can accomplish more work doing Cooperative Learning than I can having the children solo and also I feel it's beneficial for them to work with others with their peers as well...(I2)

Deep understanding of all was encouraged through maximum participation of all (positive interdependence and individual accountability):
...it is strongly reinforced that all contributions are important to the group completing the task with a positive outcome...(RD)

Social support and Inclusivity were key elements of Jill's class (through reflection):-
...One group did present and the class were positive with their feedback and gave constructive criticism in a positive environment. Class discussion was open and
positive and most of the class participated… (RD)

... You need to see where each group is up to- who needs help… (CO)
Summary / Description of QT observations for Jill:

- At the beginning of the study Jill’s QT observation scores were 18 for IQ, 22 for QLE and 14 for SIG. This indicates a higher score for QLE than the other two dimensions. Her final scores were IQ-24, QLE- 22 and SIG-19 indicating her largest increases are in IQ and SIG with QLE remaining high and stable throughout the study.

- Jill demonstrated the largest increases in all elements compared to any other teacher. The initial observations show 3 or above for IQ (except for Problematic knowledge); 3 or above for QLE (except for Explicit quality criteria) and in SIG all were above 3 except for Background knowledge (it’s difficult when you see a lesson that is not an introductory lesson- there is not a great deal of explicit teaching occurring as it is an ongoing lesson). However by the end the IQ scored 4 or above except for Problematic knowledge, in QLE 4 or above except for Explicit quality criteria and Student direction and in SIG- 4 or above except for Connectedness.

See Appendix 10 for QT observation scores tables

The following table (Table 5.14) explores both the understandings that Jill had initially at the beginning of the study, and how these developed in relation to the QTm over the course of the professional development. The table also compared these
understandings to both the initial and final practices Jill demonstrated throughout the study to ascertain whether understandings and practices in CL can be linked. It thus presents an overview picture of Jill’s teaching as demonstrated in Chapters 4 and 5.

Table 5.14

**Jill’s Understandings and Practices of CL and QT Prior To and After the Professional Learning**

<table>
<thead>
<tr>
<th>CL key elements</th>
<th>Quality Teaching dimensions</th>
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<tr>
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<td>Links to Intellectual Quality (IQ)</td>
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<td><strong>Intelectual Quality</strong></td>
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<tr>
<td>1. Groupings and social skills</td>
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<tr>
<td>Small group skills (social skills)</td>
<td>* Deep understanding (F)</td>
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<tr>
<td></td>
<td>** Deep understanding (I)</td>
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<tr>
<td></td>
<td>* Substantive communication (F)</td>
</tr>
<tr>
<td>2. Pedagogical understandings/ practices of CL</td>
<td></td>
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<tr>
<td>Face to face interaction / common goal</td>
<td>* Deep understanding (F)</td>
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<tr>
<td></td>
<td>** Deep understanding (F)</td>
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<td></td>
<td>** Substantive communication (F)</td>
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<td></td>
<td>** Problematic knowledge (I)</td>
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<tr>
<td>Individual accountability</td>
<td>** Deep understanding (F)</td>
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<tr>
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<td>Social support (I)</td>
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<td></td>
<td>* Student direction (F)</td>
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<td>** Student direction (F)</td>
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<tr>
<td>Positive interdependence</td>
<td>* Substantive communication (F)</td>
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<td></td>
<td>* Deep understanding (I)(F)</td>
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<td></td>
<td>** Deep understanding (F)</td>
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<tr>
<td>Reflective thinking (based on social skills and task)</td>
<td>* Social support (F)</td>
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<tr>
<td></td>
<td>** Social support (F)</td>
</tr>
</tbody>
</table>

Note. * understandings ** practices

Jill demonstrated that her understandings and practice matched consistently as she understood the importance of *small group skill* development for CL and how this
could lead to high Substantive communication, Inclusivity and Deep understanding.

Her understandings of face to face tasks with a common goal linking to these QT elements as well Engagement and Student direction are also demonstrated through both understandings and final practices. She has a deep understanding and practices this understanding of individual accountability and positive interdependence and links these key elements to understandings and practice in Social support, Deep understanding, and Student direction.

She was the only teacher who linked understandings and practice in reflective thinking and Social support and demonstrated this in final practice through high Inclusivity.

The above section has examined the results in initial and final practices of the four teachers in CL and QT and has also summarised the results between their understandings and practices in tables 5.3 - 5.14 to ascertain the links between the understandings and practices for each teacher. The following section summarised the findings of the research question below:

How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?

The following section clarifies the four teachers’ initial practice in CL and the degree to which this practice related to the good teaching elements and dimensions of the QTm. It outlines their initial practices in CL and QT prior to the professional learning in CL and summarises their final practices to consider any changes over the six month period. Differences were considered between first year teachers and more experienced teachers to elucidate any differences in practice over years of teaching.

First Year Teachers

CL Key Elements – Practices

Grouping and social skills.

Both first year teachers were not confident in using CL as pedagogy at the beginning of the study. Early practices were limited and experimentation by allowing students to select group members demonstrating willingness to experiment with grouping at this early stage and developing understandings that when they had a focus on social skill development they were more confident in experimenting with more random heterogeneous groupings, which is necessary for CL. They understood that as their students social skills improved they were more able to work in any grouping
configuration but they failed to practise any type of random grouping by the end of the study. Finally, as Josephine began to recognise the importance of her cognitive teacher role to support the groups in her classroom and mentioned by the end of the study she became like a referee sorting issues as they arose. She understood the importance of her helping trouble shoot and facilitated disagreements as her students learnt the necessary advanced group work skills that required them to learn how to negotiate and solve problems amicably. The role of the teacher as a facilitator, assisting students with small group and social skills and helping solve any contentious issues that may arise is extremely important. As Ballantine and McCourt Larres (2007) argued if groups aren’t effectively managed then an inferior learning environment can result to that of an individualistic one.

Group sizes were similar for the two teachers. Elizabeth used mainly three to four member groupings which were too large for a teacher who has not engaged in a lot of CL work to this point in time. Pairs would seem more appropriate, especially given the class is a year one and two class (ages six, seven and eight). Josephine experimented with larger group sizes in later observations, often using groupings of three or four students. She was also more likely to teacher select the groups as she had noticed when students self-selected they often became friendship and also ability groups. A group of students this age could be expected to work in larger group sizes than was observed, if they had the developed social / groupwork skills to do this.

Most of the earlier research studies into Cooperative Learning advocated group sizes of four students although others stipulate group sizes of two are appropriate (Madden, Stevens, & Slavin, 1986; Sharan & Sharan, 1992). The size of the group is important and depends on the nature of the task as well as experience of the students of working in groups. Therefore those teachers, less experienced at using CL, should preferably start with group sizes of two to three until group work skills are more established. It is important to note too that if using CL with younger students (those in the early years of primary schooling) that it is better to work in pairs (Battistich & Watson, 2003).

Other key CL elements.

Common goal, positive interdependence, individual accountability.

Over time, increased Language use demonstrated Josephine’s attempts to implement Cooperative Learning and demonstrated encouragement of children to work together and use each other as a resource demonstrating positive interdependence. The biggest increase for Elizabeth was in the use of CL stategies, ensuring students
were interdependent with a *common group goal* and that resources were shared in the group. There was no clear demonstration of use of *sub-tasks* for *individual accountability* and to ensure they were *positively interdependent*. A study conducted by Veenman, Denessen, Akker and Van der Rijt (2005) found that one of the most crucial aspects of Cooperative Learning is the way the task is structured. The task needs to be carefully designed to ensure that students are really interdependent and that there is some kind of *individual accountability* (Veenman et al., 2005).

The lower coded aspects of individual accountability and positive interdependence in the final observations in comparison with the middle observations may be ascribed to the time of year (final observations in December) as comments from Josephine indicated a winding-down in terms of teaching at that final stage of the teaching year. By the end of the study, when Josephine clarified that all her assessments (individual assessment tasks used to write final parent reports) were over, it emerged she was unplanned and unready for her observed lesson. Her interview comments supported this as she noted that classroom observations of her CL lessons sometimes had “bad timing” because she decided to force a CL structured lesson that wasn’t really appropriate. The particular lesson chosen for observation was not the best lesson to use a Cooperative Learning focus. The professional learning sessions had emphasised the necessity of finding lessons that best fitted with a Cooperative Learning focus (for example an open ended task with a joint goal that can be achieved with subtasks and student roles). Administrative constraints limited the use of the strategy. The use of CL strategies for Elizabeth demonstrated her understanding of the need for *individual accountability* and *positive interdependence*. This was in contrast to Josephine who despite a period of professional learning had not incorporated these into her CL lessons.

**Reflection**

Elizabeth made no improvements in the areas of *reflection*. *Reflection* did increase slightly for Josephine in the final observations from having no score in the initial ones. Habermas’ (1990) notion of hermeneutic reflection which is the communicative dimension of social interaction, and thus the element of reflection that considers the efficacy of the relationships of the teaching episode, was not really considered by Elizabeth. If she utilised and reinforced student reflection by either utilising proformas or language that encouraged the monitoring of cooperative skills and *reflection* (e.g., use of encouragement, reflection sheets for group processes and tasks) then she would have had more success in her CL practice. Josephine began to recognise the importance of *reflection* and by the end of the study she mentioned that
you cannot just expect to teach how to be a good group member once and expect CL group work to work consistently without revisiting these skills.

First Year Teachers' Practices in QT

**QT and links to CL practices.**

A professional learning program focused on pedagogy is important but both first year teachers experienced challenges within this first year of teaching, with both their contexts as well as grappling with other issues such as parental expectations, management of special needs students in their first year of teaching. Both teachers made small increases in the quality of their pedagogy as measured by the NSW QT model over the course of the study. Below I will examine how the QT graphs provide evidence of improved practice in teaching generally, supported by classroom observations of the quality of teaching (according to the NSW QTm) in that classroom, as well as from interview data and avowed intentions (e.g., reflective diary and action plans).

Both first year teachers’ QT observation scores were highest for the Quality Learning Environment than for the other two Quality Teaching Dimensions. Their mean scores for initial classroom observations were still higher than those observed in the Systemic Implications of Pedagogy and Achievement in NSW Public Schools (SIPA) research study (2004-2007) which was 46.42. This indicated that for first year teachers their scores were no less than experienced teachers. The following table (Table 5.15) demonstrates lower scores overall by the end of the study for both first year teachers.

<table>
<thead>
<tr>
<th>Table 5.15</th>
<th>QT Observation Scores for the First Year Teachers in this Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First year teachers</strong></td>
<td><strong>Mean score teachers initial obs.</strong></td>
</tr>
<tr>
<td></td>
<td>QT total (IQ+QLE+SIG)</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>49.33</td>
</tr>
<tr>
<td>Josephine</td>
<td>57.66</td>
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</tbody>
</table>

**Intellectual quality.**

Elizabeth’s teaching increased in the elements **Deep knowledge, Substantive communication** whereas in Elizabeth’s final observations, she had decreased in **Deep understanding, Problematic knowledge.**
Quality learning environment.

Elizabeth’s teaching increased in the elements Engagement, Social support and decreased in Student direction and failed to be coded at all for Explicit quality criteria throughout the study’s six focused observations. Josephine’s teaching scores however, using the QTm, decreased considerably between the initial and final classroom observations. The only increase in Josephine’s scores was in Inclusivity, which scored almost 5 in the final observations. Josephine scored over 3 however in Social support and Engagement in this Dimension.

Significance.

Elizabeth’s teaching increased in the element Knowledge integration over the time period and decreased in Background knowledge, Inclusivity and Connectedness.

Elizabeth scored 4 or above for Deep knowledge, Substantive communication (IQ), Engagement, and Social support (QLE) in the final observations. Elizabeth had therefore made increases in five elements and Josephine only one. There were some similarities between the two teachers that their highest scores were in Social support, Engagement, and Substantive communication.

Overview.

The only increase in Josephine’s scores was in Inclusivity. Elizabeth on the other hand has managed to remain pretty stable in QT classroom observations. Both first year teachers developed high Social support in their classrooms although their application of practice varied due to their different contexts and administrative issues which constrained Josephine’s ability to focus on pedagogy. Her middle observations in CL did however demonstrate that the focus on CL was working, she did increase in these observations in all aspects (except for use of CL strategies) and the drop in the final observations could be explained by these other factors, such as “burnout” and testing regimes at her school. Josephine’s decreased scores at the end of the school year demonstrated a lack of high observance of QT elements and may be ascribed to the time of year (final observations in December at the end of the school year) as comments from Josephine indicated a winding-down in terms of teaching at the stage of the year the final classroom observations occurred. Josephine neglected to consider what makes a good lesson, particularly ensuring there is high Intellectual Quality considered when planning CL lessons. Her QT scores had decreased considerably in the final observations, particularly in the dimension of Intellectual Quality. Her comments to the students also indicated that assessments (individual
assessments) were finished giving the impression that learning in the classroom at that particular time was not important, maybe again indicating a lack of thought about the intellectual quality of the lesson.

The dichotomy between Josephine’s beliefs about good teaching and her context, the school’s policy, on textbook use, was a challenge for Josephine throughout the project and this was apparent with these final classroom observations. Towards the end of the study she became more able to demonstrate ways of fulfilling both her own beliefs and philosophies and meeting the demands of her school context. Teachers’ reluctance to experiment with different pedagogies, especially those using group work, in an environment increasingly focused on individualised testing is becoming more common. As the school Josephine worked for had a whole-school approach of teaching from a textbook, she found that at the end of the year her students were bored because they were doing their Human Society and Its’ Environment (Social Studies) lessons straight from the text in order to complete the learning outcomes on time. To resolve this dilemma, rather than have every student complete the whole textbook she split the class into two groups and had one group complete one section and other group complete another section, and share, which finished the textbook-based learning outcomes. She tried to enact a democracy classroom despite these contextual challenges, and had High expectations for her students believing her students learnt more from learning from each other than if they had finished the textbook work individually - they learned by reporting to each other in class. Josephine also believed that this procedure required more use of Higher order thinking than if the students completed the textbook individually. This demonstrated her understandings about learning but also demonstrated how her context had significantly affected the gains she had been able to make over the course of the study, particularly in relation to QT. There was a strong correlation between teacher self-efficacy and “teacher burnout” with research supporting that autonomy is diminished when new teachers have to organise teaching in ways that are in conflict with their own beliefs (Skaalvik & Skaalvik, 2007). Josephine, as a beginning teacher, has often needed to consider the compromise between her University training which has advocated high Intellectual quality and differentiated learning tasks when designing learning activities and that of her school context which advocates the use of textbooks with little differentiation. Josephine had new ideas, wanted to try to develop her democratic classroom but struggled to have her ideas accepted or encouraged due to her school context.

Elizabeth’s final observations also demonstrated lower scores in both the IQ and SIG Dimensions and a slight increase in QLE. This demonstrated her ability to
maintain a supportive environment despite feeling exhausted at the end of her first year of teaching and despite dealing with the challenges of special needs students and parental concerns. A slight decrease in the other two dimensions however demonstrate her inability to maintain high **Intellectual quality and Significance** in her lessons in the final weeks of schooling- probably again due to her experiencing “burnout” and fatigue at this final stage of her first year.

Both Elizabeth and Josephine took ownership of significant aspects of their lessons (choice, time, pace, assessment) and not their students – they did not score highly in the areas of **Student direction**. Josephine in particular decreased in this element in final scores again possibly demonstrating the constraints felt at the end of the school year or due to the culture of their school not placing an emphasis on this importance.

Elizabeth believed that high levels of **Engagement** with a task are evidence of teaching success for a lesson. More specifically, later in the final interview, Elizabeth stated that a CL lesson should sound like students “passionately” talking about the topics of the task. This is linked to **Substantive communication**. Again, even later in the interview Elizabeth clearly stated that **Engagement** with CL tasks was increased because of the Substantive Communication that was occurring around the learning outcomes of the task. She had not seen any evidence of decreased **Engagement** when using CL tasks and her observed scores suggest **Engagement** had increased in the final observations. Josephine also saw increased **Engagement** of her students when working in CL groups as well as the increased self-esteem benefits as her students learnt to take risks in a more democratic learning environment where all students viewed were accepted.

Both first year teachers understood the importance of high **Social support** and their practice in this area was evident. When defining what a good teaching environment is Elizabeth stated that her classroom had a supportive environment that the students felt comfortable in - this suggested that the concepts of **Social support** would be evident and this is the highest element observed in her final observations. Elizabeth stated that a CL lesson should sound like students talking and asking questions - the classroom will not be quiet. In a classroom of “many voices and ears” (Vinterek, 2010, p.377) Elizabeth believed that CL tasks improved student **Substantive communication** and fostered a classroom where **Social Support** was evident. She saw a clear link between **Substantive communication** and **Social support**. This demonstrated her understanding of the need for her students to discuss and decide together and her understanding of the link with **Substantive communication** and **Social support**. Josephine also demonstrated an understanding
of the need for High Social support. Despite the graph indicating a decrease over time in this element (see Figure 5.4) all Josephine’s observations scored 4 or 5 except for the final observation scoring a 2. This indicated that at most times Josephine had developed a classroom environment where Social support was strong and all students’ contributions were valued.

In summary, both first year teachers developed high Social support in their classrooms although their application of practice varied due to their different contexts and administrative issues which constrained their ability to focus on pedagogy. Josephine, who had significant constraints on her ability to plan her own classroom practices, did demonstrate that the focus on CL was working in her mid-project observations, and she did increase in all aspects (except for use of CL strategies). The drop in the scores in the final observations could be explained by these other factors, such as “burnout” and testing regimes at her school.

