The Relationship Between the Beliefs of Early Childhood Teachers and their Use of Scaffold, Instruction and Negotiation as Teaching Strategies

A thesis submitted for the degree of Doctor of Education

By

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February 2007

We don't see things as they are,

We see them as we are.

-Anais Nin (1903-1977)

Abstract

This study investigates the relationship between the beliefs of early childhood education teachers and their use of the teaching strategies *instruction* and *negotiation* in relation to the *scaffold* process. Consideration of thinking skills and the ability to problem solve through the vehicle of play provided the background to the research focus. The research was undertaken in two differently structured early childhood education centres in New Zealand with a case study design framing the gathering of data through observations and interviews. It is a small qualitative study driven by socio-cultural theory and therefore considered from a social constructivist position. The main findings from observations and interviews revealed that not all teachers had congruency between their beliefs and practice, that instruction could be the only mediation within a scaffolding process and by considering the power relations in the learning and teaching situation, a model of how different teaching strategies could be related to different states of thinking. A key finding was that of a definition of negotiation as a teaching strategy.

Acknowledgements

This study is dedicated to those early childhood education teachers who have a consistent desire to improve their practice through questioning and reflexion and understand that as teachers we can never make it perfect because of the individual construction of our own social reality. However we can always make it better. My thanks go to the many people who have provided support over the years but especially to my critical friend Georgina Hickman and my technological mentors, Bill Roche and Lyn Laurenson. I am indebted to the Centre staff who supported me so positively through the gathering of data. Thanks also to my Brunel University colleagues, management and colleagues at Manukau Institute of Technology Auckland, Croydon College of Further and Higher Education London and to family and friends who had faith in my ability to complete the thesis. A special thanks to Ella, Amy, Natalie, Hannah and Café Escape for providing a balance in my life. Dr. Alexis Taylor and Dr. Robert Fisher my supervisors at Brunel provided the much needed friendly guidance and support which enabled me to reach this end point successfully. My thanks also to Carol Bark who kept me in touch with Brunel events.

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CHAPTER I

Overview

1.0 Introduction

The focus of the investigation is the relationship between the beliefs of early childhood education teachers and their use of the teaching strategies instruction and negotiation in relation to the scaffolding process. This initial chapter provides an introduction to the study by considering its rationale and context and the factors that prompted it. The research question is identified and the significance of the study described. This is followed by an explanation of the term 'early childhood education' as used in this study and a brief account of each of the chapters which structure the study.

1.1 Factors Prompting the Study

The first factor was the social turn in the behavioural sciences towards the importance of research focusing on groups in society rather than individuals (Gee, 2000) and the impact on early childhood education. Another factor was within my professional role where I had the experience of teaching student Nursery Nurses. This experience led me to question the value placed on creative thinking in the training of Nursery Nurses. Also as part of the Doctorate of Education Research Training Programme, I undertook a pilot project which involved developing understanding of children's thinking through videoing

observations and interviewing lecturing staff on that programme. Reading of relevant literature especially related to teacher beliefs and thinking skill development in children also prompted my interest in the study. Current theories of cognitive development and current political influences focused mainly around New Labour education policies were other key factors. These factors are now outlined including insights into the theoretical underpinnings.

1.1.1 Research Focused on Groups

A significant factor which prompted the study was that of the "social turn" (Gee, 2000, p. 180) which behavioural sciences, including psychology, linguistics, sociology and anthropology have taken. This socio-cultural theoretical position was a key interest in the overriding understanding I held about the power of teachers' beliefs on their practice, as beliefs are learned and developed early in life (Abelson, 1979). Gee (2000) suggests that over the last twenty years many have come to understand that research must begin by looking at groups and societies and how they function as opposed to the study of individuals, although both are not discrete. This social turn is marked for early childhood education by the introduction of Vygotsky about ten years after his work became accessible in English (Vygotsky, 1962). Vygotsky's work shifted the emphasis away from Piaget's (1952) more individualistic focus to one of a socio-cultural context for learning. This emphasis on the social and cultural aspect of a child's life Vygotsky believed provided the opportunity for a child to move to a higher level of understanding than if playing alone (Fleer & Robbins, 2006). Vigorous and

excited debate occurred around the effort to understand his theory amongst some early childhood educators in the New Zealand context during 1972 when Miriam Smith, a leading Playcentre exponent, returned from America with information which began to reshape the thinking of these educators regarding the extraordinary impact of culture on learning. Up until that time the significant influence had been Piaget's cognitive theories. The Marxist idea of history developing by way of collective social movements and conflicts had a marked influence on Vygotsky which could explain his pervasively social theory (Berk & Winsler, 1995); thus the persuasion of his theories being of a social nature. It was accepted that social and cultural theorists such as Vygotsky would not understand the individual which was Piaget's focus unless they first understood the individual's social group. This emphasis which Gee (2000) has identified fits well within the current philosophical position of early childhood education in both the UK and New Zealand.

1.1.2 My Professional Experience

Another factor which prompted this study was a consideration of the Diploma in Early Childhood Education, a qualification undertaken by Nursery Nurses in the UK. What was the value placed on students having creative thinking and problem solving skills in this training programme? In my role as teacher I had experience of several students who had undertaken this programme and had been placed in my class. It appeared to me that such students generally did not have the essential skills to think creatively. My theory was that if they, as

students, did not have the essential skills to think creatively then they could find it difficult to support children to be creative thinkers and problem solvers. My question at this point was whether the training programme provided emphasised this aspect of children's thinking and made a connection with the student teacher's ability to think creatively which could impact on their professional development as future teachers.

1.1.3 Trialling of Methods: Observation Videoing and Interviewing

A further factor was that the work undertaken during the Research Training Programme as part of the Doctorate of Education (EdD) portfolio requirement involved trialling a process of interviews with lecturers and observations of children to find out if I had a viable question or research direction to pursue. My videoing of children in problem solving situations and the responses to staff of how they would enhance the creative thinking of the children brought to light the concept of peripheral participation (Lave & Wenger, 1991): a new way of thinking for me. The situation which highlighted this concept was one where a child was building a tower with Lego blocks. It was very high and the child was standing on a chair at the table putting pieces on top. When he had reached as far as he could he called to his teacher, *"look what I've done."* I was interested in what the teacher's response would be and noted that it was, "*good*" with the teacher barely glancing at the construction. I had anticipated some creative response from the teacher such as "*I wonder how you could get down from the top of the tower*" or *"if being at the top what else would you need to be able to reach the sky*?"

Following the teacher's "*good*" response the child climbed down from the chair and walked off. However the video record had picked up that there had been another child standing behind the child constructing the tower and when the constructor left he slipped on to the empty chair and began adding to the structure. I had not been aware of this action as I had been focused on the teacher's support for the *creative thinker* element. When watching the video and talking with my supervisor the work of Lave and Wenger (1991) arose and as we discussed their apprenticeship, situated learning, legitimate peripheral participation studies my thinking moved in the direction of wondering how we moved children from the periphery of a community to becoming members of that early childhood community.

From this discussion I began to consider teaching strategies used by teachers, in particular the scaffold process where the expert supports the less expert in the solving of a problem through a process of *instruction* or guided participation within an instructional process as referred to by Rogoff (2003). Further reading about the scaffold process led me to the writings of Daniels (2001) where I was introduced to the idea that it could be questioned whether the scaffolding situation was always one of *instruction*. Could it also be one of *negotiation?* The word *negotiation* is familiar in the early childhood world but I was not aware of how it had been defined. As a consequence the follow up reading for a definition did not throw any light on how the word was interpreted.

1.1.4 Literature Related to Teacher Beliefs and Children's Thinking

Extensive reading of the literature also acted as a prompt to this study as this helped shape my current position on early childhood education, especially around my interest in teaching strategies. A variety of philosophies and theories integral to early childhood education provided a powerful background over shaping the thinking of relevant practice within the field. However these must be understood as evolving either from or alongside the political and social thinking of the times as they were presented as positions on human life and in particular the place of children in various societies. These societies all contributing their special programmes and ideas to the concept of what early childhood education could be.

A brief summary adapted from Berk (2004) follows: for instance, Locke in the 17th century and his blank slate view where children were perceived as empty vessels needing to be filled, followed by Rousseau in the 18th century who disputed the notion of the *empty vessels* with his thought that children were noble savages naturally endowed with a sense of right and wrong. His child centred philosophy emphasised the concepts of *stages within development* and *maturation*. Darwin in the 19th century was the "forefather of scientific child study" (p.14) with Hall and Gesell in the late 19th century and early 20th century initiating the lifespan study movement; the 1930s and 1940s saw the emergence of the psychoanalytic perspective with Freud and his psychosexual theory and Erikson and his psychosocial theory to Watson in the early 20th century then to Skinner who developed a theory of behaviourism. Bandura's significant social theory emerged

in the 1970's which helped educators understand the importance of observational learning through imitation or modelling. Through most of the 20th century and continuing into the 21st century Piaget's cognitive developmental theory was the greatest influence on research in child development. His theory was made accessible to the general teaching world at around the same time as Vygotsky's socio-cultural theory was translated into English. Bronfenbrenner's ecological systems theory contributed a systems model to explain the contextual influences on development (Berk, 2004, p. 13-26). This thinking about the part context played in human development coincided with Vygotsky's socio-cultural emphasis which together has provided the basis for current thinking within the world of early childhood education. All these scholars cover a wide range of human behaviour which has some bearing on how early childhood education is thought about in our current society and along with individual cultural beliefs, shapes how teachers practise their pedagogy.

Current research on cognitive development focuses on the key influences of Piaget (1952) and Vygotsky (1978) from whom we understand the concepts of construction and co-construction, about how we learn, and the importance of the socio-cultural position on the influence of our individual perspectives of knowledge. As well, there has been a strong influence in recent research on brain development where it has been found that the brains of highly intelligent children develop in a different pattern from those with average abilities because of the maturation of the cortex (Ranck, 2006) and that it is suggested that the

learning experiences drive the development of the brain. All of these aspects of influence have contributed to the shaping of teachers' beliefs on what and how they practise.

1.1.5 Political Influences

Current political influences in both New Zealand (the context of this study) and the United Kingdom (where I had previously taught) provide the last influential factor in contextualizing this study. In both New Zealand and the UK. the need to raise achievement levels of school children has been a goal. This is especially related to the United Kingdom's New Labour government since it came into power in 1997. Within the school system there was a sudden emphasis on basic skills signified by specific programmes to be delivered in the disciplines of numeracy and literacy. These sessions were tightly prescribed and closely monitored by the inspection authority, Office for Standards in Education. As a consequence, educators have been required to spend much more time in preparation, planning and assessing children in the school system. The pressure to meet the weekly hours in order to cover all the required teaching began to expose the lack of time allowed for children to develop their thinking skills which had been an area believed would help the raising of standards. This area of debate eventually was heard and in 2003 Key Stage 2/3 children had the opportunity to study 'thinking' and come to understand the process of cognition (Gold, 2002). Debate over the setting of targets for particular levels of

achievement has been contentious. However this in turn brought the education of the under five year olds into sharp focus.

The New Labour government sees early childhood education as important but this phase of education has been handicapped to some extent by the legislation which has determined that this area of the system was not compulsory. There is much debate around the recognition that this period of childhood is seen as a time when the emotional bond of the child with the parent or immediate caregiver is a prime concern, (Belsky, 1992; Egeland & Hiester, 1995) and because of this most western governments ensure that there needs to be some element of parent/caregiver choice as to what form of nursery or early childhood education would be suitable for their family. Integral to this belief is the mechanism for the operations and commitment to the funding of early childhood education. Unfortunately the training and education of those who educate this age range come within the non compulsory sector of education as well, which again could imply that the funding was a 'moveable feast.' As a consequence, at one end of the system we had inadequate provision for the education of the under five year old and at the other, inadequate training and education of the practitioners involved. New Labour, since coming to power and a realisation that its nation's children were under achieving, placed an emphasis on both the ongoing increase in provision for the under five year olds in the system as well as places for the training and education of their practitioners.

In both England and New Zealand the governing Labour parties showed interest in the development of an early childhood education curriculum: a different interest from specific curricula such as Montessori or Steiner education programmes; an interest in a curriculum which was underpinned by strongly held socio-cultural beliefs but with a prevailing eclectic orientation based on the plethora of research knowledge which has now become available. Two strong influences were that of the northern Italy Reggio Emilia early childhood education programme and the recent research about brain development which had entered the public domain. New Zealand led the way in developing a curriculum for early childhood education which was based on the qualities New Zealand society wanted to uphold, evidenced from the high level of community consultation nationally (May, 1996). Within this lay the powerful belief that all children were different and learned through a variety of ways. Therefore well educated practitioners who had deep understanding about learning and child development were essential.

David (1990) suggests that in England the political push of the government for the implementation of a national Early Childhood Curriculum, "caused anxiety that the construction of a National Curriculum had a secondary school orientation, being subject based," (p. 75) the argument given that primary education required an integrated curriculum. David asked the question whether there would be a "top down effect on pre-school provision, the child being subject to criteria dictated by later school requirements rather than what is right for that child? What, in any case, will be the knock on effect on the pre-school

curriculum?" (p. 75). This expressed anxiety made it imperative a curriculum specific to early childhood education was developed. Thus the *Desirable Outcomes for Children's Learning* was published in 1996 followed by the *National Framework for Baseline Assessment* in 1997. Nutbrown (2006) suggests that both documents were met with some resistance by the early childhood education professionals and believes that it was this resistance that challenged the policy makers to develop the *Foundation Stage* document. This was a specific curriculum which recognised the special learning needs of the age group three to five years with the element of *play* as key to young children's learning. At the same time as a new early years division of the Office for Standards in Education was established, came a new document, the *Early Learning Goals.* This publication provided the much needed guidance for teachers to support children's learning throughout the duration of the Foundation Stage. The emphasis on play and a valuing of the ability of children to be creative thinkers and problem solvers required many reception class and key stage one teachers to change their practice to use guidelines which focused on the children leading the learning opportunities through a process of play rather than the teacher leading the learning through more instructional strategies. This shift from teaching the National Curriculum to teaching to the Early Learning Goals proved difficult for some staff as there had to be a relinquishing of some control by the teachers to the children and their interests. Wisely the government provided funding for professional development training in the implementation of the Foundation Stage especially for those teachers who had to make the shift from a teacher led

curriculum to one with a greater emphasis on child led curriculum. At this point in government policy development there was an understanding that it was the 'thinking skills' of the children which would help raise standards and the ability of the practitioners to help children do this was of the utmost importance evidenced by the money provided for professional development for key stage three teachers to be trained in teaching children how to think (Gold, 2002).

1.2 The Research Focus/Questions

The above factors identified the focus of the research, with the literature review, especially, helping to identify the specific research questions. The primary focus of the research was the relationship between the beliefs of early childhood education teachers and their use of *instruction* and *negotiation* in relation to scaffolding as teaching strategies. However, the review of the literature brought to light the understanding that there did not appear to be a definition of *negotiation* as a teaching strategy despite many interpretations put forward as definitions by various authors for the other critical words of *instruction* (Arthur, Beecher, Death, Dockett & Farmer, 2005; Bruner, 1978; Seefeldt, 1980) and *scaffolding* (Bruner, 1978; Daniel, 2001; Kozulin, 2003). Thus, a re-focus was required as a definition of *negotiation* as a teaching strategy was necessary in order to carry out the key direction originally decided upon. The research questions were then decided to focus around the word *negotiation*. These were:

-Are teachers aware of congruency between their beliefs and teaching strategies?

-Why is negotiation not referred to as a teaching strategy?

-Can the word negotiation be defined within the aegis of early childhood education?

-Does negotiation fit within the scaffold process?

-Is it possible for the process of negotiation to be a teaching strategy?

1.3 Significance of the Study

This study is significant in four ways. Firstly, the literature review (chapter 2) suggests that the focus of the study is a relatively under-explored area.

Secondly, it makes an original contribution to early childhood education teaching knowledge. From the five conclusions (discussed in 6.3) drawn from the key findings it is contended that the first three of these provide new insights into the focus of the study. (Summarised in 6.5). Thus, this study has provided the opportunity to more closely refine and therefore clarify what teaching strategies early childhood education teachers use to support children with their problem solving skills. Because the ability to problem solve is critical in this current age where there is an emphasis on cognition (Costello, 2000; Fisher, 1990; McGuinness, 1999) particularly in relation to thinking skills, the definition of negotiation as a teaching strategy makes possible a deeper level of thinking as both or all participants contribute equally by having equal power within this negotiated problem solving process. The process of using negotiation as I have defined it provides original knowledge. From this understanding of negotiation as

a teaching strategy, developed the model (refer 5.4) of there being three different levels of teaching strategies which could be used by teachers when supporting children with their problem solving skills. These are all based on the power relationship between the participants and directly connect to whether the participant, child or/and adult is in a state of dependency, interdependency or independency in the context of the problem being solved. This model also provides a new perspective on the use of teaching strategies. The importance of the development of a strong self esteem (Beauvais & Scholl, 1995) is critical in this birth to five year old age range and the thinking model which is newly identified through the study supports this crucial development. The study also found a connection between closed questions and the teaching strategy of instruction and this too did not have any literature available to review.

Thirdly, while this was a small scale research project with its own limitation (6.4) and as a consequence these findings require further research in order to see if they can be applied to a wider range of situations, the study is significant in providing 'fuzzy' generalisations (Bassey, 1999; 2001). These may be of relevance to others in the profession who need to respond to the current knowledge we now have about children's need to develop their independent problem solving and thinking skills. A present professional difficulty in my experience is a teacher's belief that she could have equal power with a child in order to apply the negotiating process. However from my perspective this is not an issue if the teacher has the profound belief of valuing the child having her own

interpretation of her own experiences. From this there are implications in terms of the value the teacher places on herself as a teacher and as a person educating under five year olds within particular societies and their attitudes to both women and children as well as education.

Fourthly, this study provides many directions for future academic research (6.6) and for the consequent publishing of papers which include challenges to the early childhood constituency to argue and debate not only the validity of negotiation as a teaching strategy but the use of a supportive model of thinking using three different teaching strategies: instruction, co-construction and negotiation to support children's choices of whether they need to be dependent, interdependent or independent in a particular problem solving context or situation. Within that model is the link between the teaching strategy of instruction and closed questioning. This too, if researched, could challenge teachers to consider if their underpinning philosophy is that of supporting the child to be an independent problem solver.

1.4 Terminology

The use of the term *early childhood education* is a New Zealand reference to education for children birth to five/six years of age. Cullen (2000) debates the use of this terminology by suggesting that it could be seen to refer to programmes with a narrow educational focus. She argues that the term *Early Years* which is the terminology within the UK. suggests a broader perspective by

being inclusive of the six to eight year olds and indicates that this wider age range would better reflect much of the recent research on learning. Cullen (2000) also advocates that through the term *Early Years* it could be argued that a "dialectical relationship between the early childhood and primary sectors would evolve from greater dialogue amongst researchers, practitioners and policy makers and that this would benefit children's learning in educational settings" (p. 3). Throughout this paper I have used the term *early childhood education* which refers to the education of the age range 4 to 5 year olds which is a focus of this study and also because the research data was gathered in New Zealand early childhood education centres.

1.5 The Study

This chapter has introduced the research and provided some historical and political background which sets the scene for the beginning of the research story.

Chapter 3 considers the methodology and rationale for the focus of the investigation. This includes the epistemological position on which the qualitative case study research approach is based and an exploration of why the methods, observation and interview, were used for the gathering of data. Other qualitative approaches which were considered are outlined.

Chapter 4 identifies the main findings and discusses these in relation to the literature describing the reasons why certain procedures were followed, the

analysis of the data and the findings from the use of this particular case study design. Several surprises surfaced in terms of what was found. The analysis of the data was far more complex than anticipated, and things which were not a focus initially but once discovered, became significant in understanding the focus I had taken. For instance, the link between closed questions and instruction; the discovery of the word negotiation not being defined as a teaching strategy or perhaps not seen as one; and the little evidence regarding the congruency teachers had between their beliefs and their practice.

Chapter 5 discusses the main findings from both the analyses of the observations and interviews and through a process of data reduction discusses the findings in terms of the research question.

Chapter 6 concludes the study by focusing on the limitations of the research design. Recommendations are suggested for further research based on discoveries I made throughout the research process. A rationale completes this chapter as to how this research focus could be of benefit to the world of early childhood education.

The study begins with a critical review of the literature. An Institutional Focused Study (IFS) was undertaken as part of the requirements of the Doctorate of Education (Ed.D.) programme and provided an opportunity for an extensive

critical consideration of the literature. The IFS is included as Chapter 2 which follows.

CHAPTER II

Literature Review (Institutional Focused Study)

2.0 Introduction.

An Institutional Focused Study (IFS) was undertaken as part of the requirements of the Doctorate of Education programme and provided an initial opportunity to reflect on the area of beliefs and teaching strategies in early childhood education which comprise the foci of the investigation. The IFS takes the form of an extended critical literature review and is included as Chapter 2 because it sets the *case* within the research literature which reveals significant wider issues for consideration in this local study.

One of the dangers in a literature review is that it will be over-inclusive and merely give a record of much of the evidence that is in the public domain. In order to minimize this risk it was decided to map the literature reviewed. The deciding factor of what literature to include was if it reflected the focus of the enquiry and an effort was made to ensure that the most recent literature related to the enquiry was presented to keep any findings made, within current thinking. In the main the literature was chosen if it related to England where the research process began and to New Zealand which provided the context for gathering the data for the study. Literature appearing in international journals was used if it was seen as relevant to the two contexts and to the areas of appropriate

research considered for investigation. Preference was given to the education sector of early childhood education or the period four to five years of age.

Other literature outside these parameters and therefore not included in the text provided three sources of information to enhance my thinking about the research question: professional development, early childhood curriculum and current thinking on developmental theory. Firstly, work on the professional development of early childhood education teachers is an important area when considering the maintenance of standards in teaching. Minimal research which measures the effect of this on teachers' practice was available in this area but the work of Brownlee, Thorpe and Phillip (2005) who claimed there was no research in the area of early childhood teacher education professional development, have taken the focus in their research of changing beliefs over time which for some could be seen as professional development, and considered this aspect of teacher education through a professional development study. The second area was literature relating to early childhood curriculum where there is a plethora of research. For example, Munn (2006) investigated the early years maths curriculum in the United Kingdom and found that the switch from process, Foundation Stage curriculum, to product, the statutory school curriculum had a marked effect on practitioners. Literature on 'human development' and generic approaches of child development such as the controversy over how child development was perceived provided the third area. For example, the controversy over how child development was viewed with writers such as Hardie

(2002) challenging developmental theory in early childhood education. Hardie's research highlighted the conflict between the "belief of teachers that there were individual differences between children, at the same time as following developmental stages as a way of understanding children" (p. 123). These three areas are all perceived as having an influence on teaching strategies, the focus of the investigation but to a much lesser extent than those chosen to be discussed.