Elizabeth’s final interview comments indicated she has had difficulty implementing the concepts of Inclusivity in a way that didn’t impede other students’ progress. She detailed an example of a student with a disability whose parents were very vocal about their child being included in all the same activities as the others in the class. Elizabeth struggled with the balance between parents’ wishes, Inclusivity, and the quality of all students’ learning experiences. Multiple expectations including the major issue of classroom management (McCormack et al., 2006) provide considerable stresses on early teaching experiences (McCormack & Thomas, 2003).

Beginning teachers like Elizabeth often have inadequate knowledge of school context, for example socio-cultural factors and expectations of parents in particular school communities. This can affect and challenge their prior knowledge and beliefs and their self-image as teachers (McCormack et al., 2006). In contrast the only increase for Josephine was in Inclusivity. Josephine was still in her “induction phase” (Feiman-Nemser, 2001a). Feiman-Nemser has argued that only some early career teachers are ready for continuing professional development which “extend(s) and refine(s) their repertoire in curriculum, instruction and assessment” (Feiman-Nemser, 2001a, p.1050). Others, still in their induction phase, which for some can last for up to three years, are more concerned with learning the context; designing responsive programs; creating classroom communities; enacting a beginning repertoire, and developing a professional identity. This first year teacher, Josephine can be defined as being in this induction phase. She struggled with many aspects of her context over the year. In this induction phase of teaching she was concerned with creating her classroom community, enacting a beginning repertoire and developing a professional
identity. She had come across frustrations with trying to fit into her school context / culture.

**Inclusivity** is important when developing “a classroom of many voices and ears” (Vinterek, 2010, p.377). Elizabeth tried to promote a classroom learning community that demonstrated the importance of equality, freedom and justice for all- she tried to enact a democracy stance but the contextual challenges she faced made that more difficult for her as she enacted her beginning repertoire and tried to develop confidence as a beginning teacher. Elizabeth believed that all her students should be included in the lesson and as her students learnt to appreciate the skills of others and were positively connected in their learning tasks, they would become more tolerant of students they may have otherwise not appreciated. Elizabeth attempted to develop her classroom with learning opportunities for everyone. She thus tried to extend “what is ordinarily available for all learners (creating a rich learning community) ...focusing on what is to be taught (and how) rather than who is to learn it” (Florian & Black-Hawkins, 2011, p. 818). She did not want to use learning strategies that were different for some.

There were some similarities between the two teachers in that their highest scores were in Social support, Engagement, and Substantive communication.

**Later Years Teachers (in Second and Third Year)**

**CL Key Elements – Practices**

**Grouping and social skills.**

Both later year teachers understood the importance of *heterogeneous groupings* and chose different grouping practices according to the needs of the students, whether that be personalities, skills or abilities. CL models state that groupings should be *heterogeneous*. Bill stated he grouped heterogeneously in all observations, stating they were random grouped more often in the final observations. Jill however either allowed her students to self-select groups throughout the study, stipulating that they become more random by asking two friendship groups to join another (usually male / female). This ensured *heterogeneous* groupings. At other times, for certain tasks she selected groups based upon ability and did at times talk to students about which abilities she considered as she was selecting students (i.e., an “arty” with an “academic” student) demonstrating again the heterogeneous nature of her groupings.

Both teachers decreased group sizes despite the fact that both had classes of older students (9-12 year olds) as their understandings of the need for subtasks to
ensure Individual accountability became more sophisticated. This is in keeping with CL studies that found when completing a task that has different components, a group of two or three appears to be best (Veenman et al., 2000; Williams & Sheridan, 2006). Jill used smaller group sizes, mainly groups of two and four towards the end of the study. This may have been attributed to the kinds of tasks she developed for CL. One of these was the writing of a group narrative and a larger group size would have been untenable for such a task due to the subtasks being designed around the parts of a narrative. Bill also used smaller group sizes towards the end of the study moving from groups of four and six to three. Again this may have been due to a realisation that each task needs subtask for optimum participation from all. The size of the group is important and depends on the nature of the task as well as experience of the students of working in groups. Despite the fact that Jill’s class could work in larger group sizes due to their social skills being more developed, she understood the importance of task design for CL to ensure individual accountability for positive interdependence. Social interdependence theory (Deutsch, 1949b; Johnson & Johnson, 1975; Lewin, 1946) posits that common goals are shared and each person’s success depends upon others and these two teachers understand this. The interactions that occur in the groups help to facilitate the learning (Gillies, 2002) with positive relationships occurring as students help each other (Cogan et al., 2000) as well as helping to enhance thinking.

Other Key CL Elements

Face to face tasks, common goal.

Both teachers recognised the importance of dialogue and face to face tasks for successful CL lessons. Bill’s comments about his class working face to face in CL groups to reinforce the importance of dialogue in CL, when working towards a common goal. He mentioned that education “happens in a dialogue with other people” (I2). Jill and Bill were observed as being more likely to encourage children to work together and use each other as a resource (i.e. encourages listening, taking turns, seeking clarification, building on ideas) as shown in Figures 5.5 and 5.7. Jill also commented on how CL lessons are more fun and that working with friends in a dialogue allows for achievement of outcomes but in a more positive and engaging way.

Jill recognised the need for the students to be aware of the common goal and instilled in them the importance of everybody being responsible for the content. Bill too demonstrated this when he commented on the careful design of the activities to ensure the students were all involved and accountable. The cognitive role of the teacher (De Lievre et al., 2006) incorporates the importance of planning and a consideration by the
teacher of how to design the task to ensure there is Deep understanding (consideration of content), how to connect it to real world purposes (Connectedness) and how the task can be related to group work and social skills.

**Positive interdependence and individual accountability.**

As Figures 5.5 and 5.7 show, Jill made serious attempts, and Bill made several attempts, to establish interdependence with ongoing teacher reminders, and so established *interdependence* in the students’ groups with division of the task in order to achieve *task interdependence*. The table also demonstrates how Jill made several attempts and Bill made some attempts to establish interdependence with ongoing teacher reminders so established interdependence in the students’ groups assigning different roles for *role interdependence*. Cooperative Learning tasks should be structured in a way that requires students to help each other understand with individual performances checked regularly to minimise “freeloading” (Gillies & Boyle, 2005). Jill’s improvement from initial to final observations is a great deal higher in this area of in establishing interdependence both through ensuring a *common goal*, as well as through sub-task distribution and in the giving of roles for *individual accountability*.

The division of resources (to ensure *individual accountability and positive interdependence*), was also markedly improved in Jill’s practice after initially demonstrating no use of this key element. Bill also commented on this division of resources and ways he finally used to encourage his students to be *individually accountable and positively interdependent*, for example by using different coloured pencils to more easily ascertain the writing contributions from individual students showing no initial use of this key element. Jill also made several attempts to establish interdependence with ongoing teacher reminders so established interdependence in the students’ groups with division of resources to achieve *resource interdependence*. Figure 5.7 shows that Jill was more likely to use the *language of CL* in her lessons (uses language that reflects the facts that Cooperative Learning strategies are being employed (i.e., talks about roles, responsibilities for tasks, compromising, decision making). Positive interdependence occurred when teachers ensured that they set up cooperative goal structures as this ensured group success when individual goals are met. *Positive interdependence* helps students to develop a sense of “group” as they “recognise the need to support each other’s learning” (Gillies & Boyle, 2006, p.430). It is this linking of students interdependently, where students must work together to solve a problem, contribute to discussions, share resources and promote each other’s learning, that establishes a task as a Cooperative Learning task (Gillies & Boyle, 2006).
Jill also attempted to obtain this interdependence through the use of **CL strategies** learned in professional learning sessions. She introduced the use of some **CL strategies** (Think/pair share; placemat strategy; bundling; jigsaw; silent jigsaw; hot potato /cumulative brainstorm; talking tokens during the study). Her use of the placemat strategy was demonstrated when she instructed the students to “*use it as a tool to check that you have all these people’s points in your PP presentation*”. This reflection strategy ensured all members of the group were included and recognised for their contributions. Jill’s use of **CL strategies** improved. However it is noted that in a class where CL is already quite well established the use of these strategies was not really needed to demonstrate cooperation was occurring. Many of these strategies are excellent when starting out with CL as they ensure students take turns (e.g., talking tokens) and are *individually accountable* (e.g., the placemat strategy—see Jolliffe for description of many Cooperative Learning strategies) (Jolliffe, 2007). In a class established on trust and respect and where high expectations form the teacher do not allow students to freeload, these strategies were not required as much. However in Bill’s observed CL lessons he did not score as highly as Jill in any areas suggesting if he had utilised some of these strategies his class would have improved in CL.

**Reflection.**

Both Jill and Bill were more likely to reinforce student *reflection* by either utilising proformas or language that encourages monitoring of cooperative skills and reflection (e.g., use of encouragement, reflection sheets for group processes and tasks). Jill understood that when students reflect on both task outcomes and social skill / group processing this increases both academic and social outcomes. *Figure 5.7* demonstrates how Jill made serious attempts to establish *interdependence* with ongoing teacher reminders so that she established interdependence in the students’ groups with mutual goals in order to promote *goal interdependence*. Bill also emphasised the importance of stopping at times and reinforcing *social skills* in his lessons. The four roles in CL for the teacher, identified by De-Lievre et al. (2006), incorporated a fifth identified role, the metacognitive role. This metacognitive role is used when regulating the cognitive and affective learning that is occurring during CL. The cognitive role incorporates the importance of planning and in particular thinking about how the task can be related to group work and *social skills*. This reflection phase then increases the likelihood of social skills development and students’ relationships improve in the classroom. Jill in particular concentrated on developing strong relationships in her classroom. Care, trust and respect need to be developed in student-student and student-teacher relationships (Hattie, 2003; Rowe, 2003) and this
occurs when students work cooperatively. Students who work cooperatively need to display respect and personal regard for others whilst working towards achieving their group goal whilst respecting others’ opinions and being inclusive by accepting others’ ideas.

Jill’s final definition demonstrated an even more holistic viewpoint of CL seeing it as essential because it gives the best chance for all her students to learn and “develop”. She was beginning to identify CL as a strategy to increase both student learning outcomes and student social development demonstrating the equal importance of the two to her. Further comments indicated her growth as a teacher and a growth in her understandings of practice in CL:

I wish I’d videotaped my first term of CL to what I do now as I’ve grown a lot . . . I realised the students were individually doing their set task and they weren’t gluing together.

This statement confirmed that although she was using CL prior to the study, it was not very successful CL. She demonstrated her deep understanding of CL by the end of the study. The success for her also came when she was promoted at the end of the year.

I don’t believe I would have got that position had I not done this study as well because I think I’ve included a lot of what I’ve learnt in the study in my application and had evidence to back that up. I’m going to be able to have the opportunity to team teach and have professional development days there where I’ll hopefully be able to encourage others. (I2)

Later Year Teachers’ Practices in QT

QT and links to CL practices.

Below I will examine how the QT graphs provide evidence of improved practice in teaching generally supported by classroom observations of the quality of teaching (according to the NSW QTm) in that classroom as well as from interview data and avowed intentions (e.g., reflective diary and action plans).

Their mean scores for initial classroom observations were far higher than those observed in the Systemic Implications of Pedagogy and Achievement in NSW Public Schools (SIPA) research study (2004-2007) which was 46.42. They were also higher than the first year teachers demonstrating that the teachers in this study who were interested in CL were able to demonstrate higher scores in QT when they had more years of teaching experience than those in their first year. As Gold (1996) states the
The first years of teaching have a tremendous impact on the professional life of a teacher and a professional learning program focused on pedagogy is important to support teachers like these who have experienced challenges with their contexts as well as grappling with issues in their first year of teaching.

Table 5.16

<table>
<thead>
<tr>
<th>Later years teachers</th>
<th>Mean score teachers initial obs.</th>
<th>Mean score teachers final obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>QT total (IQ+QLE+SIG)</td>
<td>QT total (IQ+QLE+SIG)</td>
</tr>
<tr>
<td>Bill</td>
<td>61.99</td>
<td>64.5</td>
</tr>
<tr>
<td>Jill</td>
<td>64</td>
<td>65</td>
</tr>
</tbody>
</table>

### Intellectual quality.

Bill increased in all three dimensions over the study particularly in the elements Deep knowledge, Deep understanding, Higher order thinking, Substantive communication (IQ). Jill demonstrated the largest increases in all elements compared to any other teacher. The initial observations show 3 or above for IQ (except for Problematic knowledge) and by the end of the study in IQ she scored 4 or above except for Problematic knowledge.

### Quality learning environment.

Bill increased in all three dimensions over the study particularly in the elements Engagement, High expectations (QLE). Jill demonstrated the largest increases in all elements compared to any other teacher. The initial observations show 3 or above for QLE (except for Explicit quality criteria) and finally in QLE she scored 4 or above except for Explicit quality criteria and Student direction.

### Significance.

Bill increased in all three dimensions over the study particularly in the elements Knowledge integration, Inclusivity, Connectedness (Sig). For Jill in Sig all elements were initially above 3 except for Background knowledge. Explicit quality criteria, Knowledge integration and Connectedness and finally in the Sig dimension she scored 4 or above except for Connectedness demonstrating an increase in scores in all three dimensions.

### Overview.

These two more experienced teachers failed to score as highly in Problematic knowledge, Explicit quality criteria and Connectedness which is also supported by
a recent PhD study of experienced NSW HSIE teachers’ classroom observations (n=61) which also found a median and mode of 3 for **Connectedness** with a mean score (mean=2.82, std dev=0.885) around the mid-point (Edge, 2012a). The low scores in **Problematic knowledge** are also consistent with this large classroom observation study using the NSW Quality teaching model observation schedule. This study showed **Problematic knowledge** as having a mean score (mean=1.92, std dev=0.802) well below the theoretical mid-point (3), with about 68% (41 lessons) of the classroom observations within the score range of 1.12 to 2.72 (Edge, 2012a). The low scores in these three elements are not different to those found in other studies of experienced teachers; however it can be noted that Jill and Bill scored higher in these elements than those reported in the 2012 study.

In Bill’s Initial and final classroom observations in QT there has been an increase in all elements, except for **Explicit quality criteria** (EQC). There was no evidence of EQC in the Bill’s final three observations. Perhaps he considered that it is not necessary to provide explicit criteria, some of his reflection and interview comments suggest that he thinks this isn’t necessary in CL lessons. This explicit teacher role is not understood by Bill despite the fact he stated in his final interview that a successful CL lesson will be one where he constantly monitors and provides feedback to the students to keep them on-task and that the **Explicit quality criteria** is detailed in a rubric he had created. However, there is no real evidence in the final observed lessons that he provides EQC and refers to the quality of the work they are to produce regularly in any phase of his lessons. Jill also scored the lowest in EQC in final observations compared to all other elements. EQC is related to “**what extent are students provided with explicit criteria for the quality of work they are to produce? To what extent are those criteria a regular reference point for the development and assessment of student work?**” (NSW Department of Education and Training, 2003c).

Doctoral research in 2012 into the NSW Quality Teaching model found, that 60% of lessons in this study (of eight experienced HSIE (Social Studies) teachers from five public secondary schools and 61 lesson observations) scored a 1, where no explicit statements were made about the desired quality of students’ work (Edge, 2012a). This suggests this criterion is scored low in many teachers’ classrooms.

Bill believed in and sees a link between **Engagement and Social support and Student direction** but still struggled with the challenge of including all students, including those with high special needs, in his classroom. When describing an effective lesson (the dog walking business computer game simulation CO) Bill stated that the lesson the day that allowed him to prepare his students allowed them to be highly involved and observed that the students had fewer questions about how to do
the task. He observed his students “working together” to research answers to their questions using resources other than asking the teacher - this suggested that students encouraged each other to participate in the pursuit of learning. However there was a special needs student in Bill’s class who was not really included in observed lessons. In the dog walking lesson she did not really participate and there was no attempt for Bill or other students to encourage her participation. In the final observed lesson many of the special needs students were absent and Bill scored highly in Social support. Bill had seen evidence, noted in his final interview, of non-inclusionary behaviour towards one student because the class (seemingly as a whole) no longer wants to invest the time to assist that student's learning – the gap between that student and the rest of the class is too great. Jill however takes a better developed teacher “social role”, helping her students to construct knowledge together; ensuring active involvement of all her students is confirmed and supported by all in the class. She too had a number of special needs students in her class. Her teaching practice always demonstrated a consideration of the importance of Social support when grouping her students.

A focus on the importance of Substantive communication is also apparent from the two teachers in their second and third years of teaching. Bill understood the importance of building on students' Background knowledge and encouraging Substantive communication for successful group work processes and Substantive communication is also high in Jill's classroom and her students also demonstrate Engagement as they are given opportunities for Student direction. Both teachers, who successfully developed tasks with individual accountability and positive interdependence in final practice, were able to develop Higher order thinking in their classrooms. Jill and Bill also has a higher score for QLE than the other two Quality Teaching dimensions which demonstrates all four teachers are scoring higher in this dimension than the other two.

Jill demonstrated the largest increases in all elements compared to any other teacher. Jill's observation scores in QT were high at the beginning of the study and remained high throughout. She was a teacher who was ready to learn more deeply about her job and was challenging her thinking and enabling her to flourish (Wilson & Demetriou, 2007). She grappled with the early challenges of beginning teaching - parents, classroom management, day to day organisation, assessment (McCormack, et al., 2006) and school culture/context in the past and was now ready to reflect more readily and embark on a journey of professional knowledge "knowledge which is embedded in ‘praxis’: reflective knowledge in and through action” (Ponte, 2002, p. 341). She started by the end of the study to focus more upon skills, methods and
competencies (Vonk, 1989) and appeared to reach “the “stabilisation” or “engagement” phase, in which one tries to master core aspects of the job, seeks out and area of focus” (Huberman, 1989, p.348). She saw the value in the professional learning program she had been involved in for her continued professional growth, especially as a teacher leader, as she was at a stage where she was ready to extend and refine her repertoire (Feiman-Nemser, 2001).

It has stimulated me, I was having a sense I was thirsty for more knowledge and I have responded well and I have learnt so much . . . . You get bogged down in the day to day but the time to seek out more professional development wasn’t there, where this has really kept me on task, and it’s, yeah my heart is pounding with passion for this again and my brains going nineteen to the dozen! (I2)

The following chapter (Chapter 6) considers how these four teachers have developed their understandings of CL and enacted this in practice and how this has led to a development of a democracy classroom. The chapter explores how an inclusive democracy classroom using Cooperative Learning looks. It examines the relationship between Cooperative Learning and a democracy classroom and demonstrates the indicators or signs of democracy that are evident in such classrooms. It also explores the links between a democracy classroom and the QTm, to ascertain whether there are certain elements which directly link to developing teaching with a democracy stance.
Chapter Six:
Establishing a Democracy Stance: CL and Good Teaching

In this chapter I explore evidence of the relationship between Cooperative Learning and a democracy classroom from the four case studies. I demonstrate the indicators, or signs of democracy, evident in such classrooms and how these signs of democracy are strengthened by the use of Cooperative Learning (CL) when the teachers in these classrooms develop a particular democracy stance. This chapter thus explores the research question: How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?

The definitions of the indicators of democracy classrooms were outlined in Chapter 2 on pages 42-52. Below are a summary of these definitions and some clarification of how these democratic concepts could come together in a Cooperative Learning focussed classroom. I will then examine the specific observational evidence of these four classrooms, and the classroom teacher views, of how their understandings and practices in CL and good pedagogy relate to their democracy classrooms. Firstly I explain the posited links between a democracy classroom and the Quality Teaching model, the model chosen in this study to measure good pedagogy. A summary is then provided of the references identified in interview comments in relation to how the researcher perceived each teacher was building their democracy classroom. Then all four teachers’ classroom practice is examined in relation to how they demonstrated their “democracy stance” by examining their final interviews, classroom observations, reflective diary and action plans. The indicators (signs of democracy) of these four classrooms are examined alongside the key CL elements with evidence from teachers’ classroom practices and understandings explored in Tables 6.3 - 6.6 below. Finally implications of similarities and differences between the stance of the four teachers are explored. I grouped the indicators (signs of democracy) into four main aspects as described below.

Classroom Democracy: Some Definitions

Aspect One: Democracy Stance; Culture of Communication; Democratic School Culture

Democracy “stance” (Vinterek, 2010) is about how teachers demonstrate both their knowledge about democracy classrooms and how they enact this knowledge in
their classroom practice. Stance is seen as a combination of values and the pedagogies selected by teachers and the knowledge used to employ their practice. It is about a way of thinking, and the values and attitudes that teachers have that indicate a democracy perspective and teachers who believe in social justice, human rights and intercultural capacity.

A strongly related concept is that of a democracy classroom where high student participation, high social support and a strong sense of community and strong consideration for the affective domain predominate. These classrooms have teachers and students who believe in developing strong relationships (between students and students as well as students and teacher) and they can be seen as being a community of collaboration. Teachers in democracy classrooms believe in values-based education and are proactive about developing their students’ social skills, which they believe leads to high self-esteem in their students as well as students who are willing to take risks. Teachers in democracy classrooms are more likely to be inclusive practitioners who develop a culture of communication. I have developed this notion of a democracy classroom from the work below and above.

A culture of communication and a democratic school culture are developed in democracy classrooms. Signs or indicators of this include a willingness to listen and express thoughts (Vinterek, 2010), the sharing of perspectives; dialogue, many of these being “deliberative dialogues” which help to promote equality, freedom and justice for all (Vinterek, 2010). They can be seen as “a classroom of many voices and ears” (Vinterek, 2010, p.377). These democracy classrooms have a climate of trust; developing students with a high self-esteem due to a concentration on the affective domain by teachers and as a result improving relationships in the classroom. Students take responsibility for themselves and trust in the ability of oneself (Ekman, 2007; Vinterek, 2010) is promoted as well as risk taking and developing respect and tolerance and a sense of justice (Thomas & Witenberg, 2004; Vinterek, 2010) allowing students the opportunities to make choices and form opinions (Vinterek, 2010). This leads to recognition of equal worth in the classroom. These classrooms with active engagement also develop such democratic sentiments such as open mindedness, decision making with others and taking others’ perspectives (Nagda et al., 2003).

Aspect Two: Community of Practice and Rich Learning Community

Research, from areas other than education for democracy, is also related to the ideas of a democracy stance and a democracy classroom. Democracy classrooms can also be seen as a community of practice (Wenger, 1998) and a rich learning community. Tolerance and respect and concern for one another (Greene, 1993) are
developed in these classrooms. Teachers and students believe in shared ways and shared discourse (Wenger, 1998) and pro-social behaviours (Morcom & Cumming-Potvin, 2010). They are classrooms where all learners participate in classroom life (Florian & Linklater, 2010). Democracy classrooms also build on concepts from the field of inclusive practice.

**Aspect Three: Inclusive Practice**

Inclusive practice using inclusive pedagogies are about including all students in the classroom and making the learning opportunities in the classroom available for all to participate fully. Democracy classrooms are classrooms that use pedagogies that increase participation and decrease exclusion such as Cooperative Learning. Teachers are able to respect and respond to human differences in ways that include learners in what is available in daily classroom life. Trusting relationships (Ferguson-Patrick, 2008) are built in these classrooms and the improved relationships also leads to students with high self-esteem (Slavin, 1987b). Learners are trusted to make good decisions about learning and opportunities for learning are part of a shared experience with participation in a learning community (Florian & Black-Hawkins, 2011).

**Aspect four: Social Learning**

Thus democracy classrooms are more likely to focus on the importance of social learning; they are holistic learning environments that consider the whole child. As positive and respectful relationships (Ryan & Patrick, 2001) are built, students in these classrooms have a sense of belonging (Osterman, 2000) with many opportunities to talk about values (Lovat & Toomey, 2007) as they build a collaborative community. It can be said that they have “relational trust” (Bryk & Schneider, 2003).

**Cooperative Learning and Democracy Classroom Building**

It was evident from the data that the teachers who were able to create a Cooperative Learning environment developed democracy classrooms. CL is a pedagogy that ensures all students participate in classroom life. The consideration of feelings in CL classrooms by providing high social support, and a strong sense of community led to this “democracy stance” (Vinterek, 2010) and it was also developed by having a strong consideration of the affective domain in CL.

These classrooms developed strong relationships and their communities of collaboration considered values, proactive social skills leading to high self-esteem and risk taking in their students. The inclusive practices used by the teachers lead to a
democracy school culture and this democracy stance. Teachers tried to overcome exclusion by using inclusive practices and by building a democracy stance teachers also developed a culture of communication. The importance of dialogue in CL is crucial and has been outlined in the literature: these classrooms contained teachers and students, who participated in the classroom, were willing to express their thoughts; exhibited a willingness to listen; and who demonstrated respect and tolerance - they developed this culture of communication by having this stance. It could also be postulated that they developed a community of practice with mutual relationships, shared ways and discourses (Wenger, 1998). With a strong belief in social learning, these teachers also promoted self-esteem and developed students who had trust in their ability.

The Quality Teaching Model and the Democracy Classroom

There are clearly demonstrable links between the Quality Teaching (QT) model and features of a democracy classroom. Social support from the Quality Learning Environment (QLE) dimension, Inclusivity from the Significance (SIG) dimension and Substantive Communication from Intellectual Quality (IQ) are the three elements that most clearly connect to the aforementioned aspects of signs of democracy identified in democracy classrooms. As well as theoretically, the instances of their appearance in Cooperative Learning classrooms in this study as evidenced in 6.3-6.6 clearly indicated they deserved further notice as possible indicators of a democracy classroom.

Social support – QLE

In a democracy classroom there is more likely to be strong Social support as both teachers and other students give supportive comments and value the contributions of all. Students in a CL classroom are more likely to take risks due to team skills (social skills) being taught for increased group solidarity and value of all students contributions with strong mutual respect. Strong mutual respect is encouraged in cooperative tasks and reflective thinking will focus students and teacher on group and individual social skills as they value contributions from each member.

Inclusivity - SIG

In a democracy classroom students from all groups are significantly included in all aspects of lessons. CL is an inclusive pedagogy that encourages a democracy

6 Bold indicates key elements of the QTm throughout this chapter; italics indicates key CL elements throughout the rest of this chapter
classroom environment and a pedagogy that ensures all students’ learning will be considered. In a CL classroom students from all groups are included due to heterogeneous grouping and due to social skills being developed throughout cooperative tasks with these reflected upon during, and at end of task. The sharing of perspectives is necessary as students are asked to complete a common goal in a CL task and through face to face interaction “a classroom of many voices and ears” (Vinterek, 2010, p.377) is promoted.

Substantive communication - IQ

Children constructing explanations and demonstrating reasoning, arguments to each other through substantive communication will also develop social skills. In a democracy classroom there is evidence of “deliberative dialogues” to promote equality, freedom and justice for all (Vinterek, 2010). McCoy and Scully (2002) define deliberative dialogue as a more holistic kind of communication that recognises the importance of shared work, collective action and building connections with community. Students who address multiple perspectives and / or solutions through substantive communication are likely to develop reflective thinking about the task. More detailed information from the four cases are presented below.

Demonstrating a Democracy Stance in Classroom Practices and Understandings: An Overview of the Four Case Studies

The results in the table below (Table 6.1) depict the three QT elements identified from the QTm and the observed scores in these dimensions from the teachers in the study before and after professional learning sessions in CL. The results indicated that all four teachers had increased indicators of democracy classrooms after the intervention period.

Jill's, Bill's and Elizabeth's scores in QT in these three elements increased over time (see Tables 5.4, 5.10 and 5.13 Chapter 5). Josephine's scores remained stable, although they were lower post study, as a result of her grappling with the challenges of beginning teaching in a particularly challenging context. It has been shown in Chapter 5 that Josephine was suffering “burnout” as well as being in a high stakes testing environment that discouraged group work and emphasised individualised learning. At the end of the year her ability to plan and implement CL lessons was reduced due to these factors. Josephine however did demonstrate an increase in inclusivity as she endeavoured to ensure all her students, from all groups, were included in all aspects of her CL lessons as she enacted her democracy stance.
This table below (Table 6.1) demonstrates the links between the QT model and the democracy classroom and the observation scores each teacher obtained in these elements prior and after the period of intervention of CL professional learning.

Table 6.1
QT Elements that Match Features of a Democracy Classroom: QT Classroom Observation Coding Pre and Post Intervention

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Quality Teaching classroom observation (QLE)</th>
<th>Social Support (SS) (QLE)</th>
<th>Inclusivity (Inc.) (SIG)</th>
<th>Substantive Communication (SC) (IQ)</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elizabeth</td>
<td>Pre &gt;4</td>
<td>4</td>
<td>&gt;3</td>
<td>Increased Inc. and SC</td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>5</td>
<td>&gt;3</td>
<td>&gt;4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Josephine</td>
<td>Pre &gt;4</td>
<td>&gt;3</td>
<td>5</td>
<td>Increased Inc.</td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>&gt;3</td>
<td>&gt;4</td>
<td>&gt;3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bill</td>
<td>Pre &gt;4</td>
<td>&gt;4</td>
<td>&gt;4</td>
<td>Increased Inc. and SC</td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jill</td>
<td>Pre &gt;4</td>
<td>&gt;3</td>
<td>4</td>
<td>Increased Inc., SS, and SC</td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>5</td>
<td>5</td>
<td>&gt;4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table below (Table 6.2) summarises the references identified in interview comments in relation to how each teacher was building their democracy classroom. As understandings about CL in these interviews were analysed and coded, certain signs of democracy were also identified (as indicated in Methodology chapter). Comments made clarified the teachers’ perceptions of democracy classrooms whilst enacting CL.

Table 6.2
Summary of No. of References to Democracy Stance over the Study (Initial to Final Interview)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Initial refs to democracy stance prior to intervention</th>
<th>Final refs to democracy stance after intervention</th>
<th>Increases in references over study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elizabeth (1st year)</td>
<td>25</td>
<td>33</td>
<td>8</td>
</tr>
<tr>
<td>Josephine (1st year)</td>
<td>9</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Bill (2nd year)</td>
<td>16</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Jill (3rd year)</td>
<td>45</td>
<td>50</td>
<td>5</td>
</tr>
</tbody>
</table>

This table above shows the number of references made to a democracy stance in their interviews. It was obvious that the number of references increased after the period of intervention using CL in their classrooms. As they continued to use CL, the teachers developed their understandings of building a democracy classroom.
Classroom observations, reflective diaries and comments in their action plans also demonstrated the building of this stance (see tables 6.3 - 6.6).

Initially Elizabeth’s mentioned more aspects of a democracy stance than either of the other two first and second year teachers. However it is Jill that demonstrated the strongest adherence to this stance and also enacted this stance in her democracy classroom (through evidence of practice). Although Bill made few comments to indicate he was developing an understanding of a democracy stance in his interviews, he did demonstrate through practice that this democracy classroom was emerging under his guidance. Even Josephine, a first year teacher, who seldom mentioned understandings of aspects of the democracy stance in her interviews, demonstrated practice that showed this stance was emerging.

**Demonstrating a Democracy Stance in Classroom Practices and Understandings: Descriptions from the Four Case Studies**

**Elizabeth – first year teacher**

Elizabeth indicated the importance of inclusivity in her final interview comments. She also stressed in interview comments the importance of setting up a classroom environment where her students feel accepted and were involved. Democracy classrooms are more likely to have teachers who encourage their students to be engaged in dialogue, encourage tolerance and the examination of tasks from different perspectives as well as develop the interpersonal relationships of their students. Elizabeth had started to demonstrate such a classroom in her initial classroom observations and the researcher examined how this had developed in her final observations over the study and in her final interview comments. She made no references in her action plans or reflective diaries to a democracy stance. As noted in Table 6.2 Elizabeth’s interview, comments related to a democracy stance in her initial interview were 25. In her final interview, she made 33 comments in reference to a democracy stance (see Appendix 11 for coding summary results). Although difficult to definitively see these increased number of comments as an absolute acknowledgement of a classroom democracy and a focus on a democracy stance these comments were also supported in the classroom observations of practices. The comments were linked to the key factors of a democracy classroom as identified previously: a democracy stance and culture of communication; a democratic school culture; a community of practice; a rich learning community; inclusive practice; and social learning. The following table explores this evidence.
Table 6.3
A Democracy Classroom IN PRACTICE through (I2) and (CO): Elizabeth’s Classroom

<table>
<thead>
<tr>
<th>Indicators of democracy classrooms</th>
<th>Evidence of democracy classroom: Elizabeth’s classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aspect 1: Democracy stance; Culture of communication; Democratic school culture</strong></td>
<td></td>
</tr>
<tr>
<td>Willingness to listen (Vinterek, 2010)</td>
<td>so it was kind of like he was teaching me, so it was good in that opportunity you can get kids to tell you...it makes it more like the whole ownership and personal thing and they can sort of explain things to you...(I2)</td>
</tr>
<tr>
<td>Related CL key elements: Individual accountability, Positive interdependence and a sense of group, Face to face interaction</td>
<td>Talking, asking questions, yeah I don’t know becoming passionate about what they’re talking about, like yeah basically, obviously talking it’s not going to be a quiet little lesson...(I2)</td>
</tr>
<tr>
<td>Willingness to express thoughts (Vinterek, 2010) and share perspectives</td>
<td>you need to write down your own ideas and then share them(CO)</td>
</tr>
<tr>
<td>Related CL key elements: Common goal, Face to face interaction</td>
<td>Did you talk to your partner- it’s okay if you didn’t get to write it down but did you discuss? (CO)</td>
</tr>
<tr>
<td>Dialogue and A classroom of many voices and ears (Vinterek, 2010)</td>
<td>talk together, discuss and agree on the rules (C0)</td>
</tr>
<tr>
<td>Related CL key elements: Common goal, Positive Interdependence</td>
<td></td>
</tr>
<tr>
<td>Tolerance and sense of justice (Thomas &amp; Witenberg, 2004)</td>
<td>Much more tolerant I think. I actually thought this morning, you know I thought it more individuals but they’re not as egocentric as they were say at the beginning of the year ‘me, me, me’, like yeah they’re more sharers now...(I2)</td>
</tr>
<tr>
<td>Related CL key elements: Common goal, Positive interdependence Individual accountability</td>
<td></td>
</tr>
<tr>
<td>High self-esteem- affective domain</td>
<td>It's a supportive environment and you know that the kids feel comfortable, I mean to me they appear comfortable in here and very, you know happy and stuff and from the parents they say, oh they love coming to school and stuff, so I think oh ok well I might be doing something right...(I2)</td>
</tr>
<tr>
<td>Improved relationships</td>
<td></td>
</tr>
<tr>
<td>Related CL key elements: Interpersonal skills</td>
<td></td>
</tr>
<tr>
<td>Recognition of equal worth</td>
<td>well done group- I really like the way these groups are working!(CO)</td>
</tr>
<tr>
<td>Related CL key elements: Positive interdependence and a sense of group</td>
<td>he’s improved in working in groups whereas before he’d be one of those kids that’d sit back and let everyone else do it...(I2)</td>
</tr>
<tr>
<td>Active engagement</td>
<td>Talking, asking questions, yeah I don’t know becoming passionate about what they’re talking about, like yeah basically, obviously talking it’s not going to be a quiet little lesson...(I2)</td>
</tr>
<tr>
<td>Related CL key elements: Common goal</td>
<td></td>
</tr>
<tr>
<td><strong>Aspect 2: Community of practice and Rich learning community</strong></td>
<td></td>
</tr>
<tr>
<td>Pro-social behaviours (Morcom &amp; Cumming-</td>
<td>I think it’s [CL] beneficial for them especially my</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Potvin, 2010
Related CL key elements: Social skills reflection, Interpersonal skills

little boy Colin he seems to be getting quite a bit out of it, like socially. He’s just come so out of his shell...(I2)