A further influencing parameter was the theoretical position taken. This was the socio-cultural perspective with the literature being viewed as having relevance to the social construction of knowledge and the right of the individual to their own social reality. This bias was strong when selecting articles to review.

Given these parameters the literature selected provides an integrative review (Cresswell, 1998) as it identifies and summarizes key themes as a way of providing insight into the phenomenon of the relationship between teacher beliefs and practices and teaching strategies of scaffolding, instruction and negotiation. These themes which provide the structure to this chapter are as follows: the defining of thinking and teaching of thinking, metacognition, the influence of brain research, teacher beliefs on teacher behaviour, and teacher identity. The strategies teachers use to promote problem solving followed by play as a vehicle for learning completes the review. A summary of the literature critiqued concludes this chapter.

2.1 Defining Thinking Skills

Different writers use different terms when considering the definition of thinking skills. For example McGuinness (1999) uses *critical thinking skills* and Lipman and Sharp (1979) use *philosophy*. Sutcliffe (1997) considers a connection between *thinking* and *philosophy* when he reviews de Bono's constructive thinking in relation to the advocates of philosophy for children or what he terms "destructive, constructive, analytical thinking" (p. 2). Benson (1999) believes that defining thinking skills "was more complex because it was an abstract concept" (p. 1) and she discusses this complexity in terms of comparing children's physical skills which are so easily observed when being used and children's thinking skills which may be hidden when in use. Wilson (2000) at the Scottish Council for Research in Education Forum held in May 2000 suggests some definitions for the word *think* such as a synonym for 'believe' or 'suppose' or thinking about what someone is doing, meaning 'paying attention' or in a special sense "thinking as an intellectual or as a high level process" (p. 3). Wilson then considers that it would be helpful for our understanding to separate *thinking* and *skills*. Thinking she defines as the "process of cognition, knowing, remembering, perceiving and attending and skills as the acts of collecting and sorting information; analysing, drawing conclusions, brainstorming, problem solving, evaluating options, planning, monitoring , decision making and reflecting" (p. 3).

However, what ever the terminology used, the underlying concern is about the importance of the thinking of the child. For example, Fisher (2002) is reported to claim that thinking skills are now seen as an essential part of all school subjects

and that standards could be raised when teachers direct attention not only at what children are learning but how they are learning. Fisher (2005) a leading proponent of the importance of teaching *thinking* to children through infusion throughout the curriculum believes that enhancing a capacity for thinking and learning would greatly support children's ability to use problem solving, reasoning and thinking. In his text Fisher (1990) emphasises the importance of laying a foundation for thinking skills early in life, for "open mindedness begins in the formative years when a child's identity as a thinking person is being established" (p. vii). It is because the years within the early childhood frame are the critical years of the human's development that the subject of *thinking* and what it means needs discussion. For this present study the interest is in how early childhood teachers facilitate this essential element of the young child's education.

2.2 Teaching of Thinking

Research has assisted our understanding of the increasing complexity of the teaching of thinking skills, but such research has shown that this issue is equivocal. Although the literature heavily supports the teaching of thinking skills Costello (2000) presents several arguments people have put forward against the teaching of thinking skills. These include: that children may not have had sufficient life experience, which could be the rationale for people thinking about a particular philosophy instead of the thinking skills for life and across subject areas of the early years, a view propounded by Lipman (1998), or the critical argument

that young children were not capable of thinking in those ways (Costello, 2000; White, 1992).

Despite there being many writers on the subject of thinking and problem solving, there are few writers making the connection between the under five year old and the teaching of thinking. However, Haywood (1997) refers to a programme for three to six year olds called "Bright Start" where he reports that it was the techniques of the teachers which caused greater gains in children's reasoning abilities, language development and motor control than those of a comparable group over an eight month period. The mediation the teachers used included asking process oriented questions, challenging responses whether correct or not, requiring justification of answers, promoting transfer and generalisation of principles, emphasising order, structure and predictability, and modelling the joy of learning for its own sake. One of the major outcomes from this comprehensive programme was the positive effects on cognitive functioning. The effects of a cognitive intervention on cognitive functioning together with effects on motivation have been found to be durable which indicates that development is being influenced. The mediational processes used in this programme were complex in the sense that they could be too many for teachers to make integral continuously within their work with children. However, this substantive research exposes the complexity of the teacher's role if gains in learning are to be made.

The importance of the teacher and her sensitivity to the learning required by young children and her knowledge of teaching strategies become highlighted when considering any value placed on the need to ensure the young child gains access to only the best in learning opportunities. Teachers who use these essential mediational processes to enhance thinking ability by providing children with good reasoning, language and motor control will increase the power of the child in her ability to problem solve. The link Fisher (1990) makes with the importance of children developing these skills while still at the critical stage of being curious and interested in all things pertaining to them enables him to envision the world twenty years hence and the necessity for people to be able to use 'creative thinking skills' as they venture into the unknown. He reasons that the teaching of thinking skills is a necessity because it is a "changed world from twenty years ago and the need for new skills to manage the information technological explosion which has both destroyed and created jobs....the speed of change and that we are not certain what knowledge is needed in the future." (p. vii). Professor Wood (2004) of Nottingham University concurs with this idea that future knowledge and understandings are mainly unknown. Professor Wood had recently (2003/4) completed an investigation to find out what most European Governments and their education officials were thinking about *the future of schools and information technology.* From his report titled *The Think Report* it was apparent that every country he investigated agreed that the future role was unclear but that information technology was advancing at such a fast rate countries needed to be considerate of possibilities. Based on findings such as

these, Fisher's (1990) conviction that in order to be able to adapt quickly to this changing world it was logical to understand that thinking skills needed to be taught while children still had open minds and capable of using a wide range of thinking and problem solving abilities.

The literature showed that those who support the teaching of thinking skills have a variety of approaches to this and there are those who do not believe it should be taught at all. Huot (1998) suggested that if lessons in thinking were going to improve the thinking of students then this implied that thought processes become part of the content to be taught. Although Huot's paper related to secondary education it was possible that it could apply to early childhood teaching where the experience provided was the priority rather than the skills of thinking within the experience. Both Nisbet (1993) and McGuinness (1999) identified three possible approaches to the teaching of thinking, these being; specifically designed programmes, infused across the curriculum as supported by Fisher (2005) and embedded in a particular subject. In the world of early childhood because of the holistic nature of the programme it would be possible for all three approaches to be employed; to be integral within the curriculum and embedded in particular learning spaces at the centre as in the sand pit or science spaces. (New Zealand Ministry of Education, Te Whaariki, 1996). However the work of Nisbet and McGuinness, highlighted the level which must be given to the interest or motivation of the child. Because current practice has a focus of the curriculum evolving from the interests of the children the motivation for children to be

involved is high (Laevers, 1994; Siraj-Blatchford, Sylva, Muttock, Gilden, & Bell, 2002). Laevers' (1993) research emphasised the importance of this engagement by taking a focus on *involvement* as vital to the learning gained by young children. His research revealed that *involvement* as a quality of human activity could be recognized "by a child's concentration, characterized by a high level of motivation, concentration and persistence, intense perceptions and experiencing of meaning, a strong flow of energy, a deep satisfaction and all of this based on an exploratory drive and basic development of schemes" (p. 61). Early childhood teachers should use that time of involvement to develop the child's *thinking* skills.

Lipman and Sharp (1979) argue that "there are ways of engaging children in philosophical activities long before they are competent to read anything in the traditional philosophical repertoire" (p. 47), qualifying their viewpoint by suggesting that "a classroom driven by a philosophical position will establish a community of inquiry which is open to evidence and reason" (p. 45). Costello (2000) too, believes that teaching skills of critical thinking enabling reasoning to be practised is necessary but he adds that this would be part of the enculturation of the setting which for this study would be essential with its socio-cultural underpinning to practise. If the concept of teaching thinking, philosophy or critical thinking was accepted, a community of inquiry would be established with children able to reason, question, think for themselves, strengthen their reflective dispositions and have far stronger academic achievement.

Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell's, (2002) recent research advocates that thinking children make the best progress when engaged in activities which make them think, and that "children in pre-school environments that encourage sustained shared thinking between adults and children make more cognitive, linguistic and social behavioural progress than children in settings which do not" (p. 1). Thus the lateral thinking ability and the discourse required is critical in ensuring children's thinking progresses. Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell, (2002) investigated *The Effective Provision of Pre-School Education* in the United Kingdom. This was a longitudinal study carried out for the Department for Education and Employment in England from 1997 to 2003. Part of their study was to evaluate effective teaching and learning at the Foundation Stage (ages 3-5 years). They found that only one in twenty questions asked by teachers of children were open ended and their evaluation revealed that in the most effective centres children were asked many open-ended questions that extended their thinking. These authors are adamant that "Staff need to actively teach the children, which means modelling the appropriate language and behaviour, sharing intelligent conversations, asking questions and using play to motivate and encourage them" (p. 1).

Beliefs about thinking and the teaching of thinking skills are not new. The theories of Piaget (1952) and Vygotsky (1978) on which our education system rides, promoted the need for interaction in the learning process; the former believing that individuals could construct their own learning within the

environment and the latter with the stronger social focus of needing other people to construct the knowledge with and encourage effective thinking. Vygotsky's position is supported by Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell's, (2002) study which emphasises the sharing of conversations and the modelling of teachers. In a similar vein to Huot's (1998) thinking that the content overrides the thinking skills involved, Costello (2000) adds to our understanding as to why thinking skills have not had the emphasis they deserve, by proposing that within the compulsory sector of education the focus has been on the subject studied rather than on the thinking processes used and that an emphasis on the literacy and maths skills has supported the subject as being more important than the person's understanding of thinking and how it is processed. A term used for understanding the process of thinking being metacognition and as referred to earlier, Lipman and Sharp (1979) suggest that when reasoning is internalized reflective thinking becomes a major component of the problem solving process which in turn provides children with the ability to understand how they do their thinking. If this was encouraged it would follow that they could become 'independent' thinkers, this being a desired goal for most early childhood teachers. I will now move to take a closer look at this significant process of metacognition within current early childhood education practice.

2.3 Metacognition and Language

The literature shows that metacognition has a powerful place in the development of thinking skills. Flavell (1976) defines metacognition "as awareness and control

of one's own knowledge and thinking and therefore learning" (p. 232). He believes that among other things, metacognition refers to the active monitoring and consequent regulation of these processes. The act of self monitoring was researched by Winsler, Diaz and Mantero (1997) when they examined private speech. Their study included the examination of a central Vygotskian hypothesis about the function of private speech: "that private speech facilitates the transition from collaborative to independent task performance, and that children's use of private speech is conducive to task success" (p. 59). Observation of forty preschool children ranging in age from three to five, were documented while these children completed a twenty four item selective attention task. This involved deciding which of two dimensions, such as colour and shape, some pictures had in common. An experimenter would scaffold the children when they were unable to complete an item on their own. Video tape recorded the event of scaffolding with coding developed to identify, item–relevant, item-irrelevant, and where there was no speech. They found that the children who used private speech following scaffolded support were more likely to succeed on subsequent tasks than children who did not talk to themselves after scaffolding. This finding from their research demonstrated that children would work with adults at first when being scaffolded by an adult, then talk to themselves without the adult and later carry out the task without talking aloud. Thus, the suggestion that children need to be active participants in being able to take over the role of the adult regulator which supports them moving from interpersonal collaboration to independent problem solving. Children must use verbal self-regulation for this to

occur. Berk and Winsler (1995) go so far as to say that the use of private speech has to be actively encouraged. This is validated by Diaz, Winsler and Montano (1994) who explain that "if a child is using task-related private speech while engaged in a goal related activity, then the child is functioning within his or her zone of proximal development, and is sufficiently challenged as to require the use of overt verbal self-regulation yet not overly taxed as to lead to disengagement" (p. 77). Winsler (1994) in a separate research study claimed that children's self regulatory control was reduced when they were verbally directed with the adult not relinquishing control as the child gained in confidence. Huot (1998) discussed this aspect through the eyes of one working with older children who she believed learn to think as they process the information they need. But this focused too much attention on the subject matter and insufficiently on the thought processes. Cognition she believes should be taught as its own subject matter. Huot's theory is supported by Pramling's (1988) Swedish pre-school laboratory based study which established that metacognitive skills could be taught. Pramling considered the use of metacognitive dialogues between teachers and children. These dialogues focused on drawing attention to the different ways of thinking about learning, which Pramling claimed allowed children to increase their own learning. In this experimental-descriptive study into metacognition Pramling interviewed three groups of Swedish pre-school children. A further two rounds of interviews with a total of fifty-six children occurred over a period of about six to eight months and it was found that the group involved in the metacognitive dialogues about learning in their every day life had an increase in awareness of

their own learning which they related to the content of their day. Cullen (1991) by contrast in her paper titled, *Metacognition and the Young Learner* believes "metacognition encompasses two streams of thinking; that of our own knowledge of our thinking and learning processes and our ability to control our thinking and learning on the basis of this knowledge" (p. 340). This study (1991) and an earlier one by Cullen (1988) investigated the relationship of Western Australian pre-school children's emergent metacognitive abilities to their adjustment to school learning in their first year at school. Cullen adopted the criterion that "self regulation, whether consciously carried out or not is an indication of metacognitive ability" (p. 340). She recognised this by hearing children using reflective language of *think, know, remember* and *understand* which assisted strategies for metacognition. The study focused on learning strategies defined as "repeated patterns of behaviour and language which indicate an active strategic approach to learning" (p. 30). Strategic and non strategic learners were identified with "strategic learners able to use persistence, purposeful use of resources, experimentation and problem solving" (p.30). The 1991 findings of follow up observations on ten of the children then in their second term of school found that the originally identified strategic learners continued to use effective strategic approaches to learning and that teachers rated them more highly on work habits and achievement in the areas of oral and written language, printing and mathematics. Cullen's research concluded by comparing the pre-school and its freedom for children to practise reflective skills in the context of meaningful situations with the year one school teachers who appeared to restrict individual

interactions to correcting work, to controlling behaviour and generally missing opportunities which would allow children to use different ways to complete any set tasks.

Although self regulation could be seen as very much part of metacognition it was also a developmental process used by children as they came to an understanding of problem solving. Siegler (1998) adds depth to this viewpoint by suggesting that pre-schoolers' metacognitive ability is implicit rather than explicit no matter what the context of assessment. It is part of who the young child is. However not all researchers are convinced of the pre-schoolers' metacognitive abilities with support both for, such as Cullen (1991), Schneider and Bjorkland (1992) and against, Brown, Bransford, Ferrara and Campione (1983) and to some extent Siegler. The main reason being argued as children not being ready for such a complex thinking process.

Within any literature review on metacognition the concept of Piaget's (1952) egocentric speech and Vygotsky's (1978) inner speech, need to be included as these concepts have contributed to our understanding of the need for the child to self regulate her thinking. Piaget's rationale for *egocentric* speech related to the pre-operational skills generated by the focus on self where the young child talked to herself but usually in the presence of others and included words of self regulation. For example the child may be heard to mutter to herself when playing in the sandpit, "Don't throw sand." Piaget believed that this ability was usually

only observed between the ages of two to six years and that it disappeared when the child moved to the concrete operation stage. Vygotsky's perspective on this concept was that "egocentric speech was transformed into internal speech that characterises much of our complex thinking" (Garnham & Oakhill, 1994, p. 45). Wood (1998) analysed these differing perspectives of Piaget (1952) and Vygotsky's (1978) theories about talking and thinking and suggested the greatest difference concerned language and its effect on intellectual development. Wood explained that Piaget's theory expressed the idea that although language did not create the structure of thinking it did facilitate its emergence beginning with the egocentric speech whereas Vygotsky believed the reverse occurred with speech developing as a social and communicative affair in its intent and the overt activity of speaking provided the basis for inner speech which formed the process of thinking. From this Wood provided his own viewpoint by stating that "the physical activity of speaking, which serves to regulate the actions of others, also becomes internalized to create verbal thinking, therefore all forms of thought are activities" (p. 29). Gillen (2000) in her research paper titled *Listening to Young Children Talking on the Telephone: a reassessment of Vygotsky's notion of 'egocentric' speech*, explored aspects of young children's private speech, examining characteristics of their development of discourse knowledge in utterances that were not directed to actual people. She explored two notions in this research but the one of relevance to this present study is that of egocentric speech developed within Vygotsky's socio-cultural perspective to language acquisition. Data were gathered from spontaneous play with telephones during pretend play by three

and four year olds in a nursery attached to a school in north England. Gillen (2000) transcribed the telephone talk of nineteen children and focused on children using an imaginary telephone. Her claim was that pretence telephone calls may be regarded as egocentric speech. They were self regulated and adhered to the cultural mores of a particular society, at the free choice of the child who in this case acted alone.

Piaget's (1926) term, 'egocentric speech,' has been reconceptualised in several ways including Berk's interpretation (1992) in her study where she re-labelled egocentic speech, *private speech* which brings the strategy closer to Vygotsky's term of *inner speech*. Although research on private speech has mainly been limited to close-ended tasks as in Winsler, Diaz and Montano's (1997) study, by contrast the research of Krafft and Berk (1998) examined the contextual influences on private speech in two different preschools with the age group three to five years. The two preschools differed in their learning environments with one being Montessori and the other a traditional play oriented centre. Observations took place during free choice periods in both programmes with this naturalistic research using Vygotsky's (1978) premise that make believe play served as an important context for the development of self regulation. Fifty nine children aged three to five years were participants with data gathered over a period of two months. Time sampling was used with ten second observations occurring followed by twenty second coding durations. Krafft and Berk found that the expression of private speech was much higher during open-ended activities than

during close-ended tasks with pre-determined tasks. These researchers concluded that imaginary play was critical in supporting the development of self regulatory private speech. The literature to this point also suggested that although open and closed questions were used it was the ability to verbally express the self-regulation through inner speech which was the significant factor. Kozulin (2003) discussed his own experiment where he and his colleagues set up children's activities in much the same way as Piaget (1952) with specific problems to solve, but introduced frustrations for the children. For instance the children were not given paper to go with the coloured pencils. Vygotsky (1978) explained that by "obstructing the child's free activity we made him face problems" (p. 30). Kozulin found that by confronting the child with a difficulty the child almost doubled his egocentric speech output as compared with Piaget's egocentric talk output figures or their own figures where there was no frustration. Vygotsky concluded by suggesting that "egocentric speech appeared when a child tries to comprehend a situation, to find a solution or to plan nascent activity" (p.30). Vygotsky was strong in his belief that egocentric speech did not atrophy and die away but that it went underground and served the same purpose in the older child but had become inner speech. Although Vygotsky's studies suggested a similarity between egocentric and inner speech he claimed that the inner speech did not just accompany the child's activity as he thought was what happened with Piaget's egocentrism but "provides mental orientation, conscious understanding and it helps overcome difficulties. It is intimately connected to the child's thinking" (p. 228).

Lantolf (2003) also discussed the term private speech as self regulatory and led a discussion around the process of *internalisation* where subjects had the ability to "perform a certain action without a present problem in mind" (p. 350). However internalisation was commonly referred to as private speech – self talk which Berk (2004) acknowledges was the term in current use. Private speech could be understood as an interaction between *I* and *me* implying that the person could mediate their own learning which was part of Pramling's (1988) findings. Lantolf (2003) like Vygotsky believed that around the age of seven, this interactive social speech which is audible only to that particular person evolves to become a working inner speech. The scaffold process used within Vygotsky's concept of a zone of proximal development assisted children to develop this 'inner language' by the more expert person audibly guiding a less expert person through this zone of proximal development (ZPD) process, the child or less expert hearing words which could be used by them when working alone. This process modelled a valuable metacognitive skill. Some studies demonstrated that parents were skilled scaffolders and where they had been observed helping their children solve problems, those children were identified as using private speech and were more successful when asked to do tasks independently (Diaz, Winsler & Montero, 1994; Berk & Spuhl, 1995; Conner, Knight, & Cross, 1997).

This ability to use egocentric/inner speech was critical to my inquiry investigating the meaning of the words *instruction* and *negotiation* as this latter word could not be demonstrated unless the child was enabled to use her *egocentric/inner*

speech to support the need for self regulation in the process of *negotiation*. The understanding is that children are learning at two levels: about the task and how to structure their own learning and develop their own reasoning (Wood, 1998) which when connected to the process of *negotiation* could mean the child understanding a goal and what reasoning skills she would use to reach it. This understanding led to a discussion of the child making sense of her own construction of experiences.

Fisher (1990) suggested that it is through thinking we have the ability to make some meaning of our lives. This idea made succinct Piaget's (1952) theory of mind which strongly supports the understanding that the child would make sense from his own construction of experiences with Vygotsky's (1978) theory supporting the social context essential for thinking. Theory of mind could be used to refer to children developing concepts of mental activity with problem solving being the key mental activity in this particular study. However the verbal expression of thought has several varying theories with which to contend. It was Aristotle the Greek philosopher who believed that thought was prior to language (Garnham & Oakhill, 1994). Wood (1998) argued that Piaget's theory predicted that the understanding of language was constrained by stages of intellectual development whereas Chomsky (1957) was explicit that language had a special structure which involved systems of linguistic rules that could not be reduced to cognition. The term 'Language Acquisition Device' has been applied to this structure. Garnham and Oakhill (1994) discussed Vygotsky's theory of the

relationship between thought and speech and discerned three main stages; "thought and speech unrelated, thought and speech becoming connected and up until about age seven years, thought and language developing a relationship" (p. 45). These writers believed it was the development of this inner speech and use of a linguistic medium that provided the impetus for any complex thinking to occur. A contrasting theory is that of the Sapir-Whorf hypothesis. Garnham and Oakhill (1994) believe this hypothesis to be a "diametrically opposed view in that the position of language is seen as logically prior to thought and that the kinds of thought a person can have is determined by the language they speak" (p. 45). These differing views remain with the interactionist perspective holding a strong position which Berk (1992) confirms by explaining that there was a natural capacity, or a powerful desire to interact with others and a rich language and social environment which combined to help children develop the systems for communication required to support thought.

Thus, debate continues over the precise nature of innate language abilities. The discussion around language and how it develops in relation to thinking is of concern in this study as the ability to negotiate (adult - child/child - child) from a shared power base requires well developed language and thinking to perform *negotiating* functions.

2.4 Influence of Brain Research

A further influence on the understanding of the importance of thinking has been the large amount of research on the development of the brain. This information is beginning to affect educators' views on the processes of thinking and in turn the opportunities provided for advancing the thinking of children. The discussion earlier in this review regarding Laever's (1994) emphasis on *involvement* is given some explanation by McGuinness (1999) by suggesting that brains are currently being portrayed as under used and therefore capable of further development by stimulation through active participation by children who learned best in a social environment. It was in that context that children gave meaning to their own experiences and built the necessary conceptual schemata. McGuinness believed that learners must be supported by teachers who gradually extended the learning challenges and provided appropriate feedback. Early childhood educators are now questioning how this information impacts on their role as providers of the opportunities for the thinking essential for children within the early childhood age range. Recent knowledge of brain development overturned Piaget's theory of development which was to wait until the child was 'ready' (maturation) before teachers intervened in the advancement of the learning. As it is now understood the brain develops from the experiences and stimulation the child has and it does not wait 'to be ready' for the experience. Early childhood educators now have the opportunity to provide the breadth and depth of experiences needed to maintain brain functions to a fuller capacity than originally thought. Bergen and Corscia (2001) concur by reminding us that all educational practices that expanded learning experiences and challenged thinking could be

positive influences on brain growth and neurological development because brains were in part "created by each individual" (p. 41). Although the nature-nurture debate will still continue it may have lost some credence as it is now unequivocally agreed that experiences both pre and post birth powerfully effect brain development. Deprived of a stimulating and nurturing environment there is a high likelihood that the brain could fail to develop as well as was possible (Nash, 1997). It is now seen that the job of the early childhood educator is critical in providing a high quality stimulating environment to support children and their thinking.

Meade (2000) continues this discussion through a paper describing her study in America as a Fullbright research scholar. She identifies this brain debate as concerning writers who "claim that *new* brain research demonstrates the importance of the first three years for brain development and that X or Y experiences make a difference for baby's development," with the contrary opinion suggesting that there "needs to be some caution when discussing brain development as there still is not sufficient knowledge to be emphasising particular educational practices in response to the brain research being produced" (p. 7). Meade identifies three myths put forward by Bruer (1999) a writer who publicly argues his case for caution. "Myth 1; rapid synapse formation constitutes the most crucial period or does the blooming of synapses signify learning?: Myth 2; the brain is 'hard wired' in the early years which research shows that only a few brain areas have become hard wired as a result of

experience or deprivation of experience: Myth 3; that enriched early childhood experiences promote brain development" (p. 11). This third myth seems to have attracted much argument but Meade's reference to the "neuroscientists on the US National Academy of Sciences committee on child development 2000 (personal communication) and its belief that complex and challenging environments can enhance development" provides some positive evidence in support of early childhood teachers ensuring such enriching opportunities are provided for their young learners (p. 11).

Such opportunities were going to be strongly influenced by the beliefs held by teachers as it would be these beliefs which drove practice. They determine the way a teacher interpreted various policies such as that of positive guidance. Although procedures might state that teachers must be fair in their appraisal of a situation between children it was their beliefs which would direct their response to either hold the distressed child, punish the perpetrator or discuss the situation with both children. This next section will explore some of the literature relating to teacher beliefs.

2.5 The Influence of Teachers' Beliefs on Teaching Behaviours

The literature addresses the issues of teachers' beliefs on teaching behaviour. Current emphasis is based on the cultural / historical influence on learning and behaviour and leads to the understanding of the power these things must have on the development of 'beliefs' which are strongly integrated with the experiences

people have. The relevance of such literature for this study lies in the impact of belief systems on the ability of a teacher to support the problem solving and independent thinking in the under five year old child?

Pajares (1992) stated that the "difficulty in studying teachers' beliefs has been caused by definitional problems, poor conceptualisations, and differing understandings of beliefs and belief structures" (p. 307). However Abelson (1979) defined beliefs in terms of people manipulating knowledge for a particular purpose but Dewey (1933) described beliefs as "something beyond itself by which its value is tested" and added that it "covers all matters of which we are not that sure, are confident enough to act upon, but could be questioned in the future" (p. 6). Brown and Cooney (1982) explained that beliefs were dispositions to action and major determinants of behaviour and Rath (2001) suggested that Katz (Katz & Rath, 1985) offered insight by introducing the notion that "beliefs be considered as predispositions which can be described as a summary of actions" (p. 7). A final definition is that of Sigel (1985) who considered beliefs to be "mental constructions of experience, often condensed and integrated into schemata or concepts" (p. 28). Although the above definitions uphold slightly differing meanings to how beliefs could be perceived my favoured definition was that of Brown and Cooney (1982) where they explained that beliefs were dispositions to action and major determinants of behaviour. Because of this view it could be said that beliefs were not always visible and must be inferred from what people said and did. Thus beliefs could only be clearly observable through

the action of people. Prawat's (1992) emphasis was on the importance of constructivist theory and its refocus for teachers of putting the student's own efforts to understand, at the centre of the educational enterprise. He promoted the idea that by "taking this approach the relationship between teacher and student becomes more complex and interactive. Therefore teachers are required to work harder, concentrate more and embrace larger pedagogical responsibilities than when keeping content and delivery as separate entities" (p. 357). This supported the social practice theory suggested by Lave and Wenger (1991) also writing around this period who explored communities of practice which demanded that the wider implications of culture and beliefs of the teacher and other members of the community were going to play a significant role in any learning by the student. This view of course underpinned by Vygotsky's (1978) socio-cultural theory was inherent in many of the defining components of what beliefs could be.

A major influence identified by Brown and Cooney (1982) was that of the link with cultural transmission as teachers being 'insiders' in that they had experienced many years of school, of teaching, of learning, which provided a familiarity and thus enabled them to deny the understanding that they were agents of social change. This could be serious in terms of how the teacher then interpreted the curriculum, if Thornton's (1995) concept of problem solving being "about change; moving one idea to another new one through the use of questioning" (p. 5) was applied. This enculturation of teachers was powerful as Lave and Wenger (1991)

discovered with their work on legitimate peripheral participation which used a scaffold process, their investigation discovering that those in a peripheral position were dependent on how the mentor or old timer used her power or enculturation to either support the new comer into the community or to keep them out.

Some scholars have suggested that beliefs were formed early and tended to self–perpetuate, persevering even against contradictions caused by reason, time, schooling or experience (Abelson, 1979; Buchmann, 1984; Clark, 1988; Lortie, 2002). The earlier a belief was incorporated into the belief structure the more difficult it was to alter whereas newly acquired beliefs were most vulnerable to change (Rokeach, 1968, Abelson, 1979; Nisbett & Ross, 1980; Posner, Strike, Hewson & Gertzog, 1982; Munby, 1982; Nespor, 1987; Clark, 1988; Lewis, 1990). Because early childhood teachers are in a key position to influence the beliefs of children I believe it essential that we heed Nespor's conclusion that beliefs are far more influential than knowledge in determining how people define problems and organize tasks. The literature also suggested that the older a child becomes the more difficult it was to change beliefs as the assumed power of the enculturated teacher provided the strong link between this and the transmission or facilitation of knowledge. Sigel (1985) described a belief structure which humans develop as being the mental constructions of experience often integrated into schemata. This mental set could have powerful repercussions for the learning opportunities provided by early childhood education teachers in terms of their own experiences and how they have interpreted them into their practices

(Shavelston, Webb and Burstein, 1986; Spodek,1987) providing the necessary congruency with successful teaching practice.

Prawat (1992) emphasised that it was widely understood that "getting people to change beliefs, especially intuitively reasonable beliefs, is a difficult proposition" (p. 357). For change to occur the new thought needed to be intelligible, plausible and fruitful (Posner, Strike, Hewson & Gertzog, 1982) and the individual needed to be "dissatisfied with their existing beliefs in some way, that they would need to find the alternatives both intelligible and useful in extending their understanding to new situations. They would then need to connect the new beliefs with earlier conceptions" (Prawat, p. 357). This was not an easy task as White (1992) suggested that having people be dissatisfied with their views can only be done if there was a "true commitment to new knowledge which can be compared with older beliefs so that dissatisfaction with the old and fruitfulness of the new can be realized" (p. 156). Reflection and metacognition were two strategies required by the learner to enable them to achieve this.

Although there was much research literature regarding beliefs and the beliefs of teachers, very little research had been undertaken concerning early childhood educators. One study by McLauchlan-Smith and St. George (2000) investigated the influence of New Zealand Kindergarten teachers' beliefs on their practice. This small research investigation involved interviewing twelve Head Teachers about a variety of categories of teacher knowledge. The interest in this study

was the thematic analysis of teachers' beliefs about the role of the teacher in promoting learning. McLauchlan-Smith and St. George (2000) demonstrated that all the "teachers described a similar theory of practice in which they allowed all children to make their own choices in a carefully structured environment" (p. 43). Despite the different experiences of these teachers they found congruent beliefs among this specific community of practitioners ranging from normative maturational perspectives to a belief in scaffolding. However it was of interest to note that these writers suggested that it was the speech genre, expressed by Bakhtin (1981) which connected these teachers to a belief in constructivism. Thus the discourse was familiar to them. Their participants felt strongly that the curriculum having ties with the theories of Piaget (1952) and Erikson (1950) enabled a congruency to be apparent. By contrast several researchers suggested that it would not be unexpected to find inconsistency between teachers beliefs and their practice or disparity between the practice observed and espoused theory or belief as Fang (1996), Argyris and Schon (1974) and others explained that since the 1980s and early 1990s classroom life of teachers had become so complex that teachers were constrained in their ability to align their theoretical beliefs with their pedagogy (Duffy, 1982; Duffy & Anderson, 1984: Duffy & Ball, 1986; Paris, Wasik & Turner, 1991; Roehler & Duffy, 1991). Fang (1996) supported this notion when he contended that it was contextual factors which had a powerful influence on teachers' beliefs and affect their classroom practice.

A major study was undertaken by Vartuli (1999) where she reported on a continuum of beliefs and how these beliefs related to early childhood educational practice. She was assisted by the use of three different instruments: Early Childhood Survey of Beliefs and Practices (Marcon, 1988) the Teacher Beliefs Scale (Charlesworth, Hart, Burts & Hermandez, 1991) and observations of classrooms using the Classroom Practices Inventory (Hyson, Hirsh-Pasek & Rescorla 1990; Vatuli, 1992). The primary aim of the investigation was to examine the variations in reported beliefs and observed practices. The following were compared across and within grade levels: Head Start, kindergarten, first-, second-, and third grade teachers. This longitudinal study was from 1992 to 1997 and began with the Head Start and kindergarten teachers in the first year followed by a new level of teacher every year. A total of one hundred and thirty seven teachers participated by 1997. Three major research questions were explored: do teacher self reported beliefs and practice relate to observed classroom practice: how do teacher self-reported beliefs and practices and observed practices vary across the grade levels and how do teacher self-reported beliefs and practices and observed practices vary in relationship to teacher certification, educational degree and teaching experience? It was the first question which was of direct interest to my investigation. Vatuli (1999) found that there was more congruency between practice and beliefs with Head Start and kindergarten teachers and lower congruency with the primary grade teachers. She presents reasons for the lower congruency by suggesting that teachers often state what they think the researcher wants to hear or the

management, principal or fellow teachers require teachers to use practices inconsistent with their beliefs. Based on the work of Macron (1999) she concluded that the most effective teaching occurs if there is consistency of beliefs and practice.

Primary school teachers have in the past been characterised as following current and popular educational theories in unthinking ways (Gipps, McCallum & Brown, 1999). However more recent theory suggests that the relationship between teachers' implicit theories and classroom practice is a far more complex picture. Several writers argued that the many hours prospective teachers spent as pupils in classrooms shape their beliefs (Kennedy, 1997; Lortie, 2002; Zeichner & Tabachnick 1981) and although it was not clear what the source of teacher beliefs may be, Kennedy suggested that the one thing that student teachers brought to their professional schooling was "that they already have what it takes to be a good teacher, and that therefore they have little to learn from the formal study of teaching" (p. 14). This enculturation as mentioned earlier could suggest that teacher educators need to challenge these beliefs early in the training programme to optimise the impact the programme may have on learning new teaching practices. Only one area of curriculum was identified as having consistant congruency between beliefs of teachers and their practice. Mangano and Allen (1986) believed that instructional practices were consistent with teachers beliefs about writing and Wing (1989) discovered that the theoretical beliefs of preschool teachers not only influenced their instructional practice with

regard to literacy development but also shaped preschool children's perceptions of the nature and uses of reading and writing.

An interesting study which supported the power of the teaching context in shaping beliefs was that by Moss and Penn (1996) who took philosophy as their point of focus and investigated the different philosophies which underpinned different early childhood education services and the perceived roles and values the practitioners held by comparing *day nursery staff* with *teachers* in nursery schools and classes. They found that although "there was some common ground informing both sets of principles presented by participants when interviewed they also revealed differences in emphasis and orientation" (p. 38). They found that the aim of the *teachers* interviewed was to promote children's learning with the paramount learning being linguistic and numerical skills. The *teachers'* job was to teach. Whereas the *day nursery staff* saw their purpose as caring for children, promoting children's development and supporting children with an overall goal to ensure children felt safe. They identified several reasons why this disparity was obvious and one of these reasons could have been to do with the difference in status of the two positions held in that particular society. For me this highlights the enculturation which has had a powerful effect on both groups but in different ways. Not just that society enabled *teachers* to have higher status through their required qualifications and that the families and background of the *teachers* encouraged a sense of confidence in who they were but there was the opposite effect on the *nursery nurses* from society seeing this group in the community as

people who entertained children but made no decisions in the educational environment. This supported the power of beliefs of both the nursery staff and society, to inform attitudes to their practice and the practice itself. The families of the *nursery nurses* may have discouraged their daughters from seeking higher qualifications. Anecdotal evidence supporting the power of enculturation was discovered when I suggested that a student undertaking her *nursery nurse* training could continue on to university to which she quickly replied "that our family did not do that" (2004).

In discussion of beliefs and their influence a brief consideration must be given to the concept of identity. Beliefs and identity are integral as there is a constant interplay between them as experiences are reflected upon. Children in early childhood education require adults who are confident about whom they were and who could share this confidence with children during a scaffold or negotiating process as they facilitated the advancing of thinking skills. Blunden (1999) referred to identity as having first order importance to educational practice, persons and selves, and was distinguished by psychologists arguing about what beliefs we held, and philosophers arguing that we were belief holding beings. A major component of knowing our identity was influenced by ways we thought about the *self*. Beauvais and Scholl (1995) have determined self esteem as the evaluative component of the self and was the "distance between the ideal self and the perceived self" (p. 2, 4) and they interpreted self concept based on their model of motivation which included four interrelated self perceptions: the

perceived self, the ideal self, one's self esteem and a set of social identities. These social identities identified as possible, were significant when considering Vygotsky's (1967) position that the majority of learning was motivated only when it occurred in a social situation. This suggested that it was the context which shaped these different social identities and affected in what way it could have shaped their teaching practice. Teaching strategies used in the teaching practice will now be considered.

2.6 Teaching Strategies Used by Teachers to Promote Problem Solving and Independent Thinking Skills

The literature suggests that teachers use teaching strategies to promote problem solving and independent thinking skills in children.

2.6.1 Introduction

A variety of areas of interest relevant to this study form the structure of this section. It begins with literature which explores what problem solving is and the underpinning theoretical view on which the discussion is situated. This is followed by the first teaching strategy of significance, scaffolding. A brief consideration of literature about collaboration and communities of practice is provided which is related to a discussion of the teaching strategy *co-construction.* The section concludes with a discussion around *instruction* and *negotiation* which are key components of this investigation.

2.6.2 Problem Solving

Thornton (1995) described problem solving as "growing out of the ordinary process of coming to understand the world around us, of discovering and using information, and of reacting to and interpreting the feedback provided by our activities" (p. 4). Problem solving was about change, about moving one idea to another new one through the medium of questioning. "Inventing a new solution to a problem is a highly creative process" (p. 4) suggested Bjorklund (2005) who understood the solving of problems to mean that there were goals but these had obstacles which required specific strategies for them to be overcome, followed by some form of evaluation. Thornton (1995) explained that Vygotsky proposed problem solving as a social skill learned in social interaction in the context of everyday activities.

It is quite obvious that problem solving skills and their application come within the bounds of most educational theory as several theorists propose that the processes within problem solving and thinking skills are the same (Brtiz, 1993; Seefeldt & Barbour, 1986). During the 1970's, behavioural theory dominated educational understanding about our children's ability to think and behave. Its underlying principle involved the belief that we could not easily observe the workings of the mind and that if there was no behavioural change it would not be possible for learning to occur. During the same period Chomsky (1972) maintained that we could formulate linguistic rules which governed mental operations and explained more than we could immediately observe. Because of

the disjuncture in opinions, the broader field of cognitive psychology evolved and has become a major field of research on thinking and reasoning.

A theory embedded in social and cultural understandings has always had a strong following in early childhood education because in the age range determined in this sector of the system, the emotional dependency and development and our current knowledge and understanding demands that the individual's family and its heritage play an integral part in the child's holistic development. The introduction of the work of the social constructivist Vygotsky was timely as it was in the early seventies his theories became accessible and began a radical repositioning of understanding about learning in early childhood education and education generally. Vygotsky helped change the emphasis from perceiving the teacher as the focus of the learning to that of the learner. From this evolved the label *child centred/initiated learning*. With this evolvement came the social constructivists' notion of cognition and a move from a decontextualised situation to one of contextualised and situated, and the ways people learn within a community of practice (Lave and Wenger, 1991).

2.6.3 Scaffolding

Scaffolding which will now be discussed is a key teaching strategy embedded in the contextualized situation because of its connection to Vygotsky's theory of socio-cultural/historical perspective. Vygotsky's (1987) interest was in the relationship between cultural and individual knowledge (Berk & Winsler, 1995;

Daniel, 2001). He held the strong belief that language mediated between the two and that individual cognitive skills were developed when children participated in social and cultural activities. Vygotsky employed the term Zone of Proximal Development (ZPD) to explain his theory of cultural knowledge becoming individual knowledge. The ZPD develops within particular learning contexts as the learner interacts with others moving from knowing little about the learning to mastering the activity. Vygotsky (1967) emphasised the importance of expert teachers in providing support and guidance so that the child learner could become competent in the activities being learned. These joint activities took place in the ZPD as individuals engaged in meaningful activities with others. The process of scaffolding, a term related to Vygotsky's ZPD but made popular by Wood, Bruner, and Ross (1976) symbolised strong support from the more expert person to begin with, this then gradually reducing as the learner approached the desired learning outcome (Alpay, 2003). Vygotsky's ZPD has been interpreted in different ways but Lave and Wenger (1991) believe there are three broad categories to which the differing interpretations can be relegated: first, the ZPD is often characterised as the distance between problem solving abilities when assisted by or collaborating with more experienced people; second, a cultural interpretation construes the ZPD as the distance between the socio-historical context–usually made accessible through instruction and the everyday experience of individuals. Some have expressed this as the distance between the understood knowledge as provided by instruction, and active knowledge as owned by the individuals with the third category taking a collectivist or societal

perspective. With this last interpretation researchers tended to concentrate on processes of transformation. Kozulin (2003) contends that Vygotsky used ZPD in three different contexts: "in the developmental context for explaining emerging psychological functions; in the applied context ZPD explaining the difference between the child, individual and the aided performance; as metaphoric space where everyday concepts met scientific concepts provided by mediators" (p. 3). Whatever interpretation is applied joint activities take place in the ZPD shaped by socio-cultural contexts as individuals engage in meaningful activities with others. Vygotsky did not specifically identify the scaffold specifications other than collaboration and direction and assisting children through demonstration, leading questions and by introducing the initial elements of the task's solutions. Moll (1990) labels this as support and guidance and Rogoff (1990) as guided participation. Interpretation therefore could include either support for the initial performance of tasks or the subsequent performance without assistance. Radical interpretations of the scaffold process include Daniel's (2001) inference that it could be seen as a linear one way process where the scaffolder constructed the scaffold alone and presented it for use to the learner. Newman, Griffin and Cole (1989) argued that it was created through negotiation between the more advanced partner and the learner rather than through the donation of a scaffold. Daniel (2001) posits the key question as to whether the scaffolds were produced by the expert or negotiated. This was a critical factor for this present study to note as the implications were whether the child was permitted to be an independent thinker with the associated power or not.

Much of the research on scaffolding has been about the scaffolding skills that mothers in particular have and the link of their ability to scaffold with the level of expectation. One such study of scaffolding is provided whereby mothers were instructed to teach their five year old children to play a board game. Bjorklund, Hubertz and Reubens (2004) explored the extent to which these mothers helped their children to learn some arithmetic strategies while playing the game. They found that the mothers' behaviour varied according to the competence of their children. Further findings concurred with those of Plumert and Nichols-Whitehead (1996) who stressed that the more highly skilled the child was for solving a problem, the less scaffolding was needed and that this scaffolding could vary depending on the skill of the child as well as the task required. Bjorklund et al. research expressed this by explaining it was found that children who did not have to count out loud or use their fingers required very little support or advice from the parent whereas children who did need to use their fingers for counting needed much more advice. These researchers thereby claiming that the mothers were using a scaffold process as they sensitively responded to the amount of support the child needed to succeed. An example provided was of one mother and daughter at the start of the game, when the child threw the first dice she just stared at it then looked to her mother. Her mother said "How many is that?" The child shrugged her shoulders and the mother said "Count them." Each interchange eventually led to the point where the child by the sixth move was counting the dots on a dice without prompting with the parent lessening the prompts with each interchange (p. 66). By contrast another child was counting

the dots straight away but the mother would interrupt and instruct the child to start counting from the larger number of dots. By doing this the child had the opportunity to learn 3 plus 4 equals 7 which had been beyond the capability of the child without the assistance. However the parent had pitched the learning at too high a level and the child stopped listening and did not learn any arithmetic strategies.

The current term of guided participation rather than instruction which was the original description of the mediation used when scaffolding, is defined by Rogoff, Mistry, Goncu and Moshier (1993) "as a process and system of involvement of individuals with others, as they communicate and engage in shared activities" (p. 6). They believed that guided participation which shaped cognition, occurred during day to day activities such as helping out, playing near where a teacher is talking with other children or listening to adults discuss things in a centre. The importance of symbolic and imaginative play which was highlighted by Vygotsky was also seen as a key source of scaffolding for effective learning as Bjorkland (2005) explained that young children developed their skills faster by involving themselves in this kind of play because there was usually a more skilled partner who structured the situation appropriately for them.