You can see like the kids are sort of socialising more together outside the classroom too, not sort of sticking with the same groups...(I2)

Shared discourse (Wenger, 1998)
Related CL key elements: Face to face interaction, Common goal

Building like your knowledge and feeding off others I think..[is what happens in CL lessons]...(I2)

All learners participate in classroom life (Florian & Linklater, 2010)
Related CL key elements: Individual accountability, Positive interdependence and a sense of group

next year I’m definitely introducing talking tokens, I think that’d be a really good strategy because they’re such, they’re a class full of gusto and I mean I love the enthusiasm but I think that’ll sort of be a good thing to use to sort of give everyone a chance..(I2)

Aspect 3: Inclusive practice

Increasing participation and decreasing exclusion
Related CL key elements: Individual accountability

providing explicit expectations during working in groups, while students working in groups and also like modelling the activities and the different Cooperative Learning activities that are available and just monitoring the room and chatting with them...(I2)

Learners trusted to make good decisions about learning (Florian & Black-Hawkins, 2011)
Related CL key elements: Common goal, Interpersonal skills

because when they’re working in a group they’re sort of more, I’ve found they’re more talking about what they need to talk about where as if they’re individual and they’re talking it’s usually about what’s going on during the weekend and it’s that sort of thing so yeah they’re definitely more engaged...(I2)

Opportunities for learning that will be part of a shared experience - participation in a community with equity demonstrated through unity, not ‘sameness’ (Florian & Linklater, 2010).
Related CL key elements: Individual accountability, Common goal, Positive interdependence

using the strengths and weaknesses to promote you know, deeper understanding and knowledge...(I2)

Aspect 4: Social Learning

Positive respectful relationships (Ryan & Patrick, 2001)
Related CL key elements: Interpersonal skills, Face to face interaction

I think I’ve sort of learnt to go ok well this is what is important this is what isn’t important and I think they know my expectations and I think they’ve settled (I2)

Josephine – first year teacher
Josephine made only nine initial interview comments related to the democracy stance and in her final interview she made fourteen comments demonstrating in her comments she did not initially focus on how to develop a democracy classroom. Elizabeth, the other first year teacher, made far more references to the democracy
stance demonstrating evidence of a more developed democracy classroom. Most of the comments in both Josephine’s initial and final interviews were in relation to the development of classroom culture. When coding interviews for the democracy stance, the “classroom culture” code related to both culture of communication and democratic school culture. She made no references in her initial interview to demonstrate she understood the importance of promoting self-esteem, risk taking or trust in ability, whereas in the final interview some references were made to these aspects. The following table indicates some of the examples of her comments in her final interview demonstrating she was beginning to develop her democracy classroom. There was little evidence from any other sources except for her reflective diary to indicate a democracy classroom in practice as the table below demonstrates.

Table 6.4
A Democracy Classroom IN PRACTICE through (I2) and (RD): Josephine’s Classroom

<table>
<thead>
<tr>
<th>Indicators of democracy classrooms</th>
<th>Evidence of democracy classroom: Josephine’s classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect 1: Democracy stance; Culture of communication; Democratic school culture</td>
<td></td>
</tr>
<tr>
<td>Willingness to listen (Vinterek, 2010)</td>
<td>I always ask them questions and try to get them thinking more (I2)</td>
</tr>
<tr>
<td>Dialogue and A classroom of many voices and ears (Vinterek, 2010)</td>
<td>I think if you’re cooperative lesson’s working it’ll be that engaged buzz that they’re just talking, talking, talking about being on task and compromising and sorting things out and stuff which we learnt late in the year but it was good to see it was developing (I2)</td>
</tr>
<tr>
<td>Related CL key elements - Individual accountability, Positive interdependence and a sense of group, Face to face interaction</td>
<td></td>
</tr>
<tr>
<td>Tolerance and sense of justice (Thomas &amp; Witenberg, 2004)</td>
<td>I was just a facilitator if there was a bit of a disagreement going on well ok come back, is this compromise? (I2)</td>
</tr>
<tr>
<td>Related CL key elements - Positive interdependence</td>
<td></td>
</tr>
<tr>
<td>Climate of trust (Finnan et al., 2003)</td>
<td>And when they had those mixed ability groups they would take a risk but there was someone maybe smarter next to them that could say, yeah let’s go with it or no I don’t think so (I2)</td>
</tr>
<tr>
<td>Related CL key elements - Individual accountability</td>
<td></td>
</tr>
<tr>
<td>Recognition of equal worth; Democratic sentiments-open mindedness, decision making with others, taking others’ perspectives (Nagda et al., 2003)</td>
<td>…because they were mixed ability you always had someone coming with a leading idea that the others could work off so once the structure was right the engagement was pretty successful (I2)</td>
</tr>
<tr>
<td>Related CL key elements - Positive interdependence and a sense of group</td>
<td></td>
</tr>
<tr>
<td>Aspect 2: Community of practice and Rich learning community</td>
<td></td>
</tr>
<tr>
<td>Pro-social behaviours (Morcom &amp; Cumming-Potvin, 2010) and Concern for one another (Greene, 1993)</td>
<td>[And do you find that after you taught those social skills that the atmosphere in the classroom became more respectful?]</td>
</tr>
<tr>
<td>Related CL key elements-Social skills reflection, Interpersonal skills</td>
<td>Absolutely. [And like you say the risk taking was becoming more apparent because they felt</td>
</tr>
</tbody>
</table>
Shared discourse (Wenger, 1998)
- Related CL key elements- Face to face interaction, Common goal

All learners participate in classroom life (Florian & Linklater, 2010)
- Related CL key elements- Individual accountability, Positive interdependence and a sense of group

<table>
<thead>
<tr>
<th>Aspect 3: Inclusive practice</th>
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</thead>
<tbody>
<tr>
<td>Increasing participation and decreasing exclusion</td>
<td>Related CL key elements- Individual accountability</td>
<td>there’s a few people up here who thought they could have never had second or third speaker and they just shone, in front of everyone and everyone was really proud of them and so it was encouraging risk taking as well (I2).</td>
<td></td>
</tr>
<tr>
<td>Opportunities for learning that will be part of a shared experience - participation in a community with equity demonstrated through unity, not “sameness” (Florian &amp; Linklater, 2010),</td>
<td>Related CL key elements- Individual accountability, Common goal, Positive interdependence</td>
<td>When you structure the groups correctly it’s like some students scaffold other students learning, you know like if you sort of put same ability groups I don’t think they’d get anywhere but you’ll find that some students can pull other students up and support their learning and that sort of thing and it gives them a bit more confidence to try things they wouldn’t have normally tried if they were in a same ability group so I found that everyone just scaffolded each other’s learning (I2).</td>
<td></td>
</tr>
</tbody>
</table>

Aspect 4: Social Learning

| Positive respectful relationships (Ryan & Patrick, 2001) and a Sense of belonging (Osterman, 2000) | | I enjoyed the socialisation of school, growing with the students, socially growing with them, getting to know them, watching them develop into young adults but also seeing friendships develop (I2) | |
| Related CL key elements- Interpersonal skills, Face to face interaction | | no one was ever ashamed and like when you read out a mark and went that was 25% extra than you got last time and the class would just break into cheers and claps and I did something to get those 25 marks and just to see the look on their face and the response and the support | |
Bill – second year teacher

Bill made 16 references to a democracy stance in both his initial and final interview. This is far less than Elizabeth (33 refs in final interview) but more than Josephine (14 refs final interview). Most of his references were in relation to the development of classroom culture and to student social support. Despite only sixteen references to the democracy stance in his final interview there was a lot of evidence of the development of this stance in his classroom observations, reflective diary comments and his action plan. He was enacting a democracy classroom despite the fact his interviews do not reflect this. The following table demonstrates a sample of evidence. Most of the evidence in Bill’s table came from classroom observations of his practice, reflective diary comments and action plan comments.

Table 6.5
A Democracy Classroom IN PRACTICE through (I2), (CO), (RD) and (AP): Bill’s Classroom

<table>
<thead>
<tr>
<th>Indicators of democracy classrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect 1: Democracy stance ; Culture of communication; Democratic school culture</td>
</tr>
</tbody>
</table>

| Willingness to listen (Vinterek, 2010) | she’s become more open to listening to other people’s opinions (I2) |
| Dialogue and A classroom of many voices and ears (Vinterek, 2010) | education doesn’t happen in a vacuum, it happens in a dialogue with other people, so anything which is sort of kids having some sort of educational dialogue as a small cluster, is a Cooperative Learning lesson (I2) |
| Related CL key elements- Individual accountability, Positive interdependence and a sense of group, Face to face interaction | |

| Tolerance and sense of justice (Thomas & Witenberg, 2004) and Improved relationships | when asked about the types of social skills you think can improve when you’ve got your students working in groups: |
| Related CL key elements - Positive interdependence | Just tolerance and understanding of each other’s situation (I2) |
| | the tolerance has developed in some way but then there’s been a recognition of some people’s hidden sort of strengths, so he’s got an artistic sort of, yeah I suppose you can call it a strength, it’s not quite as good as a strength but it’s the best thing he’s got to offer and people have taken up on that or have been part of, or have used that (I2) |
Risk taking and Climate of trust (Finnan et al., 2003)
CL key elements - Individual accountability, interpersonal skills, Positive interdependence

Recognition of equal worth
Related CL key elements - Positive interdependence and a sense of group

Active engagement
Related CL key elements - Common goal, Positive interdependence

Democratic sentiments - open mindedness, decision making with others, taking others’ perspectives (Nagda et al., 2003)
Related CL key elements - Positive interdependence and a sense of group

Aspect 2: Community of practice and Rich learning community

Pro-social behaviours (Morcom & Cumming-Potvin, 2010) and Concern for one another (Greene, 1993)
Related CL key elements - Social skills reflection, Interpersonal skills

Shared discourse (Wenger, 1998)
Related CL key elements - Face to face interaction, Common goal

All learners participate in classroom life (Florian & Linklater, 2010)
Related CL key elements - Individual accountability, Positive interdependence and a sense of group

Aspect 3: Inclusive practice

Increasing participation and decreasing exclusion
Related CL key elements - Individual

It could just be the social dimensions of what’s going on in the group which is your teaching point in the future, or your teaching point right there and then (I2)

My goal is for children to focus on the social dimension and to maximise learning and accountability of each person (AP)

Students did take risks with their learning through relying on each other and trying to find the information themselves (RD)

the children were actually observed splitting up the activities so the whole project was completed and the groups were catering for the individual strengths of the children in the group (RD)

The group is like the biosphere, you need to depend on each other (CO)

All the children could be involved in the activity; it is not dependent on academic ability (RD).

You have 2 pencils and each person needs to take part drawing the picture - who does what? That’s what I’m looking for (CO)

You need to compromise with others and mix and match ideas (CO)

The activity is being used to assess group work and I was trying to get the children to understand that they need to be interdependent like the workings of the moon base (RD).

You can tell when there’s too much noise you can tell whether it’s social or busy. And if it’s a busy type of noise it doesn’t bother me whatsoever, it’s got to be there. Good group work is some kind of conversation or dialogue happening (I2).

The children were resource dependent so they had to rely on other group members (RD)

The children had to rely on each other as the project is just too big, the groups need to split the work to get the whole job done (RD).

Has anyone been listening to Lily? You need to listen and compromise (CO)
Learners trusted to make good decisions about learning (Florian & Black-Hawkins, 2011)  
Related CL key elements - Interpersonal skills

Opportunities for learning that will be part of a shared experience - participation in a community with equity demonstrated through unity, not "sameness" (Florian & Linklater, 2010)  
Related CL key elements - Individual accountability, Common goal, Positive interdependence

Trust relationships (Ferguson-Patrick, 2008)  
CL key elements - Common goal, Individual accountability, Positive interdependence, Interpersonal skills

Aspect 4: Social Learning

Positive respectful relationships (Ryan & Patrick, 2001) and a Sense of belonging (Osterman, 2000)  
Related CL key elements - Interpersonal skills, Face to face interaction

The important thing was is that many members of the groups were offering ideas and the group was choosing the best idea and then all the members were helping to construct it (RD)

Jill – third year teacher

Jill had 50 comments in her final interview that related to her democracy stance, significantly more than any of the other teachers. She talked about and enacted her democracy classroom. She planned classroom activities that, for example, required her students to be engaged in dialogue, consider different perspectives, encourage tolerance and respect and develop interpersonal relationships. The comments from her final interview as well as her reflections (RD) and classroom observations showed how she developed relationships in and with her students and how she encouraged risk taking in her classroom. The development of an inclusive classroom culture was most apparent in Jill’s classroom; she had also endeavoured to promote self-esteem in her students and demonstrated clear trust in their abilities. The following table explores examples of this evidence.

Table 6.6
A Democracy Classroom IN PRACTICE through (I2), (CO), (RD) and (AP): Jill’s Classroom

<table>
<thead>
<tr>
<th>Indicators of democracy classrooms</th>
<th>Evidence of democracy classroom: Jill’s classroom</th>
</tr>
</thead>
</table>

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Aspect 1: Democracy stance; Culture of communication; Democratic school culture

Willingness to listen (Vinterek, 2010)
Dialogue and A classroom of many voices and ears (Vinterek, 2010)
Related CL key elements- Individual accountability, Positive interdependence and a sense of group, Face to face interaction

Willingness to express thoughts (Vinterek, 2010)
Related CL key elements- Individual accountability, Positive interdependence and a sense of group, Face to face interaction

Improved relationships; Risk taking; High self-esteem- affective domain; Climate of trust
Related CL elements- Positive interdependence, Face to face interaction, Interpersonal skills, Individual accountability

Recognition of equal worth
Related CL key elements- Positive interdependence and a sense of group

Respect and tolerance (Vinterek, 2010)
Related CL key elements- Interpersonal skills, Positive interdependence and a sense of group, Individual accountability

Democratic sentiments-open mindedness, decision making with others, taking others’ perspectives (Nagda et al., 2003)
Related CL key elements- Positive interdependence and a sense of group

Class discussion after the presentations is important for communication. Students are reminded again on how they can give and take constructive criticism but high importance is placed on it not being a put down (AP).

Supporting each other. Listening to each other and linking what one knows at this point to what others within the group know also. Being open minded to learn from others in the group and to listen to their point of view (RD).

One of the roles is a “noise controller”. This person’s job is to ensure all members are on task and that the group as a whole are task focused and not all talking at once. By doing this there is a lesser chance for behaviour problems because each member is encouraged to be task focused. Also the leader constantly checks on the progress of each member (RD).

you’ve got to know whether they’re socially going to mix with the group they’re with, whether or not you’ve got, if you haven’t got anybody who’s too overbearing, too overpowering so that the other person isn’t going to have their self-esteem knocked out of them, to me I still say that’s the most important part (I2).

I do not want any controversy please- if you are the leader in the group does not mean you have all the power- you need to be a fair leader (CO).