The New Zealand Ministry of Education's Best Evidence Synthesis (2003) identified two key studies and one analysis as significant when discussing the "importance of supportive interactions with others where they start from the

child's interests and engage and extend children's thinking" (p. 15). The first one discussed is that of the Effective Pedagogy in the Early Years UK. Project (Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell (2002) which suggested that scaffolding as a teaching strategy was successful only because the teacher had a thorough knowledge of what the child could already do unaided and could then offer the appropriate support. When it was assessed that the child had a sound grasp on the idea or skills the teacher then gradually withdrew from offering support. Siraj-Blatchford et al. (2000) key researchers with this project based this suggestion on their evidence that when teachers planned their work with children they met achievements against cognitive outcomes in direct relation to the quality of the planning that had been done. They also added that there was no one pedagogy better than another but it was this ability to be sensitive to the curriculum and the child which was crucial. The second reference is to the Wylie, Thompson, and Lythe (2001) Competent Children longitudinal study which had been following around 500 Wellington based New Zealand children from when they began their early childhood education. One of their many conclusions drawn from findings focussed on aspects of early childhood education quality was that there were some differences in children's performance at age 10 with those who had experienced the 'quality' early childhood teacher who used open ended questions, allowed children to select their own activities and the ability of these teachers to guide children through their activities. Their conclusion was that "the long lasting aspects of early childhood education quality were related to how the teachers interacted with children" (p. 13). The third example they

included in the synthesis was that of an analysis found in Maori pedagogy. Royal Tangaere's (1997) analysis pointed to parallels between New Zealand Maori methods of teaching and learning and scaffolding by suggesting that Kohanga Reo (Maori immersion language nests) encouraged the older sibling to take on the role of guiding the younger sibling. These three studies all emphasised the importance of the teacher or more expert adult-child interaction and the place of scaffolding when quality early childhood education was being discussed.

2.6.4 Collaboration and Community of Practice

The socio-cultural theory underpinning the epistemological position of the present study requires the inclusion of *collaborative* learning. This was not always a most effective process when the ideology of the society in which the children were experiencing childhood promoted an individualistic and competitive learning environment. However it has been suggested by Johnson and Johnson (1989) that with practice children could improve in their collaborative skills and that this was important as children would be more likely to use high quality cognitive and metacognitive strategies which could result in generating ideas that no one in the group would have generated alone. Tudge and Rogoff (1989) caution the promotion of collaborative learning by arguing that social interaction was not always beneficial as in the Dixon–Krauss (1995) classroom action research programme which used peer social dialogue integrated with teacher support to develop children's reading, writing and abstract thinking in story reflection. This

study paired twenty four first and second grade pupils for a six week partner reading and writing activity. The pairing was supposed to provide peer social dialogue through partner discussion but Dixon-Krauss (1995) found that the most significant improvement was that of word recognition and not with social dialogue which they had anticipated.

Two important researchers who build upon Vygotsky's work in order to develop an increased understanding about learning, examined the nature of what they referred to as *communities of practice*. Hanks, who wrote the forward to Lave and Wenger's (1991) classic text, contends that these writers take a radical view by arguing that the transmission model of learning where one person passes on information to another as they perceive Vygotsky's ZPD model to be, ignore the "quintessentially social character of learning." To make the crucial step away from a solely 'epistemological' account of the person, they propose "that learning is a process of participation in communities of practice, participation that is at first legitimately peripheral but that increases gradually in engagement and complexity" through a process of what they believe is negotiation but which other writers would interpret as scaffolding (p. 1). When linked to problem-solving and support for independent thinking, the expert of the duo, who held the power in this scaffold experience, would decide whether to provide guidance or instruction and leave little space for the novice to think, or negotiate.

2.6.5 Co-construction

While co-construction will not be a significant part of my research it is a significant part of any discussion about early childhood education teaching strategies as it is based on empowerment of the child which is what current learning theory is advocating. From Vygotsky was developed the co-constructivist concept in relation to his own concept of ZPD where the expert, the teacher or another child, supported the novice, or the child, in her problem solving and together they constructed new understandings. This term is perceived as forming a different construct but related to that of scaffolding. Jordon (2004) focused her study on the work of teachers in four New Zealand early childhood centres. With these teachers Jordon explored similarities and differences in what they understood as scaffolding learning and the co-construction of understanding with children. An action research design was used where it was found that when interactions were co-constructed children were more empowered. In contrast to scaffolding, "the language of co-construction generally had no prescribed content outcomes...the focus is on developing shared meanings/intersubjectivity and each participant contributing to their on going learning experiences from their own expertise and points of view" (42).

The term 'constructivism' is applied to Piaget's theory and the term 'social constructivism' to that of Vygotsky's theory with the difference evident between them being the social and cultural emphasis (McNaughton & Williams, 2004). McNaughton and Williams believe that teachers can co-construct knowledge by having an emphasis on the importance of children understanding and developing

meaning rather than acquiring factual information but in order to do this "the teacher needs to become aware of what the child thinks and knows and understands and to engage with the content of this body of knowledge" (Jordan, 2004, p. 33). Jordan asserted that co-construction required very good use of language to provide the necessary dialogue between the adult and child and a keenness to investigate further the knowledge in which the child showed a high level of interest. This sharing of meaning which is the critical element of co-construction with no agreed outcome has been interpreted by Forman (1996) as children being encouraged to do this through "symbolisation, communication, narrative and metaphor and acknowledging the meanings of others" (p. 1). Thus a community of learners would be formed through a negotiation of meaning using the co-construction process and children would do this with one another given sufficient time and space (Forman). It was in this context of transformation rather than one of raising levels of thinking that children had the opportunity to reconstruct their original meaning and so advance their understanding to be taken to a different level or perspective. Harris (2000) commended this process as she believed it was a way to bring more children's voices and perspectives into the curriculum and provided a more equitable experience for them. It was found by Crowley and Siegler (1999) that co-construction could be a more powerful way to learn than the much promoted self-discovery process strongly advocated by Piaget. It was the sharing of meaning which occurred during co-construction which they believed was the key to learning more.

2.6.6 Instruction and Negotiation

As mentioned earlier in the chapter there is some debate as to whether teachers use instruction or negotiation or neither as teaching strategies within the scaffold process. Vygotsky was clear that his ZPD process was definitely one where there was an imbalance of power when the process began but this power was gradually transferred as the less expert person began to understand the instructional guidance and could solve her problem with less support until the expert did not need to assist in any way.

The term instruction has differing perspectives when discussed in the literature. If teachers instructed a child they are telling them. Seefeldt (1980) believed that telling is a one way communication that did not provide sufficient opportunities for a child to participate. Telling assumed that the teacher would make all the decisions about what the child needed to know and although knowledge could be gained the accumulation of facts may be insufficient to have any enduring meaning for the child. Telling could be more effective if the information was supported by actions which would support someone's understanding and this would also require that the teacher gained feedback from the child that they had understood the message as the adult had intended. Seifert (1993) suggested that young children are more likely to learn to do things through story telling than instruction or telling because a story provided a context for making a connection to the child's past experience. Others believed that directing or explicit instruction was most appropriate when the child was in close proximity to danger or as one method to use when introducing something new (Arthur, Beecher,

Death, Dockett & Farmer, 2005). Although these thoughts were represented as different viewpoints the understanding appeared to be clear. Recent years have seen Bruner's perception of the scaffold process as an instructional shift of a process providing temporary guidance and support for children to one of moving 'thinking' from one level of competence to another (McNaughton & Williams, 2004). Bowman, Donovan and Burns (2001) added that the adult provided just enough but not too much support to match the amount of skill the child had.

By contrast *negotiation* was a word used frequently in the literature with regard to early childhood education but it was only ever associated with specific areas such as "negotiated curriculum" (Ramsay, 1987, p. 117; Lave & Wenger, 1991, p.33; Daniel, 2001, p. 107; McNaughton & Williams, 2004, p. 217; Nuttall, 2004, p.39) rather than a teaching strategy. Only one definition was found relating to negotiation as a teaching strategy in early childhood education. This was in a paper by Rubin and Everett (1982) who explained *negotiation* as involving being able to work out a deal where each participant's needs were considered. This gap in the literature came as a surprise because of the ubiquitous use of the word within early childhood texts. This prompted further consideration of in what other areas was the word *negotiation* used. Although there was much literature about negotiation in terms of employment negotiations it was Forsyth's (1991) book 'How to Negotiate Successfully' and Fisher and Ury's (1982) book 'Getting to Yes' which provided me with information sufficiently relevant to what I was beginning to think *negotiation* could mean in early childhood education. Both of

these books were similar in intent but the one distinguishing aspect was that Fisher and Ury (1982) discussed different approaches to negotiation whereas Forsyth (1991) provided greater detail in terms of explanations of the various positions of the negotiation process. I found that much of the information provided by both sets of authors could be adapted to suit my beginning understanding of negotiation as a teaching strategy. Both provided the underpinning goals of their processes as they saw them in relation to employment negotiation situations and although the positional negotiation process was referred to by Fisher and Ury it was the needs based negotiation process which was strongly supported as the current and more effective process to use for adaptation to the early childhood education context. This needs based system was that of a win-win negotiation where there was an exploration of mutual needs and objectives of the parties involved, where there was an ability to problem solve and negotiators were keen to generate solutions that would jointly serve the needs of both parties. Forsyth explained this underpinning by stating that "negotiation is concerned with the relationship between two parties where the needs of both are in balance" (p. xiii). This could relate to Rubin and Everett's (1982) belief that each person's needs were to be considered during the negotiation process. Fisher and Ury clarified the win-win process by suggesting that this approach had a strong element of satisfying co-operative behaviours wherever there were possibilities for this. It could also promote collaborative agreements, be productive and a less personally stressful process which these authors suggested provided the opportunity to lead to lasting relationships.

Although Forsyth did not advance his beliefs to the extent of Fisher and Ury (1982) he was supporting a position of collaboration with his principles of participants being seen as equal, the need for both parties to abide by the rules and to end the negotiation on a positive note. The negotiation beliefs and processes as he explained them were what I could see and understand when early childhood education writers were mentioning the word, such as negotiation of meaning or negotiation of what the child would do next, in that there was collaboration and a sense that both parties had something to contribute. The difficulty with this section of the literature review was the dearth of research involving *negotiation* of any form. Apart from the processes Forsyth (1991) and Fisher and Ury advocated there was little to discuss because of the very different participant group and context. From this literature I began to discern that the major glitch in developing an understanding of *negotiation* was that early childhood teachers would still think that they must hold the majority of the power in the learning interaction and may not be able to make the shift to seeing both parties as equal with each having a particular perspective to bring to the problem. Wareham (1993) identified teachers who had dominant identities and those who had less dominant identities. His research on primary school teaching and the negotiation of power found that teachers with the dominant identities created inequality which suggested that it fostered competition in the class to a point of confrontation, damaged group and individual relations, discouraged children from taking the initiative, made children dependent on the teacher and risked damaging the child's future attitude towards the teachers. On the other hand

teachers who were identified as less dominant fostered trust and confidence, encouraged a self worth, independence, equality and a self reliance in children who used their initiative. Although this research could be accused of being highly subjective Wareham's (1993) discussion could be applicable to early childhood teaching with his belief that the notion of negotiation only being able to sit satisfactorily with the less dominant strategies described and that negotiation could only occur within the broad categories of organisation. It had to be considered as to how and when it would be learned, the context of this learning, where and who would it be learned with and what was to be learned. Defining the word *negotiation* became an emphasis throughout the whole of the research process and reduced the main question of investigating the relationship between beliefs of early childhood education teachers and their use of instruction and negotiation within the scaffold process, to a less prominent position.

2.7 Play as a Vehicle for Problem Solving

The literature suggested a connection between play and the development of thinking skills in early childhood education (Dewey, 1938; Perkins, 1984; Resnick, 1987; Smilansky & Shefataya, 1990). However Guha (1996) proposed that we "don't know what play is nor do we know why anybody plays but when we do it, we like it.....and we know it when we see it" (p. 56). This posed a problem as the link between play and problem solving was seldom made. The closest connection was when cognitive theory saw play as likened to a reflection of children's emerging mental abilities (Isenberg & Jalongo, 2001, p. 80) especially

creative problem solving (Bruner, 1997; Sutton-Smith, 1986) and because of the focus on the process of play, flexible thinking would be essential.

Play was usually referred to as characteristics or its role in the domains of development or how it develops. Many writers have described what play could do including Moyles (1989) who suggested that play provided the opportunity for developing problem solving skills in a wide variety of ways with a wide variety of materials which explained why some scholars believed it was the way in which children experienced much learning. For example Drummond (1999) holds the strong belief play "opens doors through which children pass as their journeys begin" (p. 30). Piaget (1952) with his interest in cognition considered play to be characterised by the importance of assimilation over accommodation where the child incorporated events and objects into existing mental structures while Vygotsky (1967) perceived play as arising from social pressures, a social symbolic activity which had a characteristic of imaginary situations with rules implicit in that imaginary situation. Vygotsky thought the child created his own rules above his daily behaviour which made tacit the child being in an optimal learning position critical to the ability of being able to solve problems as an independent thinker. Because it was expected that play occurred in the early part of development it had come to stand as anything a child did which was not part of a routine or a function for maintaining life (Guha, 1996). Vygotsky (1978) had formulated the idea of the child as an apprentice suggesting that adults

should act as facilitators helping children to move in manageable steps to achieve a new self chosen level of proficiency within their play.

Although people describe play in various ways it was Pugh's (1996) description which contained common key elements: "During play, children are free to make choices and to follow interests, are self motivated, engage in play about what is relevant to themselves and their lives, dare to take risks, learn from failure, and negotiate and set their own goals and challenges" (p. 93). The love of learning through play appeared to be innate with research about babies indicating that there was a natural curiosity to find out. Papuesk's (1969) classic research involved babies as young as three months in finding out what motivated them to learn. The experimenters had noticed that babies liked the flickering of lights so these lights were arranged so that the babies could turn them off and on by themselves through a movement of their body such as turning the head to the left and right. Soon after the infants had worked out how to control the lights they stopped this play. When the experimenters changed the light pattern so that they did not come on as usual the babies became very active and attacked the problem with renewed energy until they had discovered the new requirement for turning the light on. Similar tests ensued and the research concluded that the capacity for the baby to get bored with things familiar must mean that the mind wants to move on and needs novelty to take in more of the world. The babies seemed to engage in problem solving for its own sake.

Bower (1974) suggested that although problem-solving seemed an unlikely motivator to contribute to infants' learning there now appeared sufficient evidence to say that it was. Could it be said that all play involves some form of problem solving? Was it the problem solving which motivated the desire to learn more? Arthur, Beecher, Death, Dockett and Farmer (2005) believed that play led to problem finding and problem solving in early childhood education. The process of problem-solving led to self-confidence in children by encouraging them to find out that there may be different ways of doing something and these could challenge ideas in an active way. For Vygotsky play had a central role as it always produced a ZPD (zone of proximal development) which then enabled children to expand their world. He referred to play as having an imaginary situation and rules that were implicit in that situation. Bodrova and Leong (1996) argued that within an imaginary situation the rules could be either explicit or implicit whereas Arthur, et al. (2005) identified the rules as implicit through the following example; "when we watch two children disagreeing over how they will play a particular role such as being the mother which has rules about what a mother does and how she does it, but children then move on to develop more explicit rules; such as games with rules" (p. 84); Curran (1999) investigated the rule structure used by three, four and five year old children in their social pretence and identified explicit rules that children could discuss such as play fair or take a role and implicit rules which the children could not express such as engage others or continue the pretend sequence. Curran claimed that development of the implicit rules required both divergent thinking and an

understanding of the rule structure and she suggested that high quality pretence play may facilitate higher level cognition.

Further research in relation to problem-solving and strongly linked to pretend play is that of social and linguistic competence, both essential to the ability to negotiate. Sawyer (1997) carried out an extensive observational study of pretend play and found that instead of children following a script much of the preschool children's pretence involved improvisational exchanges. The research investigation on gender differences carried out by Coplin, Gavinski-Molina, Lagace-Seguin and Wichmann (2001) also showed this. They identified social situations with boys who had solitary-passive play behaviours and girls who had solitary-active behaviours being rated as being more poorly adjusted (Bergen, 2002). To continue this thinking around attitudes to solitary play and in contradiction to the Vygotsky theory of the importance for children's learning to progress requiring social play, is the research of Lloyd and Howe (2003) where their study examined the relationship between "multiple forms of solitary play (solitary–active, solitary-passive, reticence) and convergent and divergent thinking" (p. 23) and the concept that the frequency of solitary play did not decrease with age as once assumed (Parten, 1932) but remained common and became cognitively mature with age. This study involved the observation of seventy-two children between three and four years of age during social and cognitive play types and the use of materials. Tests were given which assessed the children's convergent and divergent thinking. The primary objective was to

examine the associations between solitary play and thinking skills. From their findings Lloyd and Howe (2003) suggested that some solitary play experiences contributed to children's convergent and divergent thinking and children may spend more time in solitary play if the context was not designed primarily for more sophisticated cooperative play and teachers did not view it as immature play. They disputed the attitude towards solitary play that it was often frequently associated with negative behaviour such as suggested by Coplin, Gavinski-Molina, Lagace-Seguin and Wichmann (2001) mentioned above, because Lloyd and Howe's (2003) study did provide contrary information although they conceded that it was still a debatable issue. They also added that assessing problem-solving skills "is notoriously difficult" (p. 38).

For this study with its Vygotskian influence play was seen as a social activity with the themes and stories involved in play relating to roles that were present in the society and culture in which the child was located. Thus the ability to communicate was critical if the optimal learning had a chance to occur. Hedges (2003) discussed Vygotsky's contention that children's language abilities were central to their ability to learn and that it was the social interactions which extended children's knowledge within their ZPD. She supported her understanding by stating that a "socio-cultural approach to early childhood education means that learning is embedded in social and cultural contexts" (p. 7) whereas Vygotsky saw play as one cultural tool alongside others, such as books. In support of Vygotsky's theory Fisher (1992) from his meta-analysis indicated

that there was sufficient evidence to allow a belief in the effectiveness of play especially socio-cultural play in promoting problem-solving abilities. In relation to play Wyver and Spence (1999) researched both divergent and convergent problem-solving methods which enabled them to claim that there were relationships between thematic pretence and semantic divergent problem solving and between cooperative play and both semantic and figural divergent problem solving. From this claim they gave some children divergent problem-solving training and found that there was a significant improvement in problem-solving and thematic play for the trained group. They concluded by suggesting that there seemed to be a reciprocal unidirectional, relationship between problem solving and pretend play with cooperative social play having a more general influence on divergent problem solving.

Having a problem-solving approach to learning can encourage children to choose what they want to solve thereby giving them some control over the learning they have decided to experience (Arthur, Beecher, Death, Dockett & Farmer, 2005). Moyles (1989) believed that it was important to have open ended materials to encourage a problem-solving environment and suggested that sand, water, blocks and art materials can be used to test out different solutions and shape materials in a variety of ways as children explored the solutions. A child-led play approach was necessary where teachers attended to children to help them learn to listen to the ideas of others, show that they valued their judgements and encouraged them to have their own ideas. Also necessary was for teachers to

understand the process of the thinking involved in the child's problem-solving, including the child's metacognition, which helped improve the problem - solving skills, claimed Moyles, (1989) and Browning, Davis and Resta (2000). In the early childhood education world play is accepted as important and often there is no distinction made between play and learning. Sandberg and Samuelsson (2003) suggested that despite the huge interest in play a definition has not surfaced and that play must be perceived as being expressed in different ways by children and interpreted in different ways by adults.

Throughout this paper there are examples of research based on play which are still upheld as the key vehicle for children's learning. However the literature search did reveal that the word *play* was not critical in research, but the learning which emanates from it is where researchers were placing the emphasis. For example there was much literature about metacognition but little on play as can be seen from this literature review.

2.8 Summary of this Literature Review

This review of the literature focused around areas of definitions of thinking and the teaching of thinking. For example the studies on thinking skills and the debate around whether they should be taught as a discrete subject or infused throughout a curriculum had overwhelming support for the latter stance with the discrete teaching approach appearing as a minor position. For most centres within early childhood education this was not a point of issue because of the style

of the presentation of the curriculum with the majority of centres upholding the child-led independent thinking approach which allowed the skills of thinking to be applied continuously.

The literature concerned with metacognition and language provided a wide array of comment and research and was the area which provided most of the studies connected to early childhood education. The key evidence about the importance of children having metacognitive abilities came from the work of Piaget (1952) and his egocentric speech, Vygotsky's (1978) inner speech and their defining what metacognition was and why it was essential children demonstrate this understanding. Critical research emanated from Pramling (1988) who interviewed children about how they learned and Cullen (1991) where she compared the freedom for children to practise their reflective skills in the early childhood centre and the more restricted opportunities of the first year at school. Self regulation being a critical component of metacognition was ably demonstrated in Gillen's (2000) research on children talking on the telephone during pretend play. This opened up a different perspective on where children develop the necessary self regulatory skill within metacognition.

The debate around the new thinking of what is now known about the brain led on to studies about teacher beliefs and the influences on these. There was very little research on this which related to the early childhood education sector and what there was confirmed the finding that although teachers use common

language to express what they believe there are factors which prevent these beliefs being consistently congruent with practice. Most of the literature in this section was concerned with expressions of writers' views about the difficulty of changing people's beliefs and the importance of confronting the beliefs of teachers during the initial stages of their teacher education programme. There was expressed agreement that beliefs were motivators for action and that the enculturation of teachers from the long period in the school system had some effect on the ability of beliefs to be altered. Because beliefs and teacher identity were seen as integral, literature was included which briefly identified the relationship between how the teacher saw herself and her associated social identity which was significant when the early childhood programme had a philosophy of children being motivated to learning most when in a social situation.

Play in early childhood did not have an overwhelming amount of research literature to critique. Much of the research in this area was about what was learned when a child was in a state of play, for example problem-solving (Bower, 1974) and Papuesk's (1969) research and motivation in infants, or Vygotsky and the Zone of Proximal Development and Piaget and constructing knowledge through play. It appeared that there was no agreed definition of the word which may be the difficulty in carrying out research about play.

The major research commissioned by the Department for Education and Employment and undertaken by Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell, (2002) over a five year period is substantive research for early childhood providing direct information for teachers in this sector on the value of thinking children in relation to the progress they make in all domains. However most literature was aimed at the early primary school stages of education.

2.9 Conclusion

This literature review shows that the majority of the literature was in agreement which demonstrated a current harmony of principles and beliefs despite different contexts for early childhood education. This assessment of the literature has to take into account that my bias towards what I was searching for would have had an affect. Perhaps if the literature had been viewed from another perspective a different analysis and therefore assessment about teacher's principles and beliefs would have surfaced. However while there was generally a plethora of literature around the areas selected it was sometimes a struggle to locate sufficient pertinent empirical studies in early childhood education. This could be because higher level qualifications are a new requirement for teaching in the early childhood sector and as a consequence there have not been the experts to undertake relevant research. The strong emphasis writers placed on the socio-cultural perspective was important to discover as it was on this theory that my investigation rested. It was through the eyes of this theoretical perspective that it was possible to see where different writers held their own perspective by

presenting different emphases from one another. However the review has identified a gap in the current literature to which this study could contribute, that of *negotiation* as a teaching strategy. I could find no definition for *negotiation* and yet it was a word used frequently within early childhood literature but only in connection to specific situations and never as a teaching strategy.

Because this research is about words and how early childhood educators interpret the words in a context of early childhood education, I conclude by referring to Fleer's (2003) challenge that as early childhood professionals we have "locked ourselves into a specialized discourse and only allow newcomers in when they have mastered the language and those that do not master this language of the practice are positioned as not being early childhood" (p. 65). By way of contrast Farquhar (1999) comments on this perceived preciousness and suggests that when discussing quality in early childhood education we need to be able to say exactly what we mean and use more "precise terminology." This gap I found in defining *negotiation* may help in enabling a better clarity of meaning but it also adds to this ever increasing specialized discourse which can keep people out of the early childhood education world. Is this because of the need of early childhood educators to be seen as professional, the need for power and control or is it because of the increasing knowledge which keeps developing requiring educators to become more definitive in their language in order to maintain a comprehensibility of what is being discussed?

The identification of this gap in the literature was pertinent to identifying the focus and question of the research study. The literature review also helped identify possible research approaches, methodologies and methods of data collection for the investigation. The next chapter describes and justifies those selected.

CHAPTER III

Research Methodology

3.0 Introduction.

This chapter identifies the research question, outlines the research approach taken and presents a critical rationale for the choice of methodology used to investigate this. The context of the research is identified followed by justification for the data collection methods with a discussion of their design. A brief explanation of the pilot study, a description of the participants who were observed and interviewed, an overview of the data analysis undertaken with a consideration of the ethical issues which needed to be taken into account complete this chapter.

3.1 The Research Question

The review of the literature identified a gap in previous literature which investigated the relationship between the beliefs of early childhood education teachers and the teaching strategies they used especially in relation to the concept and use of *negotiation* as a teaching strategy. This prompted an interest in the area of study and helped to identify the substantial research focus which was *to investigate the relationship between the beliefs of early childhood education teachers and their use of instruction and negotiation in relation to the*

scaffolding process. From this focus, specific research questions followed. These were:

- *Are teachers aware of congruency between their beliefs and teaching strategies?*
- *Why is negotiation not referred to as a teaching strategy?*
- *Can the word negotiation be defined within the aegis of early childhood education?*
- *Does negotiation fit within a scaffold process?*
- *Is it possible for the process of negotiation to be a teaching strategy?*

3.2 The Research Approach

In order to investigate the research area and specific research questions, a suitable research approach must be chosen. For this study a qualitative approach was taken. This is now described and justified.

Although scientific positivism is a legitimate paradigm within research, the emphasis on objectivity and the passivity of the human being are inimical to paradigms such as post modernism, critical theory, feminist research and interpretivism. All four come within a qualitative approach to research. They are commensurate in many of their understandings which include principles such as people actively constructing their social world which should be studied in its natural state, individuals interpreting their own experiences and acting on the basis of those events, reality as multi layered and the need to examine situations

through the eyes of the participant and not the researcher (Cohen, Manion & Morrison, 2000, p.22). Flick (1998) believes qualitative research is multi method in its focus and applications. The term *bricoleur* elaborates by describing it as the "researcher who assembles all the different methods together to produce a bricolage of the complicated whole" (Denzin & Lincoln, 2000, p. 4). Denzin and Lincoln discuss this in terms of a *montage* where "images, sounds and understandings" (p. 4) blend together to form a new composite. In less eloquent phrasing, but with equal clarity, Cohen, Manion and Morrison discuss qualitative research in terms of its distinguishing features as including "people actively constructing their social world which needs to be studied in its natural state without intervention from the researcher, that there are multiple interpretations and perspectives on single events and situations and reality is multi layered" (p. 22). Nelson, Treichler and Grossberg, (1992) and Denzin and Lincoln hold a belief that if there is a choice of research practice, this choice is dependent on questions which are asked as there is a direct connection between the questions and the context and the possibilities for the researcher.

In support of the above features, Miles and Huberman (1994) discuss qualitative research as naturalistic and being carried out in many ways. They include features such as the "researcher's role being to gain a holistic overview of the context under study as data is captured, the perceptions of the participants being seen from the inside through a process of attentiveness, empathy and a holding back of preconceptions about the topics under discussion." They advance this

idea by suggesting that a main task is to "explicate the ways people in particular settings come to understand and account for day to day situations" (p. 5-7). As a consequence there would be several interpretations possible of the data gathered. Many authors including the above, highlight the multifaceted perspective of qualitative research and the embeddedness of the research in the naturalistic or context of the participants or situation (Coffey & Atkinson, 1996; Marshall & Rossman, 1999; Robson, 2002; Silverman, 1993, & Strauss, 1987). This exemplifies the rationale appropriate for my study and fits a general understanding of the case study methodology.

Qualitative research as distinct from the scientific position of positivism and to some extent post positivism, is the key approach taken for this investigation. It was clear from the beginning of the study that I required a qualitative approach through an exploratory and theory seeking focus as there was much which was unknown in terms of the key words which had evolved for investigation. These words being *instruction* and *negotiation* used between a teacher and child when the teacher was scaffolding learning with the child. It was also apparent that questions and understandings would be developed as the investigation proceeded. This process supported my ontological position of being able to understand the world around me through the process of interpretation (Schwandt, 2000; Scott & Usher, 1996) although Blaikie (1993) expresses this concept as, "the claims that a particular approach to social enquiry make about the nature of social reality" (p. 3). From my perspective there seems little difference between these two positions as *negotiation of meaning* must lead to claims being made

which could be interpreted as products of any process employed to develop understanding of social reality. Constructivism as the epistemological position fitted comfortably within this frame because of its concept as a way of making meaning through the process of constructing knowledge as we engage in the world which we are interpreting (Crotty, 1998) or as Robson (2002) suggests, "it allows for a construction of reality between the researcher and the researched" (p. 27).

The two key theories which influenced the direction of this study were those of Vygotsky (1978) and Lave and Wenger (1991). This latter pair would dispute that theirs was a theory, but both approaches are embedded in a socio-cultural context which support my interpretivist and constructivist positions.

3.3 The Research Methodology

Denzin and Lincoln (2005) present the powerful argument that "current qualitative research literacies are such that there has been created a veritable feast of paradigmatic arguments, interpretative practices, analytic and data management choices and application issues all of which raise the problem of what to choose" (p. 1117). McKenzie (1997) considers that rather than having a methodology, "we ask, what problems can I apply?" (p. 21). This latter question I put to my proposed investigation and considered several alternative research methodologies, before selecting a case study approach. The following section discusses the alternative research methodologies which were considered but

which did not sit as comfortably with my ontological and epistemological beliefs and desired way of processing the data as did case study.

3.3.1 Grounded Theory

Grounded theory was considered. Yin (1993) makes a direct link to grounded theory in his interpretation of case study being exploratory by suggesting that it can "occur through observing social phenomena, where theory could be discovered" (p. 5). Grounded theory was thoroughly investigated in terms of its overall appropriateness, with Chamaz (2000) believing it possible to have a constructivist grounded theory position, and with the aspect on an exploratory study being attractive. However, it became apparent that it was too prescriptive for the process I wanted to use. This was particularly in relation to the analysis of gathered data. The microanalysis coding technique appeared to be very time consuming and with its key point coding, complex (Allan, 2003). However my major difficulty was that grounded theory insisted that there could not be any pre-conceived ideas or hypothesis around the intended area of study and the gathering and analyzing of data. Also, Chamaz explains, that the position grounded theory developers, Glaser and Strauss (1967) and Glaser (1992) held came close to the positivist paradigm with its assumptions of an external reality. Chamaz developed her own interpretation of the nature of grounded theory believing it possible to have a constructivist grounded theory position.

3.3.2 Critical theory

Critical theory was also considered. This research methodology seeks to "uncover the interests at work in particular situations and to interrogate the legitimacy of those interests" (Cohen, Manion & Morrison, 2000, p.28). This focus on legitimacy with its tacit inclusion of power, and its research ability to transform society to be a more equitable society, had an immediate congruency with my world of early childhood education. Power is an issue at every level in this sector of education, from its funding to its *equal access for all* with an associated connection within the scaffolding process embedded in Vygotsky's socio cultural theory. Critical research and theory interrogates the position of power between education and society, this being exemplified within the scaffolding process where it is an issue of how much power the adult holds while supporting the furthering of a child's understanding through an intersubjectivity based on different cultures. The consequences for this study's question lay in the provocation of what knowledge a child is allowed to have and whether it is going to be shared through instruction which means the power stays with the adult or negotiation where the power is equal, with the child having the opportunity to contribute to her own making of meaning and development of personal theories. Habermas (1976) discusses this as a suppression of generalisable interests which in this case, the interests of the child, especially if the teacher overuses instruction with minimal or erratic use of negotiation. So although the issue of power is under scrutiny within critical theory and research and my investigation focus, it is the critiquing of the ideology which is the prime purpose of critical theory; whereas my emphasis was firmly focused on the

teachers' beliefs about their role and their ability to support a child developing the autonomy needed to become an interdependent and an independent learner.

3.3.3 Feminist Research

A feminist research approach - fitting extremely well into the aegis of early childhood education and the main gender of its teachers – was also considered. The position taken is on challenging research that does not empower invisible groups such as women and children. Cohen, Manion and Morrison (2000) believe that "feminist research seeks to demolish and replace positivist research which serves a given set of power relations empowering the white male dominated research community. Thus, feminist research provides a replacement with empowerment, voice, emancipation, equality and representation for oppressed groups" (p. 35). It is only very recently that western governments have listened to the women in early childhood education and with this has come a requirement for higher level qualifications. As a consequence research into the education of the under five year old began to proliferate which provided Governments with the evidence needed to improve life chances of members of their societies. This research agenda has moved on in many directions but a popular area is where the *child's voice* is critical in determining quality of the educational provision. For instance, providing what is called a child led curriculum where the teacher uses the teaching strategy "empowerment" which enables children to direct their own learning (McNaughton & Williams, 2004). Within the curriculum, gender issues still abound with some families finding it

distasteful for their sons to be dressed up in ballet tutus. Cohen, Manion and Morrison (2000) suggest that gender shaped research agendas may mean that challenges to the oppressed element of early childhood education may not surface to the extent it should when considering equality. Where feminist research and my research problem drifted apart was the emphasis feminist research demanded, that a theory about the phenomenon already existed (Cohen, Manion & Morrison, 2000) and it was necessary to have a hypothesis. This was not totally possible for me to decide at the outset.

Bearing in mind the research question and the methodologies used in previous research in this area as shown in the literature review, it seemed that none of these approaches was entirely appropriate. However, case study methodology was considered as appropriate and was thus selected. Because the underlying theory for this study is socio-cultural the social world can sometimes provide surprises which MacNaughton, Rolfe and Siraj-Blatchford (2001) advise to expect as they "can motivate you to explore more and challenge you to think differently" (p. 8). Case study strategy emphasises that theory evolves as the observations and interviews occur, this aspect allowing for the *surprises* to be dealt with by new directions able to be taken.

3.4 Case Study

Case study has many followers each with their own description of what it means to them (Adelman, Kemmis & Jenkins, 1980; Cohen and Manion, 1989; Simons,

1996; Stenhouse, 1985). Yin (1994), Stake (1995) and Bassey (1999) are the most recognizable proponents in terms of this particular research strategy. Stake and Bassey (1999) especially, strongly position their case study ideas within the interpretive paradigm although Yin (1994) who defends case study as a valid means of research, does suggest that case study research can tend towards the positive paradigm.

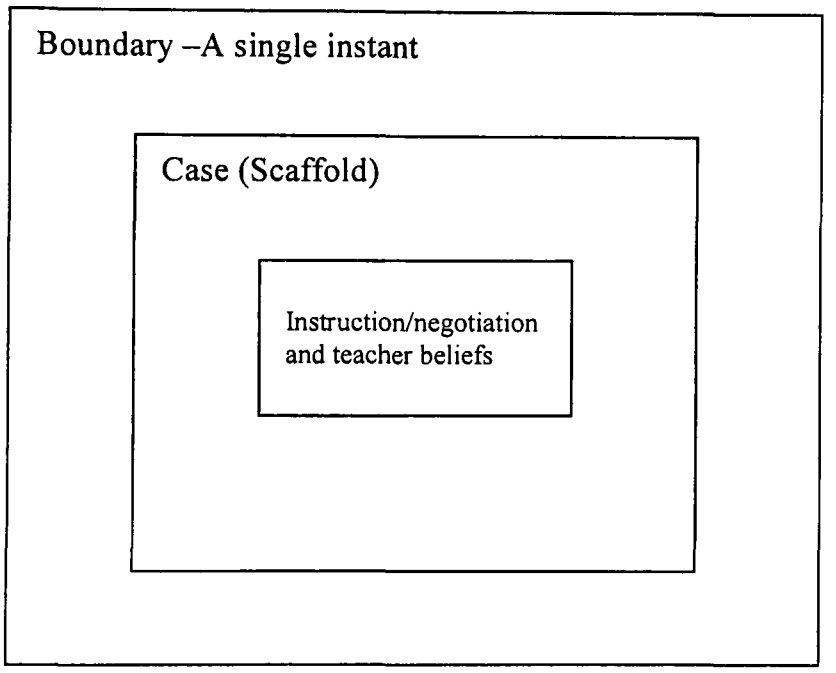
So what is case study? It can be both a process of inquiry about the case and the product of that inquiry. Gillham (2000) explains it as "a unit of human activity embedded in the real world, which can only be studied in a context that exists in the here and now, and merges in with its context so that precise boundaries are difficult to draw between the phenomenon and the context" (p. 1). Sturman (1994) identified case study as "being able to include both qualitative and quantitative paradigms" as well as the ability for a "palette of methods" to be presented (p. 61), thus, the interpretive paradigm. It was this aspect of interpretivism which brought minor criticism of case study in terms of not always being generalizable except by others who can see its application. A further critical comment made by Cohen, Manion and Morrison (2000) suggested it was not easily open to cross-checking because of the bias and subjectiveness tacit in all qualitative research.

Observations and interviews, the two data collection methods used in this case study investigation, are concerned with understanding educational action through

enriching the thinking of those involved. By taking a focus on the interaction between the teacher and the child (the observation) and the interaction between the teacher and the researcher (the interview) the reflection process which followed any of the interactions, ensured that my study came within the "educational case study" definition as designed by Bassey (1999, p. 59). Bassey who distinguished this type of case study from discipline research which he believes applied to specific disciplines only. Stenhouse (1985) also identified educational case study along with three other broad styles of case study including ethnographic, evaluative and action research. Although 'being bounded' is one of the indicators of case study design, Bassey, like Gillham (2000), suggested the boundaries are not always clear in case study and some overlap could be apparent. By having an underpinning theoretical stance of the socio-cultural influence, this investigation would definitely have merged boundaries between the phenomenon and the context as suggested by Gillham as the individual and the context are inextricably interwoven. Stake (1995) refers to Smith, one of the first educational ethnographers, who determined that case study contained boundaries and suggested the "boundary would comprise space and time" (p. 27). This is supported by Adelman, Kemmis, and Jenkins (1980), Cohen and Manion (1989), Stake (1995) and Sturman (1994) and with the additional belief that these things keep the definition flexible, allowing the case to comprise a variety of components. These components form an integrated system bounded by a specified time around a variety of actions which form the whole. Because the case being investigated is specific and in Stake's words, "a

complex functioning thing" (p. 2) the question to be asked, is what can I learn from a single case? In this investigation the case meets a 'bounded system' definition in that it could be interpreted as the single instant of the teacher and child being involved in a scaffolding interaction. This would be a complex, unique and unfolding interaction allowing the wholeness of the case to be identified through deep attention to its components (Sturman, 1999). In particular the discourse applied is expressed in terms of the words *instruction* and *negotiation*.

Model 1
A Visual Interpretation Of The *Case.*



Stake (1995) takes a different perspective when identifying case study by separating it into three types. Intrinsic, if it has a focus on a particular case; instrumental, if the case is secondary to something else; and multiple or collective case study, which is instrumental but extended to more than one case. When searching for an appropriate research strategy it was helpful to read Stake's (1995, p. 3) distinction between each type of case study as it provided a deeper focus on what it was I was wanting to investigate. The instrumental and

multiple case study I believe describes my intent as the case (the scaffolding process) is only the mode for investigating the use and understanding of the two key words - the component parts. Instrumental case study demands a need for a general understanding rather than one specific to a discrete situation which was how I viewed my specific case of the teacher and child using the scaffold process. A particular interest lay in the situation of how teachers used *instruction* and *negotiation* as teaching strategies and the philosophical connection of this to their practice. It was thought that this would provide an ability to understand the initial proposition that although teachers say they use negotiation and believe in sharing the making of meaning, most were using instruction which was telling children what to do. I was uncertain whether this situation would hold up under investigation. The question then arose: could generalization occur in this particular 'instrumental' case design?

3.4.1 Generalisation and Case Study

Generalisation is a much debated issue around case study as a research strategy. Gomm, Hammersley and Foster (2000) state that case study research has been criticised on the grounds that its findings are not generalisable, especially by comparison with other types of research, such as survey research. Bassey (1999) makes the claim that the concept of *fuzzy generalisation* was appropriate for case studies. He believed that the fuzzy generalizations arose from studies of singularities as found in case studies and claims that, "it is possible, or likely, or unlikely that what was found in the singularity will be found

elsewhere" (p. 12). This imprecision or tentativeness makes clear that no absolute claims to knowledge are being made. Stake (1995) refers to *naturalistic* generalizations as those that readers of the research will apply to other situations if they see fit, the responsibility lying with the reader. However it was believed by some that findings could be generalized within a case being investigated. For example Gomm, Hammersley and Foster (2000) suggest "that this type of generalizing sometimes does not always make clear the basis on which the researchers are claiming the relevance of their findings and the boundaries of the case are not always clearly recognizable" (p. 111). Stake (1995) believes that a major conceptual responsibility of case study inquiry is developing assertions or generalizations about the case" (p. 244) which supports my stance because of my belief in the uniqueness of my cultural background which has guided interpretation of what I discovered.

3.5 The Case

The term *issue* is relevant at this point as Bassey (1999) sees the research issue as an area of enquiry where no problems have been identified which would direct the research (p. 66). Stake (2005) asserts that the 'case' is organized around the issues and that these identified issues are "complex, situated, problematic relationships and pull attention both to the complexities connecting ordinary experience in natural habitats and also to a few concerns of the academic disciplines" (p. 448). Stake believes that the selection of key issues is crucial as they ask questions which bring out relevant concerns and dominant themes. In

this investigation the key issue to be explored was the interaction between the teacher and child and how the teacher applied *instruction* and *negotiation* within this process. A further layer and an issue of this research involved an investigation of the congruency between what teaching strategy the teachers said they used mostly – instruction, negotiation and the scaffolding process - and in using these strategies how they enhanced the child's independent thinking or problem solving skills.

Thus, the case was defined as the scaffolding process used by teachers in early childhood education centres to support four to five year olds in developing their independent thinking and problem solving skills. The metaphor of the term *scaffolding* as mentioned earlier in the literature review as being developed by Wood, Bruner and Ross (1976) describes the teaching process whereby a more competent person/teacher supports and guides a less competent person/child to become more competent and function independently of the original person's help. Because the link with socio-cultural theory is strong within this teaching strategy it is time now to consider the context for this investigation.

3.6 The Research Context

In case study design the research *is the context*. Research and context cannot be separated as both the researcher and the researched, are continually renewing the making of meaning because of changes which can occur within the context. The theoretical socio-cultural underpinning of this research emphasised

the influence contexts could have on the research to be carried out. Two early childhood education centres in New Zealand were chosen in which to undertake the study. They served specific and different communities, provided two different contexts for the research but also provided quality centres as evidenced by the Education Review Office reports (www.minedu.govt.nz).

The two centres identified provided sufficient contrast for the study. They were differently structured early childhood education centres in two different areas of the city, urban and inner city. These centres represented two of the major styles of provision in New Zealand; an all-day Childcare Centre where most children attended for a whole day and children were aged from birth to five years, and a Sessional Centre where children attended for half a day and were aged three to four years for attendance at afternoon sessions and four to five years for morning sessions.

However, there were some areas of similarity. Both centres were registered with the same Ministry of Education and reviewed by the same Education Review Office with both presenting the same curriculum framework. Each centre interpreted it according to the style of its provision, the community in which it was situated and from the personal reality of staff members and management. Fundamental principles within the curriculum document titled Te Whāriki, the woven mat, (Ministry of Education, 1996) were upheld by both styles of provision.

These two centres were heavily subsidised by a Labour Government with the money coming from Vote Education and both types of centres were audited by the Education Review Office which reviewed schools and early childhood centres at regular intervals depending on the need of the institution. The Childcare Centre required a full fee payment from parents where the money went to maintain the community centre but the Sessional Centre also required some parent financial contribution. This was called a donation.

The all-day Childcare Centre was situated within the grounds of a large medical institution and the children's parents were mainly employed by the institution. The building had been renovated and had a modern, light and spacious appearance. The grounds were divided into two outside areas; babies to two and a half year olds and the older children which was where my research was focused. The outdoor equipment reflected the age range catered for in each specific area. The personnel included a manager, assistant manager, administration staff, team leaders and up to six teachers in both areas. Staff had a pleasant area to have their free time and the centre was located in a built up area of a city with shops nearby. There were car parks available for staff and for parents to be able to drop children off near the entrance of the centre. Next door was a large new building development. The centre staff had been promoting contact between the builders and children which had meant that children had been to visit the building site, wrote letters to the builders asking questions about their work all of which had resulted in written responses from the builders.