Some can do more than others, however it is strongly reinforced that all contributions are important to the group completing the task with a positive outcome (RD).

students in mixed ability groups are to be checked and made clear that the work is to be carried out by all members of the group not only the high achievers. Recording of meetings and contributions is a good way of monitoring this (RD)

Aspect 2: Community of practice and Rich learning community

Pro-social behaviours (Morcom & Cumming-Potvin, 2010) and Concern for one another (Greene, 1993)
Related CL key elements-Social skills reflection, Interpersonal skills

Shared discourse (Wenger, 1998)
Related CL key elements- Face to face interaction, Common goal

because one day there could be friends in the classroom and then they're arguing in the playground so I take all that into consideration and what works best and if I change the room the children will often say to me “oh can we go back to how we were” and I’ll say “it’s a democracy here, hands up who’d like to have the groups back” majority, ok then five minutes of our lesson let’s get our room back how
<table>
<thead>
<tr>
<th>Aspect 3: Inclusive practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>All learners participate in classroom life (Florian &amp; Linklater, 2010)</td>
</tr>
<tr>
<td>Related CL key elements- Individual accountability, Positive interdependence and a sense of group</td>
</tr>
<tr>
<td>“ok who’s got the strengths in this group and how can I use these strengths to help this child who doesn’t have these strengths but needs to be build up” all these things go through your head at the same time when you’re putting them in, then you’ve got to really be monitoring it around all the time thinking “ok is this working” (I2)</td>
</tr>
<tr>
<td>Increasing participation and decreasing exclusion</td>
</tr>
<tr>
<td>Related CL key elements- Individual accountability</td>
</tr>
<tr>
<td>Learners trusted to make good decisions about learning (Florian &amp; Black-Hawkins, 2011)</td>
</tr>
<tr>
<td>Related CL key elements- Interpersonal relationships</td>
</tr>
<tr>
<td>Opportunities for learning that will be part of a shared experience - participation in a community with equity demonstrated through unity, not “sameness” (Florian &amp; Linklater, 2010).</td>
</tr>
<tr>
<td>Related CL key elements- Individual accountability, Common goal, Positive interdependence</td>
</tr>
<tr>
<td>Trusting relationships (Ferguson-Patrick, 2008)</td>
</tr>
<tr>
<td>Related CL key elements- Common goal, Individual accountability, Positive interdependence, Interpersonal skills</td>
</tr>
<tr>
<td>Respect, respect is a key issue in Cooperative Learning, you know learning to respect each other as another human being, learning to respect each other’s weaknesses and to not to have the put downs and I think that’s why my classroom is a safe environment because we’ve learnt to respect (I2)</td>
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<tr>
<th>Aspect 4: Social Learning</th>
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<tbody>
<tr>
<td>Positive respectful relationships (Ryan &amp; Patrick, 2001)</td>
</tr>
<tr>
<td>Sense of belonging (Osterman, 2000)</td>
</tr>
<tr>
<td>Related CL key elements- Interpersonal skills, Face to face interaction</td>
</tr>
<tr>
<td>...each and every one of you have to say something... how’s your group travelling?... You need to be inclusive and have everybody’s ideas in the planning (CO)</td>
</tr>
</tbody>
</table>

**Implications**

*How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?*

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Teachers who were able to create a Cooperative Learning environment developed democracy classrooms. All four teachers used CL over the course of the study and CL is a pedagogy that ensures all students participate in classroom life. In general all four teachers when using CL provided high social support and tried to develop a strong sense of community in their classrooms and this led to what has been termed a “democracy stance” (Vinterek 2010). The indicators or signs of democracy, of such classrooms were examined alongside the key CL elements in Chapter 6 with evidence from teachers’ classroom practices and understandings explored.

**How do these final understandings and practices of good pedagogy relate to a democracy classroom?**

In a democracy classroom there is more likely to be strong **Social support** as both teachers and other students give supportive comments and value the contributions of all. Students in a CL classroom are more likely to take risks due to team skills (**social skills**) being taught for increased group solidarity and value of all students contributions with strong mutual respect. Strong mutual respect is encouraged in cooperative tasks and reflective thinking will focus students and teacher on group and individual **social skills** as they value contributions from each member. Jill a later years’ teacher made increased scores in **Social support**.

In a democracy classroom students from all groups are significantly included in all aspects of lessons. CL is an **inclusive** pedagogy that encourages a democracy classroom environment and a pedagogy that ensures all students’ learning will be considered. In a CL classroom students from all groups are included due to **heterogeneous grouping** and due to **social skills** being developed throughout cooperative tasks with these reflected upon during, and at end of task. The sharing of perspectives is necessary as students are asked to complete a **common goal** in a CL task and through **face to face interaction a classroom of many voices and ears** (Vinterek, 2010) is promoted. **Inclusivity** is increased in all four teachers’ classrooms.

Children constructing explanations and demonstrating reasoning, arguments to each other through **Substantive communication** will also develop **social skills**. In a democracy classroom there is evidence of deliberative dialogues to promote equality, freedom and justice for all (Vinterek, 2010). McCoy and Scully define deliberative dialogue as a more holistic kind of communication that recognises the importance of shared work, collective action and building connections with community (McCoy & Scully, 2002). Students who address multiple perspectives and/or solutions through **Substantive communication** are likely to develop **reflective** thinking about the task. **Substantive communication** increases in both later years’ teachers and in
Elizabeth’s, but not Josephine’s classroom. Josephine was suffering “burnout”, as well as being in a high stakes testing environment that discouraged group work, and emphasised individualised learning. At the end of the year her ability to plan and implement CL lessons with high **Substantive communication** was reduced due to these factors.

**How do these final understandings and practices of CL relate to a democracy classroom?**

The evidence of a link between CL and a democracy stance has been taken from final interview comments as well as evidence from reflective diary, professional learning sessions and classroom observation comments from teachers. Elizabeth, a first year teacher, and Jill, a third year teacher, made the most references to the democracy stance. Jill in her third year was able to really think about her democratic classroom climate. Jill demonstrated how her students developed the democratic sentiments of open mindedness through decision making with others and how they had the ability to take on others’ perspectives (Nagda et al., 2003). She was able to develop a culture that ensured a more tolerant and participative classroom. Both Jill and Elizabeth’s classroom were able to develop and foster civic and social engagement as they nurtured their learning environments, as they “stress responsibility, open dialogue, respect and application of theory and ideas in practical and group-orientated work” (Feiman-Nemser, 1998, p.15).

Bill also enacted his democracy classroom despite the fact that there were few comments in his final interview related to the democracy stance. His practice demonstrated his efforts to improve relationships in his class; encourage risk taking and develop a climate of trust in his classroom. He endeavoured to ensure that his class members were recognised as being of equal worth and that there was active engagement in his classroom. He also demonstrated evidence of practice in developing an inclusive classroom environment, one that had shared learning opportunities, where all were encouraged to participate and were trusted to make good decisions in their learning through the building of trusting relationships.

Josephine made the fewest comments in relation to the democracy stance and there is little evidence to demonstrate development of a democracy classroom. It was a beginning stance that was developed. She understood that a culture of communication required a classroom of many voices and ears and that there should be trust in this classroom. She also tried to ensure that all her learners participated in classroom life.
Dewey (1938) commented that, “democratic social arrangements promote a better quality of human experience, one which is more widely accessible and enjoyed, than do non-democratic, and anti-democratic forms of social life” (p.34) and the classroom can be seen as a microcosm of our wider society (Schul, 2011). Elizabeth and Jill in particular have developed their classroom to mirror such democratic social arrangements; they believe their classrooms should be enjoyed and should be fair. They have developed their classroom into a democratic “way of life” or have taken a “democracy stance” (Vinterek, 2010). This stance can be understood in terms of Rosenblatt's (2004) transactional theory which is when the teachers adopt "a selective attitude or stance, bringing certain aspects into the center of attention and pushing others into the fringes of consciousness" (p. 1372). They considered how to promote a democracy classroom through their pedagogy and demonstrated understandings and practice of this democracy stance. They understood it to be about educating “in an atmosphere of tolerance and respect, encouraging people’s self-esteem in order to promote willingness and the ability to express one’s thoughts as well as a willingness to listen to others” (Vinterek, 2010, p.371).
Chapter Seven: Conclusion

I will firstly explore the four sub research questions in this conclusion and then examine the overall research question: **How can professional development in Cooperative Learning improve pedagogy for early career teachers and link to the development of a democracy stance in their classrooms?**

Research sub-question 1a: **Why teach Cooperative Learning (CL) and what could be the links between CL, good pedagogy and a democracy classroom?**

This research question examined the relationship between Cooperative Learning, a democracy classroom and quality of teaching as defined by the Quality Teaching model (QTm) (NSW Department of Education and Training, 2003a). It was initially answered by researching the literature presented in Chapter 2 and then clarified by initial classroom observations and further analysis of data helping to examine the way in which the QTm aligned with Cooperative Learning. I was then able to discern what the early career teachers’ initial understandings of Cooperative Learning were in relation to good pedagogy; as well as how they demonstrated these understandings in their initial practice / pedagogy. Further analysis, re-examination and re-analysis of the literature, as well as the evidence of the classroom practice and understandings after classroom observations led to the hypothesis that when teachers use CL they deliver high quality teaching (as measured by QT) and early career teachers can deliver CL when provided with meaningful professional learning. It also became apparent that the use of CL in early career teachers led to the development of a democratic classroom environment.

The key features that link CL, QTm and Democracy stance as indicated by this study were an improvement in understandings and practices in some aspects of CL with all four teachers in particular developing a growing understanding of and practices in the use of individual accountability and positive interdependence; improved aspects of their understandings and practices in some aspects of overall pedagogy (as measured by the NSW Quality Teaching model), particularly in an understanding and improvement in the use of Inclusivity for all four teachers. At the same time as these improvements in CL and QT a classroom with a ‘Democracy Stance’ emerged for all four teachers, particularly in their use of inclusive practice, developing trusting relationships and building a culture of communication.

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7 CL elements will be identified by *italics*; QTm elements will be identified by **bold text** and democracy stance indicators will be identified by the use of this font style
Research sub-question 1b: *How do the early career teachers demonstrate understandings of CL and QT perspectives?*

This research question was examined in Chapter 4 to determine the four teachers’ initial understandings about Cooperative Learning and how these understandings related to their understandings of the NSW Quality Teaching model. It examined how understandings changed after the period of professional learning from evidence of comments made in interviews, action plan statements and reflective diary entries.

The understandings of CL increased for all teachers particularly a developing understanding of their own roles as facilitators of CL and the importance of ensuring the key elements of CL were considered. First year teachers developed understandings of the importance of using *heterogeneous groupings* for CL and had a beginning understanding of the importance of *individual accountability* (IA) and *positive interdependence* (PI) but lacked an understanding of how to achieve this. Later years teachers (in their second and third years) developed a sound understanding of the need to carefully scaffold the teaching / learning experience by teaching *social skills, assigning roles, and sub-tasks* to ensure *individual accountability* and *positive interdependence* - and these teachers understood the need for their explicit structuring role for successful CL. Jill as a third year teacher had developed a sophisticated understanding of the need for all key CL elements - *face to face* participation, a *common group goal*, *individual accountability* and *positive interdependence* and an awareness of the need for *reflection* whereas Bill needed to still focus on the understanding of the importance of developing *social skills* for more successful CL implementation.

The understandings of QT when using CL developed in the first year teachers who finally saw links between *Engagement* when ensuring they had a *common goal* when designing a CL task. They also saw links between ensuring increased *Student direction* and an increased emphasis on developing *social skills* as *Inclusivity* increased in their classrooms. Bill and Jill saw a link between CL and *Students self-regulation* although Jill also understood the importance of *High expectations* and *Inclusivity* and developed this understanding into practice.

All four teachers saw a link between *Deep understanding* and using CL, particularly by ensuring students were *positively interdependent* and had a range of expertise in the group through *using heterogeneous groupings*, and by encouraging students to share ideas through *Substantive communication*. They also saw a link between *Student direction* and either *Engagement* or using *Students’ Background*.
knowledge when designing CL tasks, but this understanding did not emerge in observed practice. Finally, a link between Inclusivity and the development of social skills while providing high Social support was established.

Research sub question 1c: How do the early career teachers demonstrate CL and QT in their initial and final classroom practice?

This research question was examined in Chapter 5 to ascertain the extent to which the four teachers’ initial practice in Cooperative Learning and the degree to which this practice related to the good teaching elements and dimensions of the NSW Quality Teaching model (QTm), changed over time (Ferguson-Patrick, 2010).

Over time, increased understanding of their role in CL ensured the correct Language use and increased encouragement of children to work together and use each other as a resource which demonstrated understanding of the need for positive interdependence. Increase in the use of CL strategies, ensuring students were positively interdependent with a common group goal and that resources were shared in the group also occurred for one of the first year teachers. There was no clear demonstration of use of sub-tasks for individual accountability and to ensure they were positively interdependent by either first year teacher.

Both later year teachers recognised the importance of dialogue and face to face tasks for successful CL lessons. One teacher recognised the importance of the common goal and both teachers made attempts to establish interdependence in student groups and ensure individual accountability as well as develop reflection in the students’ tasks. Their practices in CL were more sophisticated than the earlier year ECTs.

There were some similarities between the two first year teachers in that their highest QT scores were in Social support, Engagement, and Substantive communication. A focus on the importance of Substantive communication was also apparent from the two teachers in their second and third years of teaching. The link between use of CL tasks and Substantive Communication was demonstrated through practice by all four teachers. Both later years teachers, who successfully developed tasks with individual accountability and positive interdependence in final practice, were able to develop more Higher order thinking in their classrooms.

All four teachers had higher scores for the Quality Learning Environment than the other two Quality Teaching dimensions (Significance and Intellectual Quality). Lowest scores were in Problematic knowledge, Explicit quality criteria and Connectedness for the two more experienced ECTs with the two first year teachers not scoring as highly in the areas of Student direction and Inclusivity (although it
increased for all four teachers) demonstrating these elements could be focussed on in future research in this area.

Research sub question 1d: **How do these final understandings and practices of CL and good pedagogy relate to a democracy classroom?**

This research question was examined in Chapter 6 and considered how these four teachers developed their understandings of CL and enacted this in practice and the extent to which this led to a development of a democracy classroom. It also explored the links between a democracy classroom and the QTm, to ascertain whether there were certain elements which directly link to developing teaching with a democracy stance.

In general all four teachers when using CL provided high social support and tried to develop a strong sense of community (rich learning community) in their classrooms and this led to what has been termed a “democracy stance”. Inclusivity is increased in all four teachers’ classrooms and this is linked with a democracy classroom. Increasing participation and decreasing exclusion is more likely in an inclusive classroom environment and all four teachers have evidence of this democracy classroom aspect.

**Substantive communication** increases in both later years’ teachers and in Elizabeth’s, but not Josephine’s classroom. Josephine is starting to develop her democracy classroom but is also suffering “burnout” as a first year teacher, also being in a high stakes testing environment that discouraged group work, and emphasised individualised learning. A willingness to listen and a willingness to express thoughts are highlighted in both Jill and Elizabeth’s classroom. In Bill and Josephine’s classrooms students are willing to listen but less likely to express their own thoughts demonstrating this could be a focus in future with an increased emphasis in classrooms on the importance of **Substantive communication**.

Those teachers that developed CL more successfully also developed more indicators of democracy classrooms. Elizabeth and Jill in particular had developed their classroom to mirror democratic social arrangements advocated by Dewey (1938): they believed their classrooms should be enjoyed and should be fair. Jill demonstrated in particular that her students developed the democratic sentiments of open mindedness through decision making with others and how they had the ability to take on others’ perspectives. She was able to develop a rich learning community that ensured a more tolerant and participative classroom. She had increased scores in Social Support in her classroom demonstrating the link between this and a democracy classroom.
The overall research question was: **How can professional development in Cooperative Learning improve pedagogy for early career teachers and link to the development of a democracy stance in their classrooms?**

All four teachers moved their classroom towards a democratic “way of life” and have increasingly taken a “democracy stance” as a result of increased use of CL after a period of professional learning in CL. It appeared that a successful way to develop a democracy classroom is through action learning and close mentoring. The inclusive practices used by the three teachers most successful with CL were situated in a democracy school culture and as a result it was easier for them to develop this democracy stance. The three teachers increasingly used inclusive practices such as increasing participation and decreasing exclusion in their classroom. Concern for one another and a classroom of many voices and ears were shown in all four teachers’ classrooms and by building a democracy stance developed a culture of communication.

The importance of dialogue in CL was crucial and has been outlined in the literature: these classrooms contained teachers and students who participated in the classroom in face to face tasks with a growing willingness to express their thoughts; a willingness to listen; and students who demonstrated respect and tolerance - they developed this culture of communication by having this democracy stance. It could also be postulated that they developed a community of practice with mutual relationships, shared ways and discourses. With a strong belief in social learning, these teachers also promoted high self-esteem and developed students who had trust in their ability. In CL classrooms where positive interdependence is promoted dialogue is inherent and builds these communities of practice. This crucial element for successful CL is necessary to build a real democracy classroom and is the element most successfully implemented by Jill, who made serious attempts, and Bill who made several attempts, to establish *interdependence* in the students’ groups with division of the task in order to achieve *task interdependence*. There was no clear demonstration of use of *sub-tasks* for *individual accountability* and to ensure they were *positively interdependent* by either first year teacher.

Future research is needed to explore the notion of educating for democracy and the principles and practices of democratic inclusion. Clarifying the impact that helping teachers perform their key function, actual classroom teaching, can have on such democratic teaching practice and performance is essential. This study was limited to only four case studies of four early career primary school teachers in a small region of
NSW, Australia. The teachers although in their first three years of teaching were at various stages of development in using Cooperative Learning as a teaching strategy. By investigating more cases of teachers at various stages of their teaching careers, including those more experienced, and a more sustained and a longer duration of professional development of CL, a better picture of teachers developing a democracy stance and democracy classrooms would be obtained. By supporting early career teachers with experienced mentors in their own schools, in collaborative projects focussed on developing democracy classrooms, these particular types of cross generational research communities could be powerful and help to foster sustainable school improvement.

It is important that research contexts for building researcher dispositions in the teaching workforce is promoted and supporting early career teachers to be action researchers within their own classroom contexts promotes this research disposition (Ferguson-Patrick, 2012). This particular study supported the early career teachers. For Josephine, in her first year, acknowledged that the professional learning had made an impact on her and her students, “well after one of your PDs, you told us what they need to know to work in groups [referring to social skills] and once they learnt what a good group member looks like and all that sort of thing it worked better”. She continued to reflect on the professional learning sessions acknowledging the value of the collaborative and group reflective aspects of them, “…my knowledge I realised was very small…and that it was good having other people to talk to before the sessions…. in writing your reflections, you’re sort of harder on yourself and make yourself lift your game.”.