The Sessional Centre was situated in the suburbs. It was located in a middleclass area with shops some distance from the cul-de-sac in which the centre was nestled. There were large trees available as outdoor resources along with fixed and moveable climbing equipment. Use was made of two outdoor sheds as variable areas of interest, such as a house or a fairy grotto. Several children with differing disabilities attended along with support staff and other parents. This centre was an all inclusive centre which was reflected in the variety of adults and children in attendance. The children and their families all lived in the vicinity of this community centre. Three qualified early childhood education teachers with between eight to ten support staff, a mix of paid and voluntary, provided the structure and philosophy of the centre as one of unconditional inclusiveness.

3.7 Methods of Data Collection

Triangulation is a component of research emphasized by Stake (2005) as being imperative to maintaining credibility in case study research. He reminds us that as researchers we do not want to be "inaccurate and caught without confirmation" (p. 453). Thus, the use of multiple perceptions to clarify meaning and demonstrate the multiple realities there are. Observations and interviews were the two major methods used to provide evidence of triangulation. In addition personal reflection and literature around the focus supported these methods.

Observation and in particular participatory observation lies at the heart of case study research no matter what the problem or issue may be (Cohen, Manion & Morrison, 2000). It was this method which provided the data pertaining to the reality of particular teachers and their practice. It was this method that enabled the defining of the two key words, under investigation, *instruction* and *negotiation*.

The interview as a method for data gathering was also used as it assisted the understanding of the case and its key issue from a different perspective. A semi-structured interview was decided upon because of its flexibility. This was imperative to ensure that it was the participant's view of the issue which was heard; the rationale being the valuing of the individual from the socio-cultural stance being taken in this study. Open ended questions about the participants' views on their past and current thinking about the area of early childhood education and the main issues involved in their teaching provided the opportunity for a different reality to be portrayed.

The data was collected from the centres consecutively. Observations were carried out in the Childcare Centre followed by observations in the Sessional Centre. Interviews were then held in the Childcare Centre and then in the Sessional Centre. The two methods of data collection are now considered in more detail.

3.7.1 Observations

An ethnographic naturalistic observation method was critical to the socio-cultural position taken. This method implies that the study was set in natural settings and that cognisance was taken of the individuality of the situations (Cohen, Manion & Morrison, 2000) which reflected the emphasis on the uniqueness understood within the socio-cultural theory. In this case two early childhood education centres were used for both the observations and the interviews.

Observations were chosen for several reasons. The type of observation, incurred through the process of observing the children in their own early childhood education settings, assumed there would be no overt intrusion on the activity being observed. It was recognised that my presence could affect the behaviours and as a consequence the meaning of the interaction. Thus, I spent two periods of two hours in each of the Centres being there without official observer status hopefully desensitizing the children to my presence. Foster (1996) advised that using observation as a data gathering method was not only to support the researcher in how she acted on the world, but analysis of the observations provided the production of public knowledge which he believed would influence those who accessed it. This understanding was applicable but because of the instrumental case study approach it was understood that it would be limited in terms of generalization. However, it was important for me to believe it could be possible for my findings on teaching strategies and those used within a scaffold process, to draw attention to one aspect of enhancing children's learning. Because the observation data could be noted as it was seen and

heard, a more direct process, it provided evidence of greater accuracy of the data collected. Observations began the research as the focus was on discovering what and how early childhood teachers supported children to develop their problem solving and independent thinking skills through the practice of scaffolding using the teaching strategies instruction and negotiation and whether this practice was reflected in their philosophy. The observations began in March 2005 and continued through until September 2005. A total of forty six observations were completed with twenty eight in the Childcare Centre and eighteen in the Sessional Centre. However there were no examples where an interaction did not include some degree of scaffolding and where it was a minimal interaction of two responses between the teacher and the child, these were deleted. This reduced the total data from forty six, to twenty eight observations in the Childcare Centre and from eighteen to ten in the Sessional Centre; a total of thirty eight observations to further analyse between teacher and child. Ten child to child observations were noted in total, with only four being sufficient to be useful for providing the evidence required. Each observation continued for as long as I decided. This depended on the type of evidence being provided which was influenced by it being totally instructional or that the child and teacher had to stop because of a required routine or continue on because there was very good *co-construction* or *negotiation* being presented. The average time for the observations was twenty five to thirty five minutes but the range was from five minutes to one of one hour and forty five minutes. The observations carried out were random in that the only criterion to be met was that of a teacher and child in

an interaction which appeared likely to provide data on the use of scaffolding, *instruction* and *negotiation*.

I took the position of participant as observer which is defined by Cohen, Manion and Morrison (2000) as someone "who is part of the social life of the centre and documents and records what is happening for research purposes" (p. 310). This was necessary to reduce the reactive effects of my presence on the research participants and also for me to become familiar with the activities and routines of the centres. Morrison (1993) suggests that this enables a more holistic view which can lend itself to "thick description which allows for more accurate descriptions and interpretation of events" (p. 88). Because of the valuing of the different cultures of the centres this role of participant researcher provided the opportunity to gain insight into why the teachers held beliefs which guided their use and interpretation of different teaching strategies.

The focus for the observations was what the teachers used as teaching strategies when interacting with children and the associated language related to *instruction* and *negotiation*. I was looking specifically for language which would help me define what *instruction* and *negotiation* as teaching strategies were and which strategy was possible within the scaffold process. Was it *instruction* which was tacit within Vygotsky's (1967) description of the Zone of Proximal Development (ZPD) or *negotiation* as claimed by Lave and Wenger (1991)? The observations were documented verbatim and analysed that same evening.

Reflexivity was integral to the understanding of the process so I recognized that what I observed, the questions I asked, my perception and background played a strong part in shaping the process and outcomes. The observations in both centres gave me the opportunity to define my two key words with centre one clarifying *instruction* and its various interpretations and centre two the opportunity to define *negotiation*. (An example of an initial uncoded observation is in appendix A).

3.7.2 Interviews

The interview process can take a variety of forms, it can be used for different purposes and it can be over a wide range of times. Debate continues over the control the interviewer has over the participants and how that affects the relationship and the responses between the two key players if a one to one interview. Denzin and Lincoln (2000) believe that this growing understanding of the non-neutrality of the interviewing process has the focus of the interviews moving towards encompassing the *hows* of the respondents' lives or "the constructive work in producing order in everyday life" (p. 646). This influence I had, because of my own bias and particular background which produced a tension and was of concern to me but it logically followed the flow of the socio-cultural understanding of everyone having their own perspective on the situation. However, it would affect the responses during the interview and cognisance of this was heeded. Gearing and Dant (1990) also highlight a further tension when they argue that on one hand the interviewer wants to establish a rapport and trust

in order to have the conversation and on the other hand there are the practical constraints of any research enquiry. In this case an example would be of a teacher having to return to being with the children because of shortage of staff on a particular day or the staff member wanting to discuss employment matters which was not the mandate of the interview.

From a choice of group, structured, semi-structured or unstructured interviews I initially considered the use of unstructured interviews. McNaughton, Rolfe and Siraj-Blatchford (2001) suggest that the unstructured interview is often referred to as a "conversation with a purpose" (p. 151). This type of interview first appeared appropriate as I anticipated receiving a wide range of information which would ensure the participants felt able to converse with me about the learning and influences on the learning of the four to five year old and that they would talk freely about themselves in terms of their teaching and learning beliefs within this process because of the way I established trust with them. I anticipated using as my initial statement "this is an open discussion in the sense that I am wanting you to tell me about your teaching." However it was apparent that this was too open and unfocused and would not allow me to meet the goal of the interviews which was to discover any congruency between the beliefs of the participants and their practice. Thus, I decided to use a semi-structured interview format. Robson's (2002) five point model supported the design of the interview process. It entailed the following: introduction, warm up, main body of the interview, cool off, closure (p. 277). The main body of the interviews comprised three focusing questions

which were pre-determined and standardized the interviews across all participants. These were:

- *Let's begin with talking about your experiences in early childhood education. Perhaps you could talk about some of the positions you have held and why you do or don't enjoy working in this field. Maybe there is a family influence there!*
- *From some of the experiences you have talked about you will have developed some beliefs about young children and their learning. I would be interested to hear your views and how and why they may have changed over time.*
- *As you know I am interested in teaching strategies or you have mentioned some of the teaching strategies you use, I am interested in why you use these and have used some more than others.*

Using semi-structured interviews did allow space to probe and prompt. Statements such as: probe - *why do you think children need more adult support to help them through a problem?* Or prompt – *what other kinds of involvement could you have had?* There was a need to open the conversation up as the participants were focusing on the process itself and not providing me with the range of information I needed to understand about the relationship of the beliefs about teaching with their actual practice. All three areas were relevant to the information I was seeking and so the development of related questions was inevitable. Although several spoke ably about these things, sometimes I had to

provide comments which would develop a thought or idea. For example I asked one participant to elaborate on how she thought the parents understood their philosophy concerning how that centre developed independent thinkers. In this sense there was a substantial amount of control in my ability to direct the thinking of the interview. I was aware of some of the issues around interviewing and countered these where possible. These included ensuring the respondents were comfortable with the confidentiality arrangements and the audiotape recording our discussion.

The underpinning socio-cultural theory demanded that the interview was carried out in the early childhood education centre setting as I understood that as teachers they needed to speak about their teaching where they felt most confident and familiar. They were invited to decide where they would like to be interviewed with some choosing to be interviewed in the playground and others in a private office. I was also aware that their perception of me could have a marked influence on their responses: one of trust or one of suspicion!

The length of interview time was in their hands but I was mindful of Cohen, Manion and Morrison's (2000) suggestion that the interview was more of a social encounter and not merely a data collection exercise. Some took thirty minutes while others took up to an hour or more. All participants interviewed appeared to speak freely and several felt sufficiently trusting of the situation to explore some of their personal concerns relating to their abilities as teachers and early

childhood education in particular. All interviews were recorded with the participant's permission and an opportunity was given for the participants to comment on what I had selected to transcribe and my interpretation of this. (See appendix B).

3.8 Pilot Study

As part of the Doctorate of Education Research Training Programme there was a requirement to carry out some preliminary research in the area of potential interest. This provided an opportunity to test out some of the methods and redefine my research question. It also helped to identify ethical issues that could be encountered and some of the dilemmas around access to what I wanted to find out or whether there was acceptance of my area of investigation (Cohen, Manion & Morrison, 2000).

"Research which does not test its own methodology can hardly be called reflective" contended Murray and Lawrence (2000, p. 142). They explained that by trialling a preliminary examination of the methodology, and a test of the methods with a small sample, can provide information about the adequacy of the overall design.

Both the interview pilot and the observation pilot exposed problems I had not anticipated. For example the interview trial allowed me to understand the use of a microphone and the transcription of information. I learned about the need to

carry spare batteries and the discomfort some of the participants felt. I also recognized that I too could feel nervous and did not always say what I wanted very clearly. This compounded the nervousness of the participant.

The observation using children as the focus of my area of investigation which at that time was centred on how children expressed their creative and independent thinking highlighted the difficulty of filming children at play in an early childhood centre where only half the parents had given consent. These issues played a part in adjusting my research focus and how I carried out the data collection. I did not test my processes of analysis which could have provided helpful information.

3.9 The Participants

In total eight staff took part in the study; five in the Childcare Centre and three in the Sessional Centre. Six children, four boys and two girls, in both centres were also participants during the latter part of the recording of observations. The sampling type applied in this case was 'purposive' as both context and participants were specifically selected to enable the question to be explored. The centres and the participants I judged to represent typical elements of the area of interest for this investigation (Davidson & Tolich, 2003).

The homogeneity of staff observed and interviewed was provided only by the fact that the teacher participants were all working in government registered early childhood education centres audited by the same government agency and

providing the same national curriculum. The presentation of this curriculum being interpreted by the individual teachers in the centre according to their own cultural and philosophical ethos. McNaughton, Rolfe and Siraj-Blatchford, (2001) suggest that homogeneity can be understood as being relevant to a deficit model of research activity as the participants can be "placed together as a group with their individuality denied." They assert that researchers need to ensure that the research being undertaken "reflects the diversity of the group being studied as this factor is an important equity consideration" (p. 142). Because of the socio-cultural theory on which this research is based, the individual culture of the participants and that of the centre was a key to how they used the scaffold, instruction and negotiation processes as teaching strategies. For instance some cultures have a tradition of being more directive in their teaching, these centres having a strong cultural dimension more than others, such as Samoan Aoga Amata or Maori Kohanga Reo immersion centres. Or some teachers may have a belief that children can be supported to solve their own problems rather than told how to solve them such as in the more mainstream mixed culture centres. The scaffold process does provide opportunities for these cultural understandings to be articulated because of its inherent imbalance of power between the more knowledgeable and the less knowledgeable. In most cases this being the teacher and the child.

Table 1 which follows gives details of the teacher participants.

Table 1: Details of Participants

Category	Sub-Category	Child Care Centre	Sub-Category	Sessional Centre
Position in Centre	Team leader Teachers	1 4	Head Teacher Teachers	1 2
Gender	Female	5	Female	3
Age range	20-40 years	5	21-50 years	3
Ethnicity	NZ Pakeha Fijian Indian Maori	1 1 2 1	NZ Pakeha Fijian Indian	2 1
Qualification	Diploma teaching ECE Adv. Dip. Teaching ECE B. Teaching ECE. MA & BA Counselling	2 1 1 1	Master Education B.Ed. Teaching ECE	1 2
Employment period in the Centre	1yr. 6-12 yrs.	2 3	14 years 1 year 1 year	1 1 1

3.10 Overview of Data Analysis

This section provides a general overview of the analysis of the data. Detailed information regarding the analytical process is presented in Chapter 4 with the results.

Schwandt (1997) suggests that analyzing qualitative data is making sense, interpreting, or theorizing the data. He continues by explaining that "analysis is the systematic identification of relationships, patterns or the essential features and their interpretation" (p. 4). Like most qualitative data gathering processes, data collection and analysis began concurrently. Thorne (2000) explained that it was usual for data collection and analysis to be done more or less simultaneously which can mean qualitative data analysis processes are not entirely distinguishable from the actual data collection. This concept is

epitomized in the work of Glaser and Strauss (1967) where they perceived "data collection, analysis and theory as being integrated because of the constant comparisons being made throughout the development of themes" (p. 109). This process allowed the *making sense* of the gathered data very quick which then altered slightly with every observation or interview as they were completed. A deepening of understanding seemed to occur at each point of the analysis. For example during the process of conducting the observations my understanding of instruction was developed when I realized that there were two types of instruction; the direct instruction but also an indirect instruction which was covert within praise being given. Because of the semi-structured nature of the interviews themes were identified quickly with sub-themes emerging amongst the participants responses. An example of this was the theme of *practice* which developed a sub theme of *independent thinking children*.

Using both observations and interviews supported my investigation about the congruency of teachers' beliefs with their practice but I needed to identify what the words *instruction* and *negotiation* meant in order to do this. The analysis of observations was therefore focused on defining these words with the analysis of interviews having an emphasis on exploring the teachers' interpretation of these words and how they might have applied the words in practice. A process of inductive reasoning was used to interpret and structure meanings derived from the data (Thorne, 2000). The observations were analysed through a coding process which became more refined following each observation. These codes

provided an unfolding of understanding which evolved to the point of being able to define the two key words of *instruction* and *negotiation*.

For the interviews a matrix was developed which provided a view of all participants' comments selected. Themes identified from the coding were subsequently grouped for similarity. This then evolved into the use of a template analysis model provided by King (1998) which refined my thinking at that point as to the groupings of teacher participants' thoughts or the thematic representations of what the participants said.

3.11 Tools Used in Analysis

There is a wide variety of analytic tools available to researchers. However this study required only that of providing models, diagrams and flow charts which gave me as the writer a visual picture of my findings which in turn helped me to see the data from a different view point. Reflexive notes were also used. In anticipation of carrying out my analysis I had undertaken a course in using a popular software programme called Nudist 6. Although this programme could create, manage and explore ideas plus a wealth of other supportive research tasks, it seemed a complicated technical approach to analysis. Robson (2002) suggested that such a package would be of little help where there were small amounts of data because of the time needed to understand how to use the software. My small amount of data did not warrant the time involved to implement and apply this programme. End note, another software package did

provide support with its referencing programme and allowed a concise and easily accessible process for finding and listing references.

3.12 Ethical Considerations

Within the qualitative approach to research the issue of ethical behaviour is a critical point of understanding. Stake (2000) summed up the expectations by succinctly asserting that "qualitative researchers are guests in the private spaces of the world. Their manners should be good and their code of ethics strict" (p. 447). Case study in particular has an intense interest in the personal perspectives of the research participants which could put them at risk of exposure and loss of self-esteem if the information they had provided was not dealt with sensitively. It was vital that ethical issues were discussed and a plan of how information gathered was going to be kept safely and used was divulged to all teacher participants and parents of children participants.

Two key areas within the ethical dimension of the study were those of confidentiality and informed consent. Assurance needed to be provided that confidentiality would be upheld not only during the research but for an agreed period following the completion of the study. All participants needed the opportunity to see what was being written, and to assess if I had accurately represented what they said from their viewpoint. I held considerable power as it was I who designed the research, undertook the data collection, and I who analysed the data and perhaps developed a new way of looking at teaching

strategies based on what the participants said to the wider world. My bias was also an issue when considering ethical concerns. Critical to the analysis process was the essential underpinning of 'interpretivism.' This theoretical perspective shaped the analytical process and its findings through the biases of both the participants and myself as we explained how we made sense of our social worlds. My role as the researcher was actively to make sense of people's behaviour and my own. McNaughton, Rolfe and Siraj-Blatchford (2001) argue that it is "through language we interpret behaviour... that language creates our own social world" (p. 36). Because of this understanding, control of what was reported lay in my hands. This immediately put me the researcher in a very powerful position. Ethically there was a safety barrier as this awareness ensured participants had access to and the opportunity to comment on all written texts to which they contributed. All the teacher participants were informed about the nature of the research and the reason for it and also how the information gathered was going to be kept safely and used.

Further issues considered were firstly that of the ethics of observing *children* under the age of five years and the age-appropriateness for children to provide consent. Even though there was little focus on the individual children, the normal procedures for gaining consent were undertaken. Permission was obtained from the Head Teacher of the Sessional Centre who discussed the proposed research with parents and gained their consent to the research in general and to the involvement of their children in particular. The same procedure was followed for

the Childcare Centre, although parents here completed a request form for observing their children. (See appendix C).

Cullen, Hedges and Bone (2005) strongly advise that ethical relationships with parents be considered. This was not relevant to centre one as there was no parent participation during my sessions at the centre but for centre two the Head Teacher had taken responsibility for ensuring I was introduced to all parents to enable them to discuss the research with me if needed.

My guiding principle in undertaking the research and obtaining permission from the participants was that listening to the voice of the *researched* was fundamental in the type of research being used and the epistemological position I held relating in particular to the individual's idea of social reality.

3.13 Summary

This chapter has given consideration to the research approach, methodology and methods used in this investigation. Rationales have been provided for case study being the appropriate design to use and observation and interviews as the methods. Rationales have also been presented for the research context and choice of participants with ethical requirements being identified and qualified.

The following chapter provides in-depth information about the process of the analysis of the data. The findings emerging from the analysis are presented in Chapter 5, where they are discussed in relation to the literature.

CHAPTER IV

Analysis of the Data

4.0 Introduction

This chapter will describe in detail the process of the analysis of the data gathered. The findings will be presented and discussed in relation to the literature in Chapter Five.

4.1 The Process of the Analysis of Data

Inductive reasoning (Schwandt, 1997) was relied upon to interpret and structure meanings derived from the data. Deductive reasoning was not seen as an option for this investigation because that process begins with ideas and uses the data to agree or dispute any of them (Thorne, 2000) and would be a process in opposition to the research intention and focus. Although there was some cognisance of what was being looked for, the inductive process provided greater flexibility.

The gathering of the data and its analysis comprised a dual process of data being gathered consecutively alongside the use of the reflexion process of recording my thoughts as I progressed. This process allowed the shifts in direction to occur as new understandings arose: for example, the shaping of the teaching strategy

negotiation. There was no definition for this word in relation to a teaching strategy but it became apparent as I observed and as I listened to those interviewed that it was a process which some participants thought they used. Analyzing data as the observations occurred at the Childcare Centre provided the basis for the analysis of data from the Sessional Centre as understandings developed. For example, at centre one, the Childcare Centre, interaction between the child demanding that the teacher get the paper for him but ending with both teacher and child obtaining the paper together began the evolution of an understanding of *negotiation*. Although I thought at the time that the interaction supported my thinking about what comprised a negotiation process, I disregarded it as significant as it stood alone in my observations. However, when I moved to centre two, the Sessional Centre, I observed similar interactions which then allowed me to make the connection between this first one as described above as observed in centre one followed by other similar interactions in centre two. This process of construction of information, building on from previous findings from the data and the reflection, which challenged my thinking as I went, enabled new understandings to appear which advanced my thinking about the research focus.

The data was analysed as two separate data sets according to method and centre. The observations were analysed first as one data set; then the interviews as a second data set. Both centres' data were analysed separately. Coding was used to analyse both the observation and interview data. The analysis of the

observations developed new codes as new connections were made which led to definitions of words evolving, while the analysis of the interview data advanced the need for a matrix where all the information was collated. From this developed an understanding regarding the relationship between the beliefs of the early childhood teachers and their use of scaffolding, *instruction* and *negotiation* as teaching strategies. The process for the development of this understanding required a matching of observed data with interview data. Such as observing the teacher instructing or guiding the child and finding this discussed within the interview as sharing of power or meaning with a child rather than 'telling' the child. This disjuncture between 'beliefs' and 'practice' was highlighted through a further example by a teacher being observed giving ten instructions in one 7 minute observation with no other teaching strategies being used; when interviewed this same teacher said *"children should have a choice, I'm the facilitator I don't believe in telling them what to do but we could negotiate over something."* A closer analysis of some of these observations will now follow.

4.1.1. Analysis of Observation Data

The analysis of the observations took place in a number of stages. These are summarised in Table 2 which follows.

Table 2: Summary of Data Gathering: Observations

Stage	Action taken
1	Visited and became familiar with the 'culture' of the centre. Observations involved any interaction between teacher and child. Codes were given to each line of verbal interchange recorded. Those developed initially were; T = telling and N = negotiation. Questions quickly arose around the codes at this point. eg. Is 'telling' an instruction; what are reminders/ guidance/ praising/ indirect telling? Telling is 'instruction' and information giving; is there indirect instruction and direct instruction? Found that with my perspective on the words used in 'negotiation' there were differing kinds of questions attached. (High and low level questions). T=telling was deleted.
2	This stage included the child's voice. I was clearer about 'instruction' but 'negotiation' still illusive. Introduced a new code of NL=Narrative language.
3	Following a reflection in a significant memo- a decision was made to move to a differently structured ECE centre as there seemed to be a slow down in progress with developing codes. Became familiar with the new culture. New codes arose eg open and closed questions with the statements I designated as 'negotiation.' Identified a relationship amongst high and low level questions, open and closed questions, 'instruction' and 'negotiation.' This change of structure allowed me to see more examples of what I was thinking 'negotiation' was.
4	'Negotiation' was evolving into some kind of meaningful definition. Used Forsythe's 'negotiation' stages to apply to some observations to see if there was a connection to be made. It was here that I decided to return to the first data set as I needed to further analyse the examples I thought I had of 'negotiation' and develop this understanding into something which could help me define the process.

Stage 1.Observations were initially analysed for examples of the scaffolding process which was interpreted as the advancing of the child's knowledge through the teacher's use of instruction or negotiation to a point where the child could carry out the action or solve the problem unassisted.

Coding using numbering began at this point with each line of data being assigned a code. For example:

'1' = centre one

'1' = first observation

'1' = first participant

'1' = first statement by this person =

1.1.1.1. *Is that the one you wanted?*

The first thirteen of these observations had only records of what the adult said to the child as at this initial stage I had a focus on the words *instruction* and *negotiation,* and the adult's role in problem-solving, as it was this part of the early childhood discourse in which I was interested.

Each line of the selected observations was then coded for meaning by the use of lettering. The codes first entered included the following; I = instruction, N = negotiation, T = telling/explaining. Here is an example of coding for the teacher component of an observation, with some of my thoughts alongside it as I made my record;

I – open your book

I – is there something on the next page (is this a type of instruction as it's not a direct instruction but it does expect the child to turn the page.*)*

T – you have put a lot of work into that

*I – remember the rubbish bag (*child picked piece of paper off the page and dropped it on the floor. This is an instruction but not direct *)*

*T – what a lot of work. (*Not sure what this could be – element of control – signifies approval – teacher judging "what a lot of work" means.)

N – you want some more?

It became evident that all codes marked 'N' (negotiation) were linked to questioning. The statements identified as *negotiation* had the intent of some kind of collaboration. For example:

"what would you like me to do?"

"could we do it together?"

From consecutive sequences such as this, questions began to be asked about the defining of the codes as I observed; was this exactly what was meant in what the adult was saying? As a consequence the coding changed to be more definitive: indirect instruction= II, direct instruction = DI, negotiation stayed as N and telling = T was removed as I interpreted it now to be either indirect instruction =II or direct instruction = DI. After several observations I changed the indirect instruction codes to include language of praise or positive reinforcement, reminders and guidance.

The lines I had no code by became a new code describing narrative language. (NL). These were statements which were part of the conversation and described the action occurring. An example being:

"there you go, all the colours in front of you," or "there that goes down the stream."

Stage 2. The second stage began with my being clearer about the definition of *instruction* but still unclear about *negotiation*. The need to include the two participants, these being the teacher and child or maybe a child and child in verbal interaction records, became obvious if the definition of *negotiation* was going to be found. I began to wonder if this would assist the defining of negotiation!

A reflection recorded at this stage of my analysis read as follows: (15 April, 2005):

> *"Few observations of significance today. Am beginning to think I need to find a different context to further develop the codes. I believe I have reached a position of having satiated this particular context and I need to move on to develop some new insights. I believe I require more codes to reach a point of knowing I have what I want. The 'all day' centre provides education and care for children for long periods of time and the programme includes the concept of 'children being in a home environment.' Because of this there is a sense that there is a lot of time to engage in varying experiences so I am not able to obtain sufficient observations in the time I have available. I am wondering if a 'sessional' early childhood education centre would further my code development because it is for half day sessions and therefore would provide more interaction in the shape I am now wanting my observations to be. That is, longer interactive engagement periods between the adult and child. I have*

returned to literature to see if I could find some definitions of negotiation and instruction. My thought being that, with my growing understanding of what the interactions are, I might 'see' these meanings identified more clearly. The closest I got was 'reciprocal responsive relationships' but this does not fit what I am thinking at the moment. It is more than that. It is to do with power that I am interested. The key theorists, Vygotsky and Lave and Wenger did not define either term.

'Instruction' implies that telling a child what to do gives an opportunity for direct scaffolding in a linear direction; whereas 'negotiation' indicates a more 'back and forth' type of progression or scaffolding each participant having an equal position. The rationale for how power is used may contribute to my understanding here. The linear vertical scaffold of instruction strongly suggests that one person holds the power of direction of the thinking and understanding, and this could be assumed to be the person who knew the most about the experience. The 'back and forth' description I have attached to 'negotiation' implies that there is an equal sharing of power over the knowledge and understanding. An unexpected element has become visible: that of the skills and understandings needed to be able to negotiate successfully."

Stage 3. The move to a differently structured early childhood education Sessional centre was made in anticipation of it being a stimulus for further

relevant data becoming evident. The analysis of the second set of observational data in the Sessional Centre built on the analysis of the first in the Childcare Centre. I developed the coding by defining *negotiation* questions as being either CQ = closed questions or OQ = open questions. These were then attached to the previous codes for each question. For example:

I I – OQ - "where are you going to find a cover?" (indirect instruction, open question)

I I – CQ – "is it a him or her?" (indirect instruction, closed question)

D I – C Q – "you will write the B and then the E?" (direct instruction, closed question)

There were no examples of DI – OQ. (direct instruction, open question)

N – OQ – "how do you want it?" (negotiation intent, open question)

N – CQ – "you might have to move things over?" (negotiation intent, closed question)

The code for statements such as this last example, "*you might have to move things over?"* was then altered to reflect my understanding of an *indirect instruction* as it was a direction to *move things over as the other child needed more room* but couched in a friendlier style of language. The use of the word *might* suggesting some form of tentativeness. As a consequence I ended up without examples of *N – CQ. (negotiation, closed question*).

Further analysis of the *negotiation intent* questions followed with the introduction of HLQ (high level questions) and LLQ (low level questions). I now began to ask whether there was a connection between HLQ and LLQ and *instruction* and *negotiation intent* and the relationships amongst instruction or negotiation, closed questions or open questions, high level questions or low level questions. (See appendix A for a recorded observation with evidence of questioning).

Stage 4. At the same time as the above relationships were being coded the definition of *negotiation* was unfolding. The recording of the adult and child in a scaffold sequence was supporting this evolution of a critical word in my study. Definitions of the codes were now able to be made. The following journal entry provides an indication of how I saw these definitions:

Identification of codes and definitions.

22 October 2005

D.I. = *direct instruction*
Requesting specific action – telling what should happen or be done -to direct

I.I. = *indirect instruction*
This is 'implied' instruction eg. "You might have to move things over", or "So and so wants more shells."
It could also be some form of praise. Praise is given when the child does or says something of which the adult approves. Thus it can be seen as a form of instruction in, 'you behave this way.'

N. = *negotiation*
The goal of 'a balance of power' defines the process.
Eg. 2.1.1.N, the adult saying "where would you like it to go first?"
Child-"I think there, but where else can it go?"
This provides the opportunity for the child to make her suggestion which is reflected in the child giving the same opportunity to the adult.

LLQ = low level question

Recognising or identifying knowledge already learned and retrieving or recalling that knowledge. (Walsh & Sattes, 2005, p.34).
When the teacher knows the answers and / or where there is only one answer.

HLQ = high level question

Focuses attention, stimulates thinking, promotes instructional purpose, focuses on important content, facilitates thinking at a stipulated cognitive level, communicates clearly. (Walsh & Sattes, 2005). Sander (1996) good questions recognize wide possibilities of thought and are built around various forms of thinking. They are directed towards learning and evaluating thinking rather than determining what has been learned in the wider sense.

CQ = closed question

Where there is only one answer
e.g. 2.7.21" did you think it might be bigger?"

OQ = open question

Where there may be no specific answer or several
e.g.2.6.16 "what would you like me to do?"

NL = narrative language

Where the person is talking in a 'commenting' way. There are no questions. Maybe the adult is saying what the child is doing as she does it.
e.g. 2.7.15 "I think the dough is good now – not sticky anymore."

Codes evolved in the following sequence:

Observation of what adults said
Identifying what each statement was by labelling it
Allocating the first letter of the label to each spoken line: N, D I. etc.
Allocating a number to the spoken line for the observations.e.g. ECE centre 1, observation no. 1
Allocating a further number to the spoken line. e.g. 1. 1. 3 etc.
Allocating the category of spoken line.e.g. adding 'N' for negotiation. Thus 1. 1. 3. N.
Identifying how many of each category there is. 10 = N

I could now more confidently assess a *negotiation* sequence. The *negotiation* formula used at this point was defined by Forsyth (1991). Each of Forsyth's

statements representing *negotiation* was taken and interpreted in relation to the sequence identified as *negotiation* between the adult and child. These were applied to the record of verbal interactions and linked to Forsyth's (1991) stages. An example of this follows: (The child's voice has no code).

Observation	**Forsyth's stages.**
2.2.6.1 oh dear- have a look	*(she thinks me important)*
2.2.6.2 how can you fix it?	*(Considers my needs)*
2.2.6.3 what are we going to do?	*(what are the facts here)*
2.2.6.4 very good writing	*(She believes me important)*
can you help me?	*(will her ideas help me)*
2.2.6.5 you have done well without my help	*(she respects me=2x)*
2.2.6.6 do the B and what comes after E	*(Her idea has helped me)*
I need more glue. That's it.	*(my needs met)*
I've done all I can now	*(summary)*

From here I then analysed Forsyth's stages in terms of his beliefs about *negotiation* and reinterpreted for appropriateness for the above example. My interpretation of his 'beliefs' were as follows:

> *was there trust involved, was it a back and forth process, what was the evidence that it was a power sharing experience or win- win situation and that a point of balance would be found, and was there a summary of where the two participants were at certain points?*

Because of my knowledge of the situation and my familiarity with the people, I could make the assumption that the beliefs Forsyth (1991) had identified relevant for negotiation to succeed, were present.

Stage 5. It was here that I made the decision to return to the first set of observation data gathered. I had reached a point of needing to look more closely at the samples of *negotiation* I had gathered. This enabled further examples to be found because of what I had learned through my developing understanding of the meaning of *negotiation* over the total period of observing. This process of repeated analysis provided new supporting evidence for my original tentative thoughts about whether *negotiation* could become a recognised teaching strategy.

4.1.2 Analysis of the Interview Data

The analysis of the interview data took place using stages as the process developed. These are itemised in Table 3 which follows.

Eight interviews were partially transcribed according to what was thought relevant to the study. Robson (2002) supported this action by suggesting that the availability of resources was a consideration in making transcriptions. This decision to only partially transcribe was taken because although I was clear that I was searching for a connection between teachers' awareness of their beliefs in relation to their practice I maintained an uncertainty about whether I would be

able to find this out, as it would depend on whether the teachers understood that there needed to be that connection between beliefs and practice. My thoughts were that this would be quickly evident from what was said during the interview. My mind was open to identifying the connections being made between beliefs and practice as the teachers spoke, as they would be expressing themselves in their own unique way.

Table 3: Summary of Data Gathering: Interviews

Stage	Actions taken
1	Checked 'confidentiality' and 'consent.' Arranged the time and place. Time and place of interview determined by staff. Tape recording permission was given. Took down some notes – where I thought the point being made was significant to my enquiry. I partially transcribed 8 interviews and checked their accuracy against the actual recording 3 times. Each time I selected points I considered relevant to my study.
2	Coding developed using numbers for identifying the centre, the participant and the line in their transcribed interview. From the essence of the statement themes emerged.
3	A matrix was developed with the themes as headings and all relevant information from every participant was inserted. I found this to be a somewhat messy task as things did not fit neatly. I had to interpret what I thought and place them relevantly. The participants' comments from each centre were clustered together. This enabled a further analysis of similarity and disparity.
4	As well as the matrix I developed a 'template analysis' which provided the opportunity for placing categories and themes in a hierarchy. This coding included the higher order codes of 'beliefs' and 'practice' and clustered under these were the sub groups belonging to each. These were then further refined. This provided a different view but did not add any further information to the analysis.
5	Links between beliefs and practice were made by comparing the interview themed matrix of each individual with the observations made of those same participant's practice.

Stage 1. Each interview tape was reviewed three times against the transcriptions to ensure I had recorded the relevant statements, as different interviews sometimes presented similar intent but had been expressed in a way which did not connect to my line of thinking at that point of transcribing. This process supported my identification of significant data and highlighted what I thought pertinent. (See appendix B).

Stage 2. Following this transcribing process every interview was coded by attaching a number to a line, the number identifying the essence of the line. Such as: centre two, participant two, line three, "*I want children to be confident and competent.*" The essence of this line I understood to be related to problem-solving, powerful, independent, having self efficacy or all subsumed within a set of beliefs. From this second stage of analysis a set of themes emerged from which a collation of interview responses developed. These were:

beliefs=1, practice=2, independence=3, knowledge of the child=4, reflection on own background=4, negotiation=5, power=6, teacher role=7, problem solving=8. These became the main themes.

Stage 3. This stage evolved by using the identified themes with every participant's responses collated beneath them. As a consequence a matrix was developed for individual participants. Table 4 provides an example.

Every participant's statements was reconceptualised three times with some themes changing each time the statements were reviewed. Originally themes such as *competent learners* or *individualism* were included, then disbanded; but then I brought back *competent learners* but subsumed this heading within *beliefs*. An example of how the coding developed during the analysis follows. These are lines from centre one, participant one interview, theme two and number of the statement within this theme: (1.1.2.1) and identifies the statements around the scaffold process used by this participant during an observation.

Table 4: An Example of a Matrix for a Single Participant.

Participant 2 Centre 1 Philosophy/ beliefs	Practice	Independence	Knowledge of child	Background	Negotiation	Power	Teacher role	Problem solving
Important chr. have hands on learning. A child led curriculum is what I enjoy – chr. making decisions. My job is to facilitate any learning. I go with what thr child wants. I don't want to stifle, need choices. Should include the family in the centre as all chr. have a family.	My role is to provide what the chr. decide they want. I bring the chrs. interests to life by responding to them. Chr. make the decisions, I leave them alone and don't disturb their line of thinking	I will only help if I see a child struggling or they ask for help. Important chr. have the choice	In childcare you get to know the children very well. You need to get to know their parents to get to know the child really well but it's very difficult as children are just dropped off.	I don't think that it has had a lot to do with how I educate chr. I did have 4 brothers so had to be able to stand up for myself. Have dogs which I enjoy running in the park and exercising. I like having control myself and making my own decisions – this may be an influence.	Could be – if you do that, I'll do this – sharing words and ideas and discuss the meaning for the child. Need good language and confidence – chr. do it all the time	Chr. Instruct me. Good for them to have power but there must be a balance, sharing and there are some things chr. just can't be allowed to have power over.	You need to be flexible. Important if going to follow child's lead. Although this isn't always possible as you may want to be doing something else. Eg planned a trip to the beach etc. But need to quickly balance up if you can allow them to do some things	Chr. need to be able to sort it out for themselves. I leave them until they ask

Under theme one, 'Beliefs:'

1.1.2.1 hands on learning

1.1.2.2 a child led curriculum

1.1.2.3 there is no child here without a family

1.1.2.5 I facilitate

Stage 4. To further understand the significance of the statements I used a template analysis process which provided a different way of looking at what the participants said through its hierarchical organization and this became the fourth stage of analysis. Because the study was to investigate the connection teachers made between their beliefs and practice I selected the two critical headings of *beliefs* and *practice* as higher order codes (King, 1998. p. 119) and clustered the range of sub-themes which had arisen under the appropriate higher order code. From each participant's transcription words or statements were selected which I interpreted as fitting under these higher order codes. An example:

Practice: (higher order code)

Scaffolding / knowledge of the child / negotiation / teacher's role / problem-solving (lower order codes).

This was followed by a further clustering of information under these lower order headings: such as *scaffolding.*

Scaffolding: (lower order code).

problem-solving / independent thinking / negotiation

The following provides an example for the second designated higher order code:

Beliefs: (higher order code).

Change the environment not the people /a positive environment / want them to go further in their thinking (lower order coding).

A process of removing and then returning statements gradually refined the information to a point of making sense of it in terms of what I was wanting to discover. However the organization of the data by hierarchy did not add any further information to my understanding.

Miles and Huberman (1994) discuss data reduction as a continuous process throughout the investigation and continuing until the final report is completed. This reduction of data is a "form of analysis that sharpens, sorts, focuses, discards and organises data in such a way that conclusions can be drawn" (p.11). My process to this point reflects this explanation and links to the analogy drawn of the 'funnelling' image, in most cases moving from the wide to the narrow, suggested by Cohen, Manion and Lawrence (2000, p. 148). Each analysis of an area would begin with a wide range of data with every review of the analysis reducing the amount of pertinent data and gradually refining to what was considered the required information.

Stage 5. The process used to connect both sets of data gathered from observations and interviews required my selecting out beliefs and the individual teacher's description of these beliefs with statements from the observations recorded, written alongside. This significant stage of the analysis of interview data was a comparison of the individual participant's themed interview matrix with the observations I made of their practice. The process began with identifying a

belief from the participant's individual matrix and listing the statements connected to practice, from the observation. The following tables represent this process.

Table 5: Comparison between a Statement of Belief and Observed Practice

Belief	**Practice**
Children are their own teachers / more power to children/ challenge their thinking / do need some instruction	*Children washing doll's clothes*
Teacher talk	Do it the other way / squirt a little in / don't you think it needs it / go and look in the cupboard / does it hurt when you get shampoo in your eyes / need to be gentle / that's right / pretend it's a baby / I don't think babies like to have their heads under water / shall I show you how / you can probably sit that one up / that's good washing / that's gentle / they look nice and clean now / did you have a bath too / be careful of the other children

My analysis through interpreting what I had written included the following highly subjective points:

> *Although this teacher believed that it was important for children to be their own teachers and have more power over their learning, she did not realize that her beliefs required qualification. The teacher did provide the opportunity for the child to have her thinking challenged as there were references to what could happen if the doll had her head under the water, but this was under quite strict control from the teacher. There was positive reinforcement given but the teaching strategy was instruction within the frame of the scaffold process. Had the teacher recognised that she was heavily instructing here when she had said this was going to be an exploratory experience for children? This could be viewed as a degree of disparity between the belief and the practice.*

A further example is provided in Table 6 below:

Table 6: Comparison between a Statement of Belief and Observed Practice

Belief	**Practice**
Child led / negotiate-if you do this I will do that / be available but leave the child to get on by themselves / choice / children sort out things for themselves	*Children at the "junk construction" table*
Teacher talk	Glue or sellotape / what about this one / see need to press it hard / wouldn't that be enough / I believe this glue would work better / you try it probably from the top / if you draw it then I can decide how we can do it / okay if we do it like this will that help / do you want to start over / just sellotape it down / do you want me to use these sticks / use those over there / okay you decide.....are you going to put 4 legs on one side of the horse / where should the other legs go / now-put it there / if the horse has all its legs on 1 side will it fall over / I'm suggesting you put two legs on the other side / tell me where the legs go / the horse will fall over / I'm going to put them on each side where they should go (teacher put them in the right places although the child insisted they be on 1 side of the horse – child walked away at this point after a lot of work on her wooden horse)

My analysis now follows:

> *This child did not want to problem-solve this task on her own. She knew she needed the guidance from the teacher but at the same time she also wanted things to be the way she decided. The teacher attempted to give the child choice but this was limited and she did not allow the child to lead completely such as when it came to where the horse's legs should be placed. The teacher was emphatic that the legs were placed where she knew she wanted them to be and denied that the child's perception may be the child's perspective of her reality. I believe there was some connection but there was mainly disparity between the beliefs and the practice in this case.*

An example now where there was a stronger congruency between beliefs and practice.

Table 7: Comparison between a Statement of Belief and Observed Practice

Beliefs	**Practice**
Competent / want them to go further in their thinking / positive feeling / high self efficacy	*At the carpentry table (second part of the observation)*
Teacher talk	I wonder why you want to put this back on / I was just wondering about the shape of it / there's a gap / like a jigsaw / I think this is like a jig saw you know / how do we make puzzles fit / we could turn it around / where are we up to now / what are we going to do / we tried the staple gun and it didn't work / what did you do with the ruler / a good idea to do some measuring / Sooty will love her bed / do you want to look for a blanket / might be some in the office / how do you want it / where do you want these / so where do we need the glue / how are you going to stick the top on.....

My analysis now follows:

> *This example makes clear connections and this is mainly through the use of words such as 'we' and 'recall' of a similar strategy the child had used previously (puzzle). This teacher also summarized what progress there was and made a positive statement about the wisdom of creating this cat bed. The questions asked would have alerted the child to things needing to be done which the teacher left for him to make the decision on. Thus the child was demonstrating self-efficacy by dealing with the questions and noting the support they gave him in achieving his goal and at the same time developing his competence in both the use of the resources around the creation of the cat bed. I think that there was a stronger connection between beliefs and practice in this situation. Co-construction was a strategy used where the teacher provided the guidance but did not overtly lead the experience.*

Linked to the findings from the observations was that some beliefs regarding practice were able to be identified for every participant. However this ability to identify statements of beliefs only happened following an involved analysis of the themes which surfaced. These were then matched against the observations specific to every participant and checked for congruence or some connection between the teaching strategies observed and beliefs expressed as noted above. The interviews produced a wide range of themes and caused slight confusion from the overlap amongst the words used. Such as one participant's statement; *"developing independence in the child"* which could be seen as part of *practice* which was a theme; the word independence also being part of *beliefs* which was a theme. Or the overlap between the concepts of *"competent children"* and *"independence."* The consequential analyses eventually reduced the number of themes to a point where key themes could be highlighted.

Because of this interest in the beliefs and practice link, I found that during the interview I did provide some prompts for participants to talk about these things. Both prompts and probes supported the extension of participants' discussions to direct them towards a more relevant area required. Robson (2002) compares a prompt and probe by explaining that "a probe could get the participant to expand on a response when you think they may have more to say and the prompt by comparison suggests to the participant that there may be a range of answers" (276).

An example of a 'probe' used with participant one centre one.

"you have been talking about the importance of your culture in relation to the influence on your role as a teacher, could you tell me more about this influence?"

An example of a 'prompt' used with participant five centre one.

"in your teaching you say there needs to be an equal balance between the teacher and child, can you talk about this more in relation to your beliefs about teaching?"