Jill in her third year of teaching also realised the impact of involvement in the study and saw the value in the professional learning program she had been involved in for her continued professional growth, especially in her new role in the school as teacher leader; “It has stimulated me, I was having a sense I was thirsty for more knowledge and I have responded well and I have learnt so much...you get bogged down in the day to day but the time to seek out more professional development wasn’t there, where this has really kept me on task, and it’s, yeah my heart is pounding with passion for this again and my brains going nineteen to the dozen!” Despite this study’s limitations, these findings have implications for sustaining teachers’ enthusiasm early in their careers. It has demonstrated that as well as CL supporting ECTs in their classroom pedagogy and good teaching, such professional development in CL and QT can assist them to develop democracy classrooms. As the data were analysed with the democracy stance lens, it revealed teachers creating democracy classrooms. A key finding of this research study were the development of understandings of what
actually leads to a democracy classroom, the democracy indicators, and this was a key achievement of the methodology. Teachers in these classrooms had inclusive practice and a strong focus on the ability to develop social learning as well as ensuring all their students’ participated in these classrooms due to a focus on a culture of communication and an inclusive classroom environment. These caring classrooms, focussed on trusting relationships, aligned with the literature about democratic inclusion. Future research on democratic inclusive teachers could include other ways students can be supported and engaged cognitively, socially and emotionally. A focus on the student voice in these classrooms could be a focus for future research as well as what motivates teachers to be confident and motivated to be inclusive democracy teachers.

This research study found the use of Cooperative Learning in early career teachers, albeit often only partially successful, engaged the students cognitively, socially and emotionally. As an intellectually demanding pedagogy and one where students and teachers respect diversity and value all, developing a sense of responsible citizenship, CL is a pedagogy which focuses on a socially supportive and inclusive learning environment. Using CL promotes a democracy classroom and a classroom within which all participants take a democracy stance - a way of thinking, and values and attitudes that indicate a democratic perspective. It is about teachers who believe in social justice, human rights and intercultural capacity.
References


Edge, K. (2012b). ‘PLAYING IT SAFE’ QUALITY TEACHING IN EXPERT TEACHER CLASSROOMS. Doctor of Philosophy, University of Newcastle, Newcastle, Australia.


social and intellectual outcomes of learning in groups (pp. 1-18). London: RoutledgeFalmer.


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Appendices
Appendix One - Brief explanation of the NSW Quality Teaching model

The NSW model of pedagogy

The model of pedagogy presented in the *Quality teaching in New South Wales public schools: Discussion paper* (NSW Department of Education and Training, 2003) has three dimensions that represent classroom practices that have been linked to improved student outcomes. These three dimensions are:

1. Pedagogy that promotes high levels of *intellectual quality*.
   *Intellectual quality* refers to pedagogy focused on producing deep understanding of important, substantive concepts, skills and ideas. Such pedagogy treats knowledge as something that requires active construction and requires students to engage in higher-order thinking and to communicate substantively about what they are learning.

2. Pedagogy that establishes a high *quality learning environment*.
   *Quality learning environment* refers to pedagogy that creates classrooms where students and teachers work productively in an environment clearly focused on learning. Such pedagogy sets high and explicit expectations and develops positive relationships between teachers and students and among students.

3. Pedagogy that generates *significance* by connecting students with the intellectual demands of their work.
   *Significance* refers to pedagogy that helps make learning more meaningful and important to students. Such pedagogy draws clear connections with students’ prior knowledge and identities, with contexts outside of the classroom, and with multiple ways of knowing or cultural perspectives.

Each of the three dimensions of the NSW model of pedagogy is comprised of a number of elements. These elements are presented in Table 1.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Intellectual quality</th>
<th>Quality learning environment</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep knowledge</td>
<td></td>
<td>Explicit quality criteria</td>
<td>Background knowledge</td>
</tr>
<tr>
<td>Deep understanding</td>
<td></td>
<td>Engagement</td>
<td>Cultural knowledge</td>
</tr>
<tr>
<td>Problematic knowledge</td>
<td></td>
<td>High expectations</td>
<td>Knowledge integration</td>
</tr>
<tr>
<td>Higher-order thinking</td>
<td></td>
<td>Social support</td>
<td>Inclusivity</td>
</tr>
<tr>
<td>Metalanguage</td>
<td></td>
<td>Students’ self-regulation</td>
<td>Connectedness</td>
</tr>
<tr>
<td>Substantive communication</td>
<td></td>
<td>Student direction</td>
<td>Narrative</td>
</tr>
</tbody>
</table>

*Table 1: The dimensions and elements of the NSW model of pedagogy*

The discussion paper and other support materials related to *Quality teaching in NSW public schools* can be found on the web site:

## Coding sheet

<table>
<thead>
<tr>
<th>Intellectual quality</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Deep knowledge</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1.2 Deep understanding</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1.3 Problematic knowledge</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1.4 Higher-order thinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1.5 Metalanguage</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1.6 Substantive communication</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality learning environment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Explicit quality criteria</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.2 Engagement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.3 High expectations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.4 Social support</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.5 Students’ self-regulation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.6 Student direction</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Significance</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Background knowledge</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.2 Cultural knowledge</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.3 Knowledge integration</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.4 Inclusivity</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.5 Connectedness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.6 Narrative</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
# Appendix Two - Overview of the NSW QTm coding observation instrument

## Coding sheet

<table>
<thead>
<tr>
<th>Element</th>
<th>Evidence: Coding notes</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Deep knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Deep understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Problematic knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 Higher-order thinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5 Metalinguage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6 Substantive communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Explicit quality criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2 Engagement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3 High expectations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 Social support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5 Students’ self-regulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6 Student direction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Background knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2 Cultural knowledge</td>
<td></td>
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</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>3.6 Narrative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Quality teaching in NSW public schools
## Appendix Two: Overview of the NSW QTm coding observation instrument

### Coding scale overview chart

#### Intellectual quality

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Almost all of the content knowledge of the lesson is shallow because it does not deal with significant concepts or ideas.</td>
</tr>
<tr>
<td>2</td>
<td>Some key concepts and ideas are mentioned or covered by the teacher or students, but only at a superficial level.</td>
</tr>
<tr>
<td>3</td>
<td>Knowledge is treated unevenly during instruction. A significant idea may be addressed as part of the lesson, but in general the focus on key concepts and ideas is not sustained throughout the lesson.</td>
</tr>
<tr>
<td>4</td>
<td>Most of the content knowledge of the lesson is deep. Sustained focus on central concepts or ideas is occasionally interrupted by superficial or unrelated ideas or concepts.</td>
</tr>
<tr>
<td>5</td>
<td>Knowledge is deep because focus is sustained on key ideas or concepts throughout the lesson.</td>
</tr>
</tbody>
</table>

#### Deep understanding

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students demonstrate only shallow understanding.</td>
</tr>
<tr>
<td>2</td>
<td>For most students, understanding is shallow during most of the lesson, with one or two minor exceptions.</td>
</tr>
<tr>
<td>3</td>
<td>Deep understanding is uneven. Students demonstrate both shallow and deeper understanding at different points in the lesson. A central concept is understood by some students but not by other students.</td>
</tr>
<tr>
<td>4</td>
<td>Most students provide information, arguments, or reasoning that demonstrates deep understanding for a substantial portion of the lesson.</td>
</tr>
<tr>
<td>5</td>
<td>Almost all students demonstrate deep understanding throughout the lesson.</td>
</tr>
</tbody>
</table>

#### All knowledge is presented as fact and not open to question

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students primarily demonstrate lower-order thinking, but at some point, at least some students perform higher-order thinking as a minor division within the lesson.</td>
</tr>
<tr>
<td>2</td>
<td>Students primarily demonstrate routine lower-order thinking as a major division within the lesson.</td>
</tr>
<tr>
<td>3</td>
<td>Students primarily demonstrate routine lower-order thinking as a minor division. There is at least one significant question or activity in which most students perform some higher-order thinking.</td>
</tr>
<tr>
<td>4</td>
<td>Most students demonstrate higher-order thinking in at least one major activity that occupies a substantial portion of the lesson.</td>
</tr>
<tr>
<td>5</td>
<td>All students, almost all of the time, demonstrate higher-order thinking.</td>
</tr>
</tbody>
</table>

#### No metalanguage. The lesson proceeds without the teacher or students stopping to comment on the language being used

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No metalanguage. The lesson proceeds without the teacher or students stopping to comment on the language being used.</td>
</tr>
<tr>
<td>2</td>
<td>Low metalanguage. During the lesson, terminology is explained or some key or students stop to make value judgements or comment on language. There is, however, no clarification or assistance provided regarding the language.</td>
</tr>
<tr>
<td>3</td>
<td>Some use of metalanguage. At the beginning of the lesson, or at some key junctures, the teacher or students stop and explain or conduct a &quot;mini-lesson&quot; on some aspect of language, e.g., grammar, vocabulary, signs or symbols.</td>
</tr>
<tr>
<td>4</td>
<td>Periodic use of metalanguage. The teacher or students provide commentary on aspects of language at several points during the lesson.</td>
</tr>
<tr>
<td>5</td>
<td>High use of metalanguage. The lesson proceeds with frequent commentary on language use.</td>
</tr>
</tbody>
</table>

#### Almost no substantive communication occurs during the lesson.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Almost no substantive communication occurs during the lesson.</td>
</tr>
<tr>
<td>2</td>
<td>Substantive communication among students and/or between teacher and students occurs briefly.</td>
</tr>
<tr>
<td>3</td>
<td>Substantive communication among students and/or between teacher and students occurs occasionally and involves at least two sustained interactions.</td>
</tr>
<tr>
<td>4</td>
<td>Substantive communication, with sustained interactions, occurs over approximately half the lesson with teacher and/or students scaffolding the conversation.</td>
</tr>
<tr>
<td>5</td>
<td>Substantive communication, with sustained interactions, occurs throughout the lesson, with teachers and/or students scaffolding the communication.</td>
</tr>
</tbody>
</table>
### Appendix Two - Overview of the NSW QTm coding observation instrument

#### Quality learning environment

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Quality learning environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No explicit statements regarding the quality of work are made. Only technical and procedural criteria are made explicit.</td>
</tr>
<tr>
<td>2</td>
<td>Only general statements are made regarding the desired quality of the work.</td>
</tr>
<tr>
<td>3</td>
<td>Detailed criteria are made regarding the quality of work made explicit during the lesson, but there is no evidence that students are using the criteria to examine the quality of their work.</td>
</tr>
<tr>
<td>4</td>
<td>Detailed criteria are made explicit or reinforced during the lesson and there is evidence of some students using the criteria, some of the time, examining the quality of their work in relation to these criteria.</td>
</tr>
<tr>
<td>5</td>
<td>Detailed criteria are made explicit or reinforced throughout the lesson and there is consistent evidence of students examining the quality of their work in relation to these criteria.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Low engagement or disengagement. Students are frequently off-task, perhaps disruptive, as evidenced by inattentiveness or serious disruptions by many. This is the central characteristic during much of the lesson.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectation</td>
<td>Sporadic engagement. Most students, most of the time, either appear apathetic and indifferent or are only occasionally active in carrying out assigned activities. Some students might be clearly off-task.</td>
</tr>
<tr>
<td>Expectation</td>
<td>Variable engagement. Most students are seriously engaged in parts of the lesson, but may appear indifferent during other parts and very few students are clearly off-task.</td>
</tr>
<tr>
<td>Expectation</td>
<td>Widespread engagement. Most students, most of the time, are on-task, pursuing the substance of the lesson. Most students seem to be taking the work seriously and trying hard.</td>
</tr>
<tr>
<td>Expectation</td>
<td>Serious engagement. All students are deeply involved, almost all of the time, in pursuing the substance of the lesson.</td>
</tr>
</tbody>
</table>

| High expectations | No students, or only a few, participate in any challenging work. |
| High expectations | Some students participate in challenging work during at least some of the lesson. They are encouraged (explicitly or through lesson processes) to try hard and to take risks and are recognised for doing so. |
| High expectations | Many students participate in challenging work during at least half of the lesson. They are encouraged (explicitly or through lesson processes) to try hard and to take risks and are recognised for doing so. |
| High expectations | Most students participate in challenging work during most of the lesson. They are encouraged (explicitly or through lesson processes) to try hard and to take risks and are recognised for doing so. |
| High expectations | All students participate in challenging work throughout the lesson. They are encouraged (explicitly or through lesson processes) to try hard and to take risks and are recognised for doing so. |

| Social support | Social support is low, but students seem to be doing reasonably well. This might be an indication that support needs improving. |
| Social support | Social support is mixed. Both undermining and supportive behaviours or comments are observed. |
| Social support | Social support is neutral or mildly positive. While no undermining behaviours are observed, supportive behaviours or comments are directed at those students most engaged in the lesson, rather than those students who are more reluctant. |
| Social support | Social support is clearly positive and supportive. behaviours and comments are directed at most students, including clear attempts at supporting reluctant students. |
| Social support | Social support is strong. Supportive behaviours or comments from students and the teacher are directed at all students, including soliciting and valuing the contributions of all. |

| Student direction | Few students demonstrate autonomy and initiative in regulating their own behaviour. Teachers devote more time to disciplining and regulating student behaviour than to teaching and learning. |
| Student direction | Some students demonstrate autonomy and initiative in regulating their own behaviour, but there is still substantial interruption to the lesson for disciplinary and/or regulatory matters, as an attempt to avert poor behaviour, correct past behaviour or as an immediate reaction to poor student behaviour. |
| Student direction | Many students demonstrate autonomy and initiative in regulating their own behaviour and the lesson proceeds coherently. However, teachers regulate behaviour several times, making statements about behaviour to the whole class, or focusing on individual students. |
| Student direction | Most students, most of the time, demonstrate autonomy and initiative in regulating their own behaviour and there is very little interruption to the lesson. Once or twice during the lesson, teachers comment on or correct student behaviour. |
| Student direction | All students, almost all of the time, demonstrate autonomy and initiative in regulating their own behaviour and the lesson proceeds without interruption. |

| Student self-regulation | No evidence of student direction. All aspects of the lesson are explicitly designated by the teacher for students. |
| Student self-regulation | Low student direction. Although students exercise some control over some aspect of the lesson (choice, time, pace, assessment), their control is minimal or trivial. |
| Student self-regulation | Some student direction. Students exercise some control in relation to some significant aspects of the lesson. |
| Student self-regulation | Substantial student direction. Some deliberation or negotiation occurs between teacher and students over at least some significant aspects of the lesson. |
| Student self-regulation | High student direction. Students determine many significant aspects of the lesson either independently of, or dependent on, teacher approval. |
### Appendix Two - Overview of the NSW QTm coding observation instrument

#### Significance

<table>
<thead>
<tr>
<th>Students' background knowledge is not mentioned or elicited.</th>
<th>Students' background knowledge is mentioned or elicited, but it is trivial and not connected to the substance of the lesson.</th>
<th>Students' background knowledge is mentioned or elicited briefly, is connected to the substance of the lesson, and there is at least some connection to out-of-school background knowledge.</th>
<th>Students' background knowledge is mentioned or elicited several times, is connected to the substance of the lesson, and there is at least some connection to out-of-school background knowledge.</th>
<th>Students' background knowledge is consistently incorporated into the lesson, and there is substantial connection to out-of-school background knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No explicit recognition or valuing of other than the knowledge of the dominant culture is evident in the substance of the lesson.</td>
<td>Some cultural knowledge is evident in the lesson, but it is treated in a superficial manner.</td>
<td>Some cultural knowledge is recognised and valued in the lesson, but within the framework of the dominant culture.</td>
<td>Substantial cultural knowledge is recognized and valued in the lesson with some challenge to the framework of the dominant culture.</td>
<td>Substantial cultural knowledge is recognised and valued throughout the lesson and this knowledge is accepted as equal to the dominant culture.</td>
</tr>
<tr>
<td>No meaningful connections. All knowledge is strictly restricted to that explicitly defined within a single topic or subject area.</td>
<td>Some minor or trivial connections are made. Knowledge is mostly restricted to that of a specific topic or subject area.</td>
<td>At least one meaningful connection is made between topics or subject areas by the teacher and/or the students during the lesson.</td>
<td>Several meaningful connections are made between topics or subject areas by the teacher and/or the students during the lesson.</td>
<td>Meaningful connections are regularly made between topics or subject areas by the teacher and/or the students during the lesson.</td>
</tr>
<tr>
<td>Some students are excluded, or exclude themselves, from lesson activities throughout the lesson.</td>
<td>Some students are excluded, or exclude themselves, from the majority of lesson activities except for minor forms of inclusion in one or two instances during a lesson.</td>
<td>Students from all groups are included in most aspects of the lesson, but the inclusion of students from some groups may be minor or trivial relative to other groups.</td>
<td>Students from all groups are included in a significant way in most aspects of the lesson, but there still appears to be some unevenness in the inclusion of different social groups.</td>
<td>Students from all groups are included in all aspects of the lesson and their inclusion is both significant and equivalent to the inclusion of students from other social groups.</td>
</tr>
<tr>
<td>The lesson has no clear connection to anything beyond itself. Neither the teacher nor the students offer any justification for the lesson beyond the school.</td>
<td>The teacher or students try to connect what is being learned to the world beyond the classroom, but the connection is weak and superficial or trivial.</td>
<td>Students recognise some connection between classroom knowledge and situations outside the classroom, which might include sharing their work with an audience outside the classroom, but they do not explore implications of these connections which remain largely abstract or hypothetical.</td>
<td>Students recognise and explore connections between classroom knowledge and situations outside the classroom in ways that create personal meaning and highlight the significance of the knowledge. There might be an effort to influence an audience beyond the classroom.</td>
<td>Students recognise and explore connections between classroom knowledge and situations outside the classroom in ways that create personal meaning and highlight the significance of the knowledge. This meaning and significance is strong enough to lead students to become involved in an effort to influence an audience beyond the classroom.</td>
</tr>
<tr>
<td>Either narrative is used at no point in the lesson, or the narratives used are disconnected or detract from the substance of the lesson.</td>
<td>Narrative is used on occasion as a minor part of the lesson and/or is loosely connected to the substance of the lesson.</td>
<td>Narrative is used at several points in the lesson to enhance the significance of the substance of the lesson.</td>
<td>Narrative is used for a substantial portion of the lesson to enhance the significance of the substance of the lesson.</td>
<td>Narrative is used throughout the lesson to enhance the significance of the substance of the lesson.</td>
</tr>
</tbody>
</table>
Appendix Three - Professional Learning Session One

First professional learning session
Thursday 10th July 2007
The University of Newcastle

Cooperative learning
Action Research
Presented by Kate Ferguson-Patrick
For PhD study

Definition
Cooperative Learning:
- involves heterogeneous groups
- participating face to face
- clearly structured tasks
- common goal
- optimum student participation
- roles or sub-tasks
- positive interdependence and individual accountability
- reflection
- children as co-learners

Key components
- clearly structured tasks
- common goal
- positive interdependence
- roles or sub-tasks
- individual accountability
- reflection

Cooperation
- "When children work cooperatively together, they learn to give and receive help, share their ideas and listen to other students’ perspectives, seek new ways of clarifying differences, resolving problems, and constructing new understandings and knowledge. The result is that students attain higher academic outcomes and are more motivated to achieve than they would be if they worked alone" (Gillies, 2003b, p.36).

Teaching quality
- "There is enormous consensus that teaching quality makes a significant difference in learning" (Cochran-Smith, 2003, p.95) and there is also strong evidence underpinning the Quality Teaching model, (developed by Ladwig and Gore for NSW DET, 2003) as an approach to pedagogy for improving learning outcomes.

Planning and reflection
- The NSW Quality Teaching framework is one that can measure the quality of the pedagogy and also provide teachers with a practical and useful framework for professional dialogue.
- It can be used for planning and redesigning lessons and enables teachers to reflect on the quality of their teaching in the classroom (Gore, 2007).
Appendix Three- Professional Learning

ECTs
- “All teachers are capable of producing high levels of quality teaching and no group of teachers, by years of experience, appears to be more or less capable than any other” (Griffiths, Gore, & Ladwig, 2006, p. 12).
- Beginning teachers’ Quality Teaching scores are no worse or no better overall than those of more experienced teachers (Gore et al., 2000).

Action research and reflection
- Action research can lead to change in practice through self reflection with a cyclical spiral incorporating planning, observation, action and reflection.
- Reflection in teaching has also been related to effective teaching.
- You have become a part of a focus group and will reflect on your teaching practice.

Professional teaching standards
Graduate standards and beyond...
- “to engage in and negotiate a process of ongoing professional learning”
- should be able to “identify their development needs and seek advice and support from colleagues”
- (NSW Institute of Teachers, 2006).

Good teaching
- “whenever students are involved with issues they regard as vital concerns, or are involved with explanations of human differences, or are being helped to see major concepts, big ideas, and general principles and are not merely engaged in the pursuit of isolated facts, or are involved in planning what they will be doing, or are involved with applying ideas such as fairness, equity, or justice to their world; or are actively involved; or are directly involved in a real-life experience; or are actively involved in heterogeneous groups; or are asked to think about an idea in a way that questions common sense or a widely accepted assumption, that relates new ideas to others learned previously, or that applies an idea to the problems of living” (Pyperman, 1995, p. 9).

A simple action plan
- Take stock of what is going on
- Identify a concern
- Think of a possible way forward
- Try it out
- Monitor the action by gathering data to show what is happening
- Evaluate progress by establishing procedures for making judgements about what is happening
- Test the validity of accounts of learning
- Modify practice in the light of the evaluation
- (McIntosh & Whitbread, 2006, p. 9-10)
Appendix Three- Professional Learning Session One

Cooperative learning group size
- Size of the group important and depends on the nature of the task as well as experience of the students of working in groups
- 2 or 3 best to start with
- Experienced group workers

Social skill development
- Starting Out
  - Eye contact
  - Smiling
  - Body posture
  - Tone of voice
- Personal space
- Basic group Skills
  - Sharing and taking turns
  - Including others
  - Being positive
  - Expressing your opinion
  - Listening and asking good questions

More advanced skills
- Advanced Group Skills
  - Managing other people’s ideas and opinions
  - Mediating between others and groups
- Group Work Skills
  - Managing situations in a group
  - Facilitating discussion
  - Summarizing
- Group Learning and Thinking Skills
  - Building on other people’s ideas

Strategies and structures
- Jigsaw
- Bundling
- Placemat
- Hot potato
- Think, pair, share
- Talk tokens
- Paired interviews

What’s your unit?
- How much group work have I done?
- How are the social skills in my class?
- Do I need to start with some social skill training?
- Where could I best include cooperative learning?
- What is a good activity to start with?
- What group size will I use?
- What grouping strategy?
- What cooperative structure / strategy?

The reflective diary...
- Use after teaching lesson
- Keep a lesson plan / outline with it
- Add to your action plan as you teach
- Bring all to the next session

Appendix Four - Professional Learning Session Two

Session overview

- Reflect on Session One - lightening writing
- revised version 2 Timeline of obs etc.doc
- Reflect on recent Cooperative learning observations
- Grouping structures
- Roles
- Where do I start?
- Types of lessons
- Decision tree
- Planning lessons
- Blockers
- Extension...

Second Professional Learning Session

Cooperative Learning
Action Research

Definition

Cooperative Learning:
- involves heterogeneous groups
- participating face to face
- clearly structured tasks
- common goal
- optimum student participation
- roles or sub-tasks
- positive interdependence and individual accountability
- reflection
- children as co-learners

Elements of cooperative learning
(Julliffe, 2007, p.1)

Cooperative learning
Positive interdependence + individual accountability
Small group and interpersonal skills

My reflections / your reflections

- Clearly structured tasks- task needs to have a purpose, be interesting so that students will engage with it
- hyperlink of Designing appropriate tasks.doc
- Needs to be split into smaller sub-tasks at times, when a very large ongoing task
- Needs to be open-ended for most successful CL
- roles or sub-tasks can be used
- Needs explicit teaching at the beginning of every lesson- re-focus, re-motivate, re-orientate

My reflections / your reflections

- Optimum student participation - How can I get more students involved?
- Role play gone?
- Placemat
- Graduating
- Positive interdependence and individual accountability - building
- Establish - interdependence - link together so they can only succeed by contributing efforts
- Establish - shared vision - to have a goal that students anchor together (e.g., understanding each others assumptions, talk rate, complete tasks to complete goal (e.g. pair assessment, different views)
- Establish - accountability - no one should fitchoke on the work of others - a sense of personal responsibility
- Namestechards
- Oral writing for themselves and for group
- Time for reflection - specific reflection on task and skills
Appendix Four - Professional Learning Session Two

RANDOM GROUPING STRATEGIES

- "When we work with randomly selected groups the people with less expertise in the area seek help from those with more skills."
- Names in a hat
- Number off around circle
- Split words
- Animal sounds
- Playing cards
- Height
  - McDevitt & Noble (1993)

Roles

- Initiator
- Clarifier
- Contributor
- Reader
- Time-Keeper
- Challenger
- Reporter
- Recorder
- Materials manager
- Noise controller
- Listener
- Summariser
- Encourager
- Evaluator
- Checker
- Praisers
- Observer
- Participation checker
- Questioner

Implementing - where do I start?

- Class cohesion
- Team building
- Conflict resolution
- Teaching the skills
- Incorporating CL into lessons

Types of cooperative learning

- Formal - one lesson to a few weeks
- Team building activities
- Teamwork skills highlighted each week / lesson
- Teacher monitoring and support – task and skills
  - hyperlink Structure of lesson.doc
- Evaluation of learning and teamwork (teacher and students)

Types of cooperative learning

- Informal – few minutes to a whole lesson
- Eg turn to your partner
- Think-write-pair-compare (thinking skills)
- Write-pair-switch
- Pairs check / check and coach (mastery)
- Flashcard game (mastery)
- Timed talking (communication skills)

Decision tree

Is it an open-ended task?

- Yes
  - Pairs work - any group
  - Mixed ability group
  - If possible work on extension activities
  - Time management
  - Supporting specific groups

- No
  - Whole class, whole group
  - Whole class working in groups
  - Modelled activities
  - Small group working on specific tasks
  - Whole class working on specific tasks
  - Individual work
  - Supporting specific groups

Incorporating CL into lessons is from McDevitt & Noble (1993).
Lesson planning

- Orientation: Activate prior knowledge (ACCESS)
- Reflecting: think pair share structures etc.
- Shared discovery: introduce specific aspect of learning (explicit teaching), include significant evidence or explicit criteria for success, indicators. As well as explicit CL skills
- Inset, modelling opportunities for paired talk
- Exploration (guided practice): paired work, group work
- Reflection: on task and how well worked together, CL skills
- Use numbers heads, doughnut, whiteboard share, roam the room
- Eg: coop learning structures, appendix E

Matching cooperative structures to parts of a lesson

<table>
<thead>
<tr>
<th>Lesson component</th>
<th>Cooperative learning structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Think pair share</td>
</tr>
<tr>
<td></td>
<td>Round tables</td>
</tr>
<tr>
<td></td>
<td>Throwing balls</td>
</tr>
<tr>
<td></td>
<td>Puddle jump</td>
</tr>
<tr>
<td>Guided discovery</td>
<td>Think pair share</td>
</tr>
<tr>
<td></td>
<td>Throwing balls</td>
</tr>
<tr>
<td></td>
<td>Round tables</td>
</tr>
<tr>
<td></td>
<td>Information sharing</td>
</tr>
<tr>
<td></td>
<td>Mind map</td>
</tr>
<tr>
<td></td>
<td>Rotating tables</td>
</tr>
<tr>
<td>Exploration (group work)</td>
<td>Think pair share</td>
</tr>
<tr>
<td></td>
<td>Throwing balls</td>
</tr>
<tr>
<td></td>
<td>Round tables</td>
</tr>
<tr>
<td></td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td>Rotation</td>
</tr>
<tr>
<td></td>
<td>Graphic organizers</td>
</tr>
<tr>
<td>Reflection</td>
<td>Think pair share</td>
</tr>
<tr>
<td></td>
<td>Throwing balls</td>
</tr>
<tr>
<td></td>
<td>Round tables</td>
</tr>
<tr>
<td></td>
<td>Throwing balls</td>
</tr>
<tr>
<td></td>
<td>Discussion</td>
</tr>
</tbody>
</table>

The Flat Stanley Project

Typical 'blockers'

- Monitor and observe what is happening • If group dynamics contribute to disruptive behaviour – work to change and adapt to cooperative learning help achieve, set goals
- Passively involved: Students – use notes, igleavv, all have to contribute to complete tasks, distribute materials to ensure involvement – paired writing coloured pencils
- Climate building – safe, secure
- High achievers: Challenging roles, positive interdependence, reward for giving help without giving answers, help realise benefits gained from working with others, coop skills needed in job

Typical 'blockers'

Outcast students
- Set class norms around inclusion
- Model respect
- Build self esteem
- Activities that help children to value differences
- Encourage positive interdependence, individual accountability (use rules, pass, look materials)
- Examine effects of put downs
- Classrooms noisy
- Develop signals for zero noise, volume check
- Practice "th" tones of voice
- Say "it's a top secret" – so others surprised by presentation – keeps pace going
- Learning from cooperative learners is different to "nous"

Time Management
- Look at the activity, teach some lesson in another class, e.g. another team teach, use ready made activities
- Show appendix B

Fast finishing pairs/ groups???

- Thinkers keys
- Mind links
- mindlinks_all.pdf
- Thinkers Keys_all.pdf
Appendix Five- Professional Learning Session Three

**Third Professional Learning Session**

Cooperative Learning Action Research

1st November 2007

**Definition**

Cooperative Learning:
- involves heterogeneous groups
- participating face to face
- clearly structured tasks
- common goal
- optimum student participation
- roles or sub-tasks
- positive interdependence and individual accountability
- reflection
- children as co-learners

**Key components**

- clearly structured tasks
- common goal
- positive interdependence
- roles or sub-tasks
- individual accountability
- reflection

**More advanced skills**

- Advanced Group Skills
  - Supporting other people's ideas and opinions
  - Negotiating
  - Mediating when others can't agree
  - Suggesting and persuading instead of forcing
- Group Work Skills
  - Making decisions as a group
  - Managing time
- Problem solving
- Group Learning and Thinking Skills
  - Challenging assumptions
  - Building on other people's ideas

**Strategies and structures**

- Jigsaw
- Bundling
- Placemat
- Hot potato
- Think, pair, share
- Talk tokens
- Paired interviews


**Example lesson**

- Clearly structured tasks: task needs to have a purpose, be interesting so that students will engage with it; consider authentic audience for this
- Needs to be split into smaller/sub-tasks at times, when a very large ongoing task: YES this has been done
- Needs to be open-ended for most successful CL – could be developed with student direction in forming questions
- Roles and sub-tasks are used
- Needs explicit teaching at the beginning of every lesson: re-focus, re-motivate, re-orientate: yes happening more
Appendix Five- Professional Learning Session

Revisit good lesson planning

- 20 minutes orientation and guided discovery (explicit teaching)
- group task 5-10 mins
- assess progress etc 5 mins
- group task 10-15 mins
- assess progress etc 5 mins
- group task 10-15 mins
- Reflection


(Obviously less time for younger students)

Problems

- Lack of shared skills
- What can’t I do?
- Round robin
- Task rotation
- Lack of participation skills
- What can’t I do?
- Role

This to be with no time limit
- Lack of student strengths and likes
- Lack of communication skills
- What can’t I do?
- Teach the skills eg paraphrasing
- Lack of listening skills
- What can’t I do?
- Paraphrase previous point before allowing them to contribute their own point

Action plans

1. Revisit your action plan from last session
2. Reflect on how you think CL is happening in your classroom now
3. What have you been observing?
4. What are your new goals?
5. How are you monitoring your professional development?
6. How are your reflections helping to change practice?
## Cooperative Learning Observation

**Class:**

**Date:**

### Grouping practices

<table>
<thead>
<tr>
<th>Grouping practices</th>
<th>Tick the grouping practice used</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterogeneous groups by ability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous groups by gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous groups by ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous groups by social skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pupil selected groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three to four member groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Task structure

<table>
<thead>
<tr>
<th>Task structure</th>
<th>Tick the appro. sections</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group task with individual task assigned (group goal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group task with group product (group goal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource interdependent (positive interdependence)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role interdependence (individual accountability)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Cooperative strategies used in the lesson

<table>
<thead>
<tr>
<th>Any other</th>
<th>Think/pair share</th>
<th>Placemat strategy</th>
<th>Bundling</th>
<th>Jigsaw</th>
<th>Silent Jigsaw</th>
<th>Hot potato /cumulative brainstorm</th>
<th>Talk tokens</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix Six - Cooperative Learning Observation

**Teacher Observation (Cooperative Learning Lesson)**

<table>
<thead>
<tr>
<th>Likert scale</th>
<th>1 (obs. not at all in the lesson)</th>
<th>2 (obs. in one part of the lesson, seldom mentioned)</th>
<th>3 (obs. a number of times in the lesson)</th>
<th>4 (obs. almost always - throughout the lesson)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Strategies selected</strong></td>
<td>Uses no cooperative learning strategies designed to encourage student discussion / cooperation (see above list)</td>
<td>Uses cooperative learning strategies in <strong>one part of the lesson</strong> designed to encourage student discussion / cooperation</td>
<td>Uses a range of cooperative learning strategies in <strong>different parts of the lesson</strong> designed to encourage student discussion / cooperation</td>
<td>Uses a range of cooperative learning strategies designed to support appropriately those parts of the lesson</td>
</tr>
<tr>
<td><strong>B. Language of cooperation</strong></td>
<td>Teacher use of language that reflects the facts that cooperative learning is being used <strong>not observed</strong></td>
<td>Teacher seldom uses language that reflects the facts that cooperative learning is being used observed <strong>maybe once</strong> during the lesson</td>
<td>Teacher use of language that reflects the facts that cooperative learning is being used observed a <strong>number of times</strong> throughout the lesson</td>
<td>Teacher use of language that reflects the facts that cooperative learning is being used observed <strong>consistently throughout the lesson</strong></td>
</tr>
<tr>
<td><strong>C. Language of encouragement</strong></td>
<td>Teacher encourages children to work together and use each other as a resource <strong>not observed</strong></td>
<td>Teacher encourages children to work together and use each other as a resource observed <strong>maybe once</strong> during the lesson</td>
<td>Teacher encourages children to work together and use each other as a resource observed a <strong>number of times</strong> throughout the lesson</td>
<td>Teacher encourages children to work together and use each other as a resource observed <strong>consistently throughout the lesson</strong></td>
</tr>
<tr>
<td><strong>D. Reinforces student reflection</strong></td>
<td>Teacher utilises proformas or language that encourages monitoring of</td>
<td>Teacher utilises proformas or language that encourages monitoring of</td>
<td>Teacher utilises proformas or language that encourages monitoring of</td>
<td>Teacher utilises proformas or language that encourages monitoring of</td>
</tr>
</tbody>
</table>
**Appendix Six- Cooperative Learning observation instrument**