4.2 Summary

This Chapter has focused on the analysis of data gathered through observations, and interviews. The process used to carry out the analyses included defining the coding processes e.g. using letters to identify the types of statements made in the observations, 'II' for 'indirect instruction' and for the interviews the categories of statements provided by the participant teachers such as those suggesting 'beliefs' or 'teaching strategy knowledge.' These analytical processes were identified alongside the development of an understanding of *negotiation* as a teaching strategy. Connections were made between the beliefs and practice of teachers through a process of comparison with conclusions drawn as to the degree of congruence there may have been between these. Findings from each of the two data sets have been made. From these a series of main findings in relation to the research question have been drawn. All the findings are summarised and critically discussed in relation to the literature in Chapter 5.

CHAPTER V

Analysis and Discussion

5.0 Introduction

This chapter presents the findings in relation to the research question concerning congruency between the teacher's beliefs and their practice. The analysis gave rise to findings from each of the two data collection methods, the observations and interviews. From these overall main findings have been drawn. This forms the structure of this chapter. In the following section these findings will be discussed in turn, with conclusions being drawn.

5.1 Findings from the Observation Data

The analysis of the observation data gave a number of findings. These are now presented and discussed.

5.1.1 The Scaffold Process had Several Layers of Definition

Defining the observed scaffold process took more time than anticipated but the analysis of the observation data showed that there were many shades of that definition. I found that this process could be very simple, such as the child asking for help to reach some drawing paper or it could be complex as in my record of the teacher and child creating the cat bed over a period of an hour and three

quarters during a session. By recording every interaction I could at the beginning, I was able to interpret what the scaffold process was from my perspective and able to integrate the process with my reading as I came to understand the scaffold process from a variety of writers including Meadows and Cashdan (1988), Rogoff (1990), Burns-Hoffman (1993), Edwards and Knight (1994), Berk and Winsler (1995) and Bruner (1997).

5.1.2 Instruction as a Teaching Strategy within the Scaffold Process

It was clear from the analysis of the observation data that only *instruction* was used within the scaffold frame. From this evolved the discovery of many examples of *instruction* being used. I had anticipated that instruction would be easily defined. However, as with *negotiation*, I spent time analysing statements some of which I found were in the *grey area* of my simplistic definition of *instruction* which was "doing as the teacher said." This resulted in the inclusion of codes such as direct instruction (DI) and indirect instruction (I I). The former being understood as telling the less expert child what to do – "pick up the rubbish," a direct instruction as opposed to the latter or indirect instruction where the less expert child was reminded – "remember where the rubbish goes" or praised – "well done." These indirect instructions meaning "you are behaving in a way approved by what I perceive our society expects." The subtle use of helping children become enculturated into the particular society with these indirect instructions came as a surprise and opened the door to thinking about how we use our power as teachers with young children. For instance, Wood (1998)

discusses an example from his research where children were told what to do (instructed) and then failed in performing the task, explaining that "instructions such as put the "little blocks on top of the big ones" lack meaning for the young child until this has been negotiated in interaction with the tutor" (p. 99). Thus power can be withheld from the child by the use of tasks required of children which have no meaning.

5.1.3 Negotiation, the Other Key Word in this Study

The analysis of the observation data supported the literature review which showed that there was no detailed definition of this process as a teaching strategy, although it was a word used frequently in early childhood education literature and also by the teachers in my study about their practice. Teachers when discussing their teaching strategies would refer to *negotiating* as one of those strategies. They would say, "we would negotiate with children to decide what we could use to fix the car." There seemed to be an assumption that everybody knew what it meant. Early childhood literature also used the word and defined it in relation to the topic they were discussing. It was not used as a generic term: For example, Ramsey (1987) "negotiate their sense of self" (p. 117), McNaughton and Williams (2004) "negotiating meaning" (p. 215) and Nuttall (2004) "negotiating reality in early childhood curriculum" (p. 39).

Similarly in this present study I initially experienced difficulty in recognizing *negotiation* within the scaffolding process. It was not until I moved to a differently

structured centre and alongside my reading about *negotiation* within the employment situation by Forsyth (1991) and Fisher and Ury (1982) that an understanding of *negotiation* became apparent. The first factor was the change of context which altered my perception of what I was searching for, as teachers in the Sessional Centre had an active working belief system which included the valuing of interdependent and independent thinking and therefore interdependent and independent behaviour. Children were extremely competent in using the tools required to challenge them and this gave teachers time to focus on individual children if needed. However, it was not only the session structure which impacted on the difference but a major cultural effect relating to the relationship these teachers had between their beliefs and their understanding of children needing to hold shared power in their learning with them as teachers.

This shift in knowledge of how children were able to choose whether to carry out their thinking dependently, interdependently or independently or choose to move from one of no control to one of shared control or self control could have resulted from the very clear beliefs about learning and teaching these teachers held. The new beliefs they had taken on board over recent years suited their personal values. As referred to in the literature review, White (1992) asserts that in order to take on new ways of seeing their reality, people have to have become dissatisfied with their existing views and with that comes a true commitment to the new knowledge. If this is the explanation, I believe it enabled more overt mediation to occur because the teachers in centre two had consensus of beliefs.

The power of the teachers' beliefs drove the practice as together they had given detailed thought to every dimension of their practice enabling children to *know* how to be interdependent and independent. Both Vatuli (1999) and Macron (1999) suggest that the most effective teaching occurs if beliefs and practice have consistency between them.

The second factor which enabled me to see *negotiation* as a strategy was the shorter sessions in the Sessional centre, which I believed provided a sharper and clearer focus as to the teachers' role compared with the all-day centre where there was a longer time period able to be spent with children.

5.1.4 Differentiating between Instruction and Negotiation

The analysis of the observation data also led to a deepening of my understanding of the difference between *instruction* and *negotiation*. In this study *instruction* appeared to be much more of a linear transmission within the scaffold process. This was made evident because of the use of closed, low level questions being asked which were directing the child's behaviour. *Negotiation* was seen as a bi-directional verbal interaction if two people involved or could be multi – directional if several people involved because of the type of interaction occurring. This association was made because the interaction included more open ended and high level questions being asked. It was by having a personal discussion about this difference with Dr. Anne Meade (15 February, 2006) which helped to clarify a

different perspective on these two teaching strategies. For example: instruction as a linear transmission – (low level questioning)

Centre 1, Observation 15, Participant 2.

Teacher: *What have you made?*

Teacher: *do you want to make it bigger?*

Child : *no*

For example: negotiation as a bi-directional interaction-(high level questioning).

Centre 2, Observation 8, Participant 6.

Teacher: *How can I help?*

Child: *I need another glue*

Teacher: *there is some left in this gun*

Child: *But what about the wheel? It won't go round if it's glued*

Teacher: *That's true. I wonder if we used the cork in some way!*

Child: *That's a good idea, but a better one would be to put the lid on first.*

The perspective taken for clarifying these two different interchanges was by giving consideration to the types of questions involved. The closed questions within the linear transmission kept the interaction at a minimum. It also kept the control with the adult and limited the thinking possible whereas the open

questions within a bi-directional interaction maintained an even balance between the two people with both contributing and therefore both advancing the thinking and experience in which they were involved. By bringing together the analysis of the observations and the literature relevant to the process of negotiation, it became clear that *negotiation* was a sequenced conversation. There was a 'balance of power' (Forsyth, 1991) unlike the imbalance of power inherent within a scaffold process. Forsyth believed *negotiation* was concerned with the relationship between two parties where the needs of both were largely in balance (p. xiii), this balance being understood as defining the need. Rubin and Everett (1982) suggested that children need to understand the sequence, general give and take and structure of the *negotiation* interaction. It was this idea that caused me to question whether *negotiation* was possible for the four to five year old child. The concept of a *balance of power* began my thinking that *negotiation* could be a teaching strategy which sat outside the scaffold process and filled a gap in my understanding of the differing positions there were on learning. The question could now be asked whether children had an equal amount of knowledge and skill with the teacher to enable a balance of power to operate in a problem-solving situation? Through reference back to my documentation I realized that the skills needed were readily accessible to this age range but only if they had had the opportunity to learn to be interdependent and independent thinkers.

Based on Forsyth's (1991) thinking I considered the skills and understandings required by the teacher in order to negotiate where it is recognised that there is a balance of power. The following was observed between a teacher and four year old girl at the dough table:

Centre 2, Observation 10, Participant 2.

(Key: Tch = teacher, ch = child).

Tch *– Can I make a cake too? (understood it was the child's game)*

Ch *– yes but it has to be green*

Tch *– I would like mine to be red (offer idea only)*

Ch *– no, it's green*

Tch *– why green? (encourages justification)*

Ch *– just is. My doll has a green dress. I like green and I've got a green dress*

Tch *– if I have a green cake can I have red icing on my cake? (not taking a lead-a suggestion)*

Ch *– you've got to have a green cake then you can have red icing with green decorations*

Tch *– what decorations are we going to use? I could find some coloured stones for decorations. (appropriate use of language and an understanding about resources which could be needed)*

Ch *– are they green stones?*

Tch *- some have some green in them*

Ch *– you go and find them and then we will decide. I'll go and get the green sparkles. We'll see which looks best. We could have different cakes. (understand the child knows where the resources are and can access them)*

The following example is one of four observations between children I interpreted as *negotiations* based on an equal sharing of power. Attached to each statement are skills children need, essential for equal power sharing during *negotiation*. The following example occurred between two four and a half year old boys:

Ch,1*. – who is going to help me with the train track? (invited help and goal expressed)*

Ch.2 *– I will. Where is it going to go?*

Ch. 1 *– I want it to go there*

Ch. 2 *– here's better*

Ch.1 *– but if we put it there it will hit the table (suggest idea and justify)*

Ch.2 *– could go under the table (plan how to reach a goal)*

Ch.1 *– no. that's no good, would hit the wall. (reject idea and justifies)*

Ch.2 *– we could make it go up a hill (compromise)*

Ch.1 *– could use books to go under the rails to get a hill (understood justification for different perspective)*

Ch. 2 *– blocks eh! (knowledge of resources required)*

Ch. 1 *– yeah. I'll get the blocks.(access resources)*

Ch.2 *– I'll join the rail tracks. This will be a good track for the trains. (good language)*

The following summary developed from statements indicated in the sequence above, are the skills identified as needed by the child which are now listed:

- *an ability to verbally express the goal*
- *a good use of language*
- *an ability to access the material resources without assistance*
- *knowledge of what material resources would be required*
- *could plan how to reach the goal*
- *accept or reject assistance and justify why*
- *knew when to invite help*
- *could suggest ideas and justify them*
- *compromise if that was needed*
- *heard and understood the justification for a different perspective*
- *could summarise where he had reached in the plan*
- *ability to agree*

The analysis identified that as indicative of equal power sharing between teacher and child, the teacher's skills and understandings are those of the child's listed above with the following additional reminders:

- *understanding that the child can access her own resources*

- *enough knowledge not to attempt to take a lead in changing the goal unless the child agreed*

- *an ability to offer ideas but the problem being solved belongs to both teacher and child.*

- *able to justify why her idea was good*

- *an ability to summarise where they had reached with their plan*

The above skills identified in relation to this study's interpretation of *negotiation* are based on those claimed by Forsyth (1991) as necessary for a successful negotiation to occur.

I checked again with the data analysis if it was possible for *negotiation* to fit within the scaffold process. Would the skills and understandings of negotiation fit into a model where one participant was more expert than the other? Over time I had begun to realize that this may not be possible because of the issue of power. The literature review (p. 30) discussed Daniels' (2001) question about whether the scaffolds were produced by the expert or whether they were negotiated or agreed by the two participants. Newman, Griffin, and Cole, (1989) argued that a scaffold frame could be used to negotiate. However Daniels (2001) stated that, "crucially scaffolding involves simplifying the learner's role," (p. 107) with which Bruner (1997) concurs as he explained that the helper-tutor needs to sequence the steps identified or use negotiation to support the learner to achieve. Bruner does not define what he means by *negotiate* in this context but it implies an imbalance of power between the two participants with his use of the terms *tutor*

and *learner* (p. 107). I suspect the term *co-construction* and *instruction* would have been more apt terms as he believed in tutoring/instructing children more than beginning with both participants having equal control.

Together, my reading about *negotiation* and my analysis of the observations would not support the concept of having an ability to *negotiate* within the frame of the scaffold. It is implicit that the power lies with the expert in the beginning of the scaffold process with a transfer of that power to the less expert as the problem solving evolves. *Negotiation* implies an equal sharing of power from the beginning of the problem solving event with both participants holding the same amount of power when the *negotiation* begins and ends.

The following example provides further support for my understanding of the ability to use negotiating as a teaching strategy. This example permits some correlation with Fisher and Ury's (1982) phases of *negotiation* where they list these as; planning phase where issues and outcomes are identified; opening phase where a negotiation climate is set; exploration phase where there is specific information and collaboration; bargaining phase where issues are checked out; agreement phase where there is clarity and agreement. For example:

> Centre 2, child to child observation 3
>
> *(One girl and one boy aged four and a half (Ch.1) and four years (Ch.2) respectively, at the carpentry table).*

Ch.1-*I want to use the clamp to saw my wood.*

Ch.2-*I'm using it – I need to saw this bit to make my truck*

Ch.1-*Will you take a long time?*

Ch.2-*Yes, it's a big bit of wood.*

Ch.1-*If it was my truck I would use a bit of wood like this- easier to saw and it wouldn't make the truck look so chunky. – see (looking at picture of a truck) that bit is a thin bit*

Ch.2-*here is a bit – right size- like in the picture - don't need to saw this looks the right size – I'll just nail it together – I've got a hammer*

(***Ch.1***- *removes the boy's wood from the clamp and inserts her own piece).*

Defining *negotiation* from my analysis took several phases of deconstructing the pertinent observations in order to develop a formula relevant for use as a teaching strategy.

The stages of negotiation developed by Forsyth (1991) and the work of Fisher and Ury (1982) in relation to employment provided me with a frame from which to begin to identify the stages a child and teacher could use for the *negotiation* process. The definition of *negotiation* had not intended to be the focus for this investigation but because of the difficulty in arriving at an early childhood education definition of the word it overtook the *belief-practice* emphasis with which I began this journey. This shift in focus provided a new perspective on the

processes or teaching strategies possible which could move children from a thinking state of *dependence* to *interdependence* to *independence*.

Forsyth's (1991) qualitative statements as interpreted from my perspective and relevant to early childhood and the teaching strategy of *negotiation*, now follows:

- *do I trust her/him?*
- *does she/he consider my needs?*
- *how will her/his ideas help me?*
- *does she/he hear my ideas?*
- *how does she manage my rejection of her/his ideas?*
- *do we have the same goal to resolve this problem?*

To be successful the adult needs to have the desire to hold equal power or control of the situation when decision-making within the problem-solving process. The power would be shared equally with both participants maintaining an equal amount of power from beginning to end of the interaction. There would be no transmission of power from an 'expert' to a 'less expert' person. The two participants using *negotiation* would understand about give and take. Most of all they would trust one another to allow the ideas and actions to be shared and both participants would want an agreed outcome.

5.1.5 Connections Made between Teaching Strategies and the Balance of Power

The observation analysis identified an issue about the amount of *power* held by the teacher and the child. Both strategies, *instruction* and *negotiation,* are

concerned with power in terms of the ability of the more expert, the teacher, to 'instruct' the less expert, the child, and the ability to *negotiate* where both the teacher and child have equal amounts of power. The teacher who holds the obvious power because of her size, use of language, vocabulary, having the most experience and needing to protect the young, is the one who must understand about this power she holds. Three states could be considered in relation to power:

Adult focused;

Scaffold: (empowerment)

Instructional

Passive child ---------- active adult (powerful)

Child focused

Co-construction: (empowerment)

child seen as having some power (transfer of power from more expert to less expert) adult

Child and adult focused

Negotiation: (equal power)

Active child --- ----------equal power---------- active adult.

Although these are extreme positions it is this third position which would be the most powerful for both the child and the teacher as both would draw on similar skills necessary for a specific problem solving situation and share equally in the decision- making.

5.1.6 The Role of Questioning in Determining the Meanings of the Words: Instruction, Negotiation, Linear and Bi-Directional

A further finding emanating from the analysis of the observations was the evolving of the link with questioning. This link between the types of questions used and their attachment to the codes of either *instruction* or *negotiation* had not been anticipated but it was clear that the definitions used of low level and quality or high-level questions (Walsh & Sattes, 2005) and open and closed questions were clearly seen in their relationship with both *instruction* and *negotiation*. This provided some evidence that the closed question and instruction appeared to be linked as were the negotiation and open questions. For example: "*do you want the paper put there*?" This was interpreted as a closed question and an instructional statement whereas, "*we have a problem, what could we do to solve it*?" was in response to the child sighing and saying, she could not work out how to make her horse on her own, so her statement was interpreted as an open question and a statement for the opening of a negotiation. Barell (2003) suggests that the nature of a good question reflects a desire to find out more than we already know and it could help us think and move us beyond the immediate experience. This suggestion fits comfortably within Vygotsky's Zone of Proximal Development where the process, with the shifting of power from the more competent to the less competent, provides the opportunity for development if it is understood that it is the meaning of the assistance in relation to the child's learning and development which is important (Chaiklin, 2003). My evidence would suggest that the use of open ended questioning would be the only appropriate type of questioning style to use to gain such an outcome. Walsh and

Sattes (2005) remind us that the research base of the relationship between academic achievement and student questioning is established around four interrelated areas: "metacognitive knowledge, knowledge and use of question-formulation skills, curiosity, inquisitiveness and a sense of wonder and confidence and self- efficacy" (p. 114). These four areas are strongly evident in the education process for the under five year olds.

5.2 Findings from the Interview Data

The analysis from the interview data provided findings which were in agreement with earlier research concerned with the relationship between teacher's beliefs and their practice but did highlight the misunderstanding of the teaching strategy terms in current use. These are now discussed in relation to the literature.

5.2.1 Similarity of Teachers' Beliefs

The analysis of the interview data showed a coherent set of beliefs among the teachers despite the centres being differently structured. McLauchlan-Smith and St. George (2000), referred to earlier, in their research of Kindergarten teachers and their beliefs also found that despite the different experiences amongst their teacher participants there was a congruency of beliefs. These researchers applied Bakhtin's (1981) explanation that it was the speech genre which connected the teachers to a common belief in constructivism as they all felt the ties they had with the theories of Piaget (1952) and Erikson (1950). In the case of this current investigation I would include that of Vygotsky and co-constructivism which also were familiar to the participant teachers as an

underpinning theory. Although expressed in individualistic styles the intent told me that these qualified early childhood education teachers all held similar understandings about the learning opportunities required for children and that it was these beliefs which drove their practice. Some of the agreed understandings included the following:

> *scaffolding is used to support children in their learning / children need to experiment and explore / want independent learners / choice is necessary / teachers need to be flexible / child-led curriculum in terms of picking up on what children show curiosity about / children need more power.*

Almost all participants understood the influence of their own backgrounds on their teaching and believed in a socio-cultural theoretical stance.

The differences amongst the participants in the interview discussions were apparent only in terms of the emphases participants made when talking about different ideas and their depth of understanding of some things. The following is an example of two different emphases on the topic of goals to achieve in their teaching:

Centre one participant two:

> *When I teach I go with what ever the child wants, I don't want to stifle them, I want them to have choices*

Centre two participant two:

What I want to achieve with my teaching is to encourage children to persevere, to have a high level of self-efficacy, to feel positive when they achieve things for themselves

However, it could also be understood that it was not a lack of depth of understanding that a different emphasis was made, but that both teachers had different priorities which in turn could be considered as motivated by the teacher's individual perspectives from their own socio-cultural position. Another example was around the topic of power sharing. Three staff members were very clear that power sharing meant a fifty/fifty per cent sharing between the child and the teacher. However five participants of the eight believed in the sharing of power but could not agree to a fifty/fifty partnership because they believed that as teachers they had a strong sense of responsibility in terms of children needing to be trained to understand the rules of society and that children had a right to protection. The group of three did not deny the need for the socialization rules being understood or that children did not need protection but the emphasis they made was on the *sharing or balance of power* component during a problem solving experience.

5.2.2 Understanding of the Words under Investigation

The greatest disparity shown through the analysis of the interview data was around the use of *instruction* and *negotiation*. All participants believed that they used both techniques in their teaching although they may not have used the word *negotiation* to explain the practice. Six out of eight could describe the process as

being one of compromise and of two people wanting the same thing. Some comments which expressed an understanding of negotiation included:

Centre 2, participant 2:

how can we (adult – child) both get what we want / if you do that, I will do this / you tell me what you want and I will tell you what I want

Centre1, participant 2:

I'm not sure exactly what it means but I know I use it / I will help you to do that / I, the teacher and the child provide the resources / have same outcome.

5.2.3 Centre Difference

The analysis of the interview data showed a difference between the two centres and the way they discussed their teaching. Section 5.1.1 above discusses the congruency amongst teachers' beliefs and this was through a consistency of all believing that children should have a choice, that they follow the lead of the child in what the child wants to learn, that they as teachers believe in sharing the power with the child and that every child must be respected as unique because of their particular culture. However the interview data provided evidence that these beliefs were interpreted differently through their different expression of similar beliefs. For example:

Centre 1 Participant 1:

-Children should have hands on learning

-Everything should be available but leave the children alone as you may disturb their thinking

Centre 2 Participant 2:

-Children are competent

-Have a self efficacy

-Preparing them for the world and we don't know what they will experience

-Teachers need to be passionate about learning

Exploring the meanings being expressed allowed the Centre 1 participant to further explain that by leaving children to think for themselves they would be able to work things out or problem solve for themselves. Whereas the Centre 2 participant further explained that from research she had read children required her guidance through the use of Vygotsky's Zone of Proximal Development to become independent thinkers and have a high self efficacy. Centre 1, the all day Childcare Centre, was experiencing a change in its focus and as a team was re-looking at the philosophy, beliefs and the structure of the programme in a way which would integrate those things. This perhaps provided an explanation for the lack of coherence with beliefs expressed by this staff group. There was no sense of *we* in the discussion as was openly acknowledged by the centre two staff. By comparison centre two, the Sessional Centre, was more settled in that it had a clearly expressed philosophy and practice beliefs which enabled those staff to speak with confidence about the synthesis they had amongst their underpinning theory, their practice beliefs and their philosophy. Analysis also identified that there were fewer probes and prompts needed to elicit an expression of their beliefs. This centre's staff could speak in depth about how they came to develop

their beliefs about early childhood teaching and the importance of their work and their ability to reflect more provided them with a deeper knowledge of their role which was able to be expressed; such as the ability to make connections between their own background and current beliefs about the teaching role. For example, one participant suggested that there may have been a connection between her living in the country with the associated