<table>
<thead>
<tr>
<th>Language that encourages monitoring of cooperative skills and reflection</th>
<th>cooperative skills and reflection observed maybe once during the lesson</th>
<th>cooperative skills and reflection observed a number of times throughout the lesson</th>
<th>cooperative skills and reflection observed consistently throughout the lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG use of encouragement, reflection sheets for group processes and tasks</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Likert scale</td>
<td>(no attempt to establish interdependence)</td>
<td>(Some attempt but minimal to establish interdependence)</td>
<td>(several attempts to establish interdependence)</td>
</tr>
<tr>
<td>E. Establishes interdependence in the students’ groups</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>E1. mutual goals in order to promote goal interdependence</td>
<td>No attempt to establish interdependence in the students’ groups with mutual goals in order to promote goal interdependence</td>
<td>Some attempt (but minimal) to establish interdependence in the students’ groups with mutual goals in order to promote goal interdependence</td>
<td>Several attempts to establish interdependence in the students’ groups with mutual goals in order to promote goal interdependence</td>
</tr>
<tr>
<td>E2. division of the task in order to achieve task interdependence</td>
<td>No attempt to establish interdependence in the students’ groups with division of task in order to promote task interdependence</td>
<td>Some attempt (but minimal) to establish interdependence in the students’ groups with division of task in order to promote task interdependence</td>
<td>Several attempts to establish interdependence in the students’ groups with division of task in order to promote task interdependence</td>
</tr>
<tr>
<td>E3. division of resources to achieve resource interdependence</td>
<td>No attempt to establish interdependence in the students’ groups with division of resources to achieve resource interdependence</td>
<td>Some attempt (but minimal) to establish interdependence in the students’ groups with division of resources to achieve resource interdependence</td>
<td>Several attempts to establish interdependence in the students’ groups with division of resources to achieve resource interdependence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix Six: Cooperative Learning observation instrument

<table>
<thead>
<tr>
<th></th>
<th>interdependence</th>
<th>interdependence</th>
<th>division of resources to achieve resource interdependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>E4. assigning different roles for role interdependence</td>
<td>No attempt to establish interdependence in the students' groups with assigning different roles for role interdependence</td>
<td>Some attempt (but minimal) to establish interdependence in the students' groups with assigning different roles for role interdependence</td>
<td>Serious attempts to establish interdependence with ongoing teacher reminders Establishes interdependence in the students' groups with assigning different roles for role interdependence</td>
</tr>
</tbody>
</table>

3 and 4 would need to be achieved in all categories (A-E) in order to determine that cooperative learning has occurred.
Appendix Seven - Interview schedule

Semi-structured Interview instrument – pre study and post study
Teachers’ perceptions of cooperative learning and teachers’ practices in cooperative learning

Name:

General background

1. Number of years teaching
2. Number of pupils in class
3. Frequency with which you use cooperative groups
3 a Can you reflect on your years teaching for me, professional highlights and lowlights
3 b The major difficulties you have experienced in teaching
3 c Perceived strengths and weaknesses as a teacher
3 d Knowledge of KLA’s – strongest and weakest subjects
3 e KLA’s you had to work the hardest on, had most difficulty in lesson preparation, delivery of syllabus outcomes, engaging their class and integrating CL strategies, giving examples

Ice breaker

4. Tell me about your room, the way you organise things now, your groupings for different KLAs or activities.
5. Tell me about a lesson you’ve taught this year that was fabulous.

Defining cooperative learning

6. What are the essential elements of cooperative learning?
7. What do you believe is the teacher’s role in cooperative learning instruction? What does the teacher do – “look like, sound like, feel like”?
8. What do you believe are the student’s roles in cooperative learning lessons / activities? What do the students look like, sound like, feel like?

Understandings of teachers

What are the benefits / disadvantages of cooperative learning?

9. How can having students working in groups improve their learning outcomes? How can having students working in groups negatively affect students’ learning outcomes?
10. a. What types of social skills can improve when your students work in groups?
    b. How can social skills be negatively affected when your students work in groups?
KLA Skill development

11. a. How does the use of cooperative learning help develop skills in KLAs?
   b. How can cooperative learning hinder the development of skills in KLAs?

KLA Knowledge / understandings

12.a. How can the use of cooperative learning benefit the development of knowledge and understandings in KLAs?
   b. How can the use of cooperative learning hinder the development of knowledge and understandings in KLAs?

KLA Values and attitudes

13.a. How can using cooperative learning help develop values and attitudes in your students?
   b. How can using cooperative learning hinder the development of values and attitudes in your students?

14. a. In what ways can using cooperative learning improve on-task behaviour?
   b. In what ways can using cooperative learning hinder on-task behaviour?

15. When using cooperative learning do you think it can increase/decrease BST scores?

Practice / use of cooperative learning

16. When do you use cooperative learning? How does it fit in with what you are teaching in the classroom? How do you plan for cooperative learning lessons?

17. What are the sorts of issues you consider when forming groups?

18. What is your personal definition of cooperative learning?

19. What else would you like to add about your use of cooperative learning?

20. What do you understand about the use of cooperative learning in schools? How is it received in schools?

Good teaching

21. How would you define good teaching?

22. When good teaching occurs in your classroom what would I be seeing, hearing, etc?

23. When you use CL does it help you do good teaching or does it make it harder?
Appendix Seven - Interview schedule

24 a Can you reflect on your involvement in the project – what did you learn from the professional learning?

24 b How regularly have you reflected on your teaching using the questions and how useful were they?

24 c How have you found the classroom observations? Negatives, positives. Did they change your teaching preparation, planning, delivery in any way?
## Teacher Reflective diary questions

**Focus on the learners**

<table>
<thead>
<tr>
<th>Focus question</th>
<th>Reflections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did the students learn what was planned? Why/Why not? How do you know?</td>
<td></td>
</tr>
<tr>
<td>2. Did all students participate in the learning? Why/why not?</td>
<td></td>
</tr>
<tr>
<td>3. Were students actively engaged in higher order thinking and deep learning? Why/why not?</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>4. Were students clear about what good work looks like for this task/lesson?</td>
<td></td>
</tr>
<tr>
<td>5. Did students see a purpose for this learning? Why/why not? Did the learning matter to them?</td>
<td></td>
</tr>
<tr>
<td>6. Were students engaged in the activities? Why/why not?</td>
<td></td>
</tr>
<tr>
<td>7. Did students take risks in learning? Why/why not?</td>
<td></td>
</tr>
</tbody>
</table>
### Focus on the teacher

<table>
<thead>
<tr>
<th>Focus question</th>
<th>Reflections</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. What did I learn about the students?</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix Eight - Participants’ reflective diary proforma

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. What made you choose that particular lesson content / outcomes for a cooperative lesson?</td>
<td></td>
</tr>
<tr>
<td>13. What did I learn about myself as a teacher?</td>
<td></td>
</tr>
<tr>
<td>14. What did I learn about cooperative learning?</td>
<td></td>
</tr>
<tr>
<td>15. How did your planning encourage the children to</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix Eight- Participants’ reflective diary proforma

<table>
<thead>
<tr>
<th>Focus question</th>
<th>Reflections</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. What social skills / cooperative skills did you focus on for this lesson?</td>
<td></td>
</tr>
<tr>
<td>17. What will I do differently next time?</td>
<td></td>
</tr>
<tr>
<td>18. What strengths will I build on in</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>future lessons?</td>
<td></td>
</tr>
<tr>
<td>19. What aspects of my teaching need further development?</td>
<td></td>
</tr>
<tr>
<td>20. What aspects of cooperative learning do I need help with?</td>
<td></td>
</tr>
</tbody>
</table>
### Researcher reflective overview

<table>
<thead>
<tr>
<th>FOR (pre-action)</th>
<th>Technical/Practical</th>
<th>Critical</th>
<th>Personal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What is the task allotted to me in this session?</strong></td>
<td><strong>Is this really action research?</strong></td>
<td><strong>How will this activity relate to my academic career personally?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>How will I prepare?</strong></td>
<td><strong>Is my work one that could be dispensed with?</strong></td>
<td><strong>How do I feel about the activity I am about to participate in?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>What resources will I need?</strong></td>
<td><strong>Does the academic as a mentor really work?</strong></td>
<td><strong>How do I feel about my relationships with the people there?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Have I enough background knowledge?</strong></td>
<td><strong>How does this session cater for key elements of cooperative learning?</strong></td>
<td><strong>What is going to be the response of the beginning teachers to my role?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>What skills do I need to further develop?</strong></td>
<td><strong>How does this session consider QT?</strong></td>
<td><strong>What are the good parts of preparing for this?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Is what I do going to be valued?</strong></td>
<td></td>
<td><strong>What are the bad parts?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Do the beginning teachers consider my contribution to be credible?</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ON (post Action)</th>
<th>Individual Technical/Practical</th>
<th>Whole project Technical</th>
<th>Critical</th>
<th>Personal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What skills do I need to further develop?</strong></td>
<td><strong>Was this action research?</strong></td>
<td><strong>How do I feel about the activity I just participated in?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>How did the activity go?</strong></td>
<td><strong>Would there have been a better way to approach this session?</strong></td>
<td><strong>How do I feel about my relationship with the people there?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Were there any difficulties?</strong></td>
<td><strong>Was the session focused on key elements of cooperative learning?</strong></td>
<td><strong>What was the response of the teachers to my role?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Did I have sufficient resources etc.?</strong></td>
<td><strong>Did the session consider QT?</strong></td>
<td><strong>What were the good parts of the time spent?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Did I tailor it sufficiently to the expectation of the teachers involved?</strong></td>
<td></td>
<td><strong>What were the bad parts of the time spent?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Was my approach the best for the purpose?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Was I clear?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Should something else have happened before this input?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Did the outcomes get achieved?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>How did I perform overall?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Was this session useful for the whole study?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Should something happen after this input?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary of teacher classroom observations using NSW Quality Teaching model

The instrument designed to code lessons related to the Quality Teaching model was developed for classroom observations related to Quality Teaching and is available for teachers’ use in A Classroom Practice Guide (NSW Department of Education and Training, 2003c). For classroom observations, a five-point scale was used to code the six elements within each of the three QT dimensions (IQ, QLE, SIG), for a range of 6-30 within each dimension, and 18-90 overall. Mean score in the NSW SIPA study was 46.42.

<table>
<thead>
<tr>
<th>QT total (IQ+QLE+SIG)</th>
<th>Mean score teachers initial obs QT total (IQ+QLE+SIG)</th>
<th>Mean score teachers final obs QT total (IQ+QLE+SIG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elizabeth</td>
<td>49.33</td>
<td>48.6</td>
</tr>
<tr>
<td>Josephine</td>
<td>57.66</td>
<td>44</td>
</tr>
<tr>
<td>Bill</td>
<td>61.99</td>
<td>64.5</td>
</tr>
<tr>
<td>Jill</td>
<td>64</td>
<td>65</td>
</tr>
</tbody>
</table>
### Appendix Ten - Summary of teacher classroom observations using NSW Quality Teaching model

<table>
<thead>
<tr>
<th>Elizabeth (1st year teacher)</th>
<th>N</th>
<th>Mean</th>
<th>Mean Initial obs.</th>
<th>Mean Final obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ</td>
<td>1</td>
<td>15.76</td>
<td>17.33</td>
<td>16.33</td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>664</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QLE</td>
<td>1</td>
<td>16.68</td>
<td>18</td>
<td>19.33</td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>664</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIG</td>
<td>1</td>
<td>13.98</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>664</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QT total (IQ+QLE+SIG)</td>
<td>1</td>
<td>46.42</td>
<td>49.33</td>
<td>48.66</td>
</tr>
<tr>
<td>ECT SIPA</td>
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</tr>
</tbody>
</table>
### Appendix Ten - Summary of teacher classroom observations using NSW Quality Teaching model

<table>
<thead>
<tr>
<th>JOSEPHINE (1st year teacher)</th>
<th>N</th>
<th>Mean</th>
<th>Mean Initial obs.</th>
<th>Mean Final obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
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<td>664</td>
<td>15.76</td>
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</tr>
<tr>
<td>QLE</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>1</td>
<td>664</td>
<td>16.68</td>
<td>16</td>
</tr>
<tr>
<td><strong>SIG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>1</td>
<td>664</td>
<td>13.98</td>
<td>16</td>
</tr>
<tr>
<td><strong>QT total (IQ+QLE+SIG)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>1</td>
<td>664</td>
<td>46.42</td>
<td>57.66</td>
</tr>
</tbody>
</table>
### Appendix Ten - Summary of teacher classroom observations using NSW Quality Teaching model

<table>
<thead>
<tr>
<th>BILL (2nd year teacher)</th>
<th>N</th>
<th>Mean</th>
<th>Mean Initial obs.</th>
<th>Mean Final obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>1</td>
<td>664</td>
<td>15.76</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td><strong>QLE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>1</td>
<td>664</td>
<td>16.68</td>
<td>20.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21.5</td>
</tr>
<tr>
<td><strong>SIG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>1</td>
<td>664</td>
<td>13.98</td>
<td>13.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td><strong>QT total (IQ+QLE+SIG)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECT SIPA</td>
<td>1</td>
<td>664</td>
<td>46.42</td>
<td>51.99</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>59</td>
</tr>
</tbody>
</table>
### Appendix Ten- Summary of teacher classroom observations using NSW Quality Teaching model

<table>
<thead>
<tr>
<th>Jill (3&quot; year teacher)</th>
<th>N</th>
<th>Mean</th>
<th>Mean Initial obs.</th>
<th>Mean Final obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ</td>
<td>1</td>
<td>664</td>
<td>15.76</td>
<td>18</td>
</tr>
<tr>
<td>ECT SIPA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QLE</td>
<td>1</td>
<td>664</td>
<td>16.68</td>
<td>22</td>
</tr>
<tr>
<td>ECT SIPA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIG</td>
<td>1</td>
<td>664</td>
<td>13.98</td>
<td>14</td>
</tr>
<tr>
<td>ECT SIPA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QT total (IQ+QLE+SIG)</td>
<td>1</td>
<td>664</td>
<td>46.42</td>
<td>54</td>
</tr>
<tr>
<td>ECT SIPA</td>
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<td></td>
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</tbody>
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Edge, K. (2012a). ‘Playing it safe’ *Quality Teaching in Expert Teacher Classrooms*. (PhD), The University of Newcastle, Newcastle, NSW.
Edge, K. (2012b). ‘PLAYING IT SAFE’ QUALITY TEACHING IN EXPERT TEACHER CLASSROOMS. (Doctor of Philosophy), University of Newcastle, Newcastle, Australia.


Miner, A. (2013). *Democratic Inclusive Educators*. (PhD), Utah State University, Utah.


## Appendix Eleven - Example of coding summary from Nvivo

<table>
<thead>
<tr>
<th>Initial Interview Comments in relation to Democracy Stance</th>
<th>Coverage</th>
<th>Coding references</th>
</tr>
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<tbody>
<tr>
<td>Democracy stance</td>
<td>21.20%</td>
<td>25</td>
</tr>
<tr>
<td>Development of classroom culture</td>
<td>12.41%</td>
<td>17</td>
</tr>
<tr>
<td>Promote self esteem</td>
<td>1.36%</td>
<td>3</td>
</tr>
<tr>
<td>Relationship building</td>
<td>1.31%</td>
<td>4</td>
</tr>
<tr>
<td>Respect and tolerance</td>
<td>3.50%</td>
<td>5</td>
</tr>
<tr>
<td>Risk taking</td>
<td>1.17%</td>
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</tr>
<tr>
<td>Student social support</td>
<td>6.54%</td>
<td>8</td>
</tr>
<tr>
<td>Willingness to express thoughts</td>
<td>4.77%</td>
<td>9</td>
</tr>
<tr>
<td>Willingness to listen</td>
<td>1.87%</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Final Interview Comments in relation to Democracy Stance</th>
<th>Coverage</th>
<th>Coding references</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy stance</td>
<td>19.05%</td>
<td>33</td>
</tr>
<tr>
<td>Development of classroom culture</td>
<td>8.71%</td>
<td>12</td>
</tr>
<tr>
<td>Relationship building</td>
<td>4.28%</td>
<td>5</td>
</tr>
<tr>
<td>Respect and tolerance</td>
<td>2.60%</td>
<td>3</td>
</tr>
<tr>
<td>Risk taking</td>
<td>0.20%</td>
<td>2</td>
</tr>
<tr>
<td>Student social support</td>
<td>5.68%</td>
<td>9</td>
</tr>
<tr>
<td>Willingness to express thoughts</td>
<td>5.37%</td>
<td>9</td>
</tr>
<tr>
<td>Willingness to listen</td>
<td>4.67%</td>
<td>10</td>
</tr>
</tbody>
</table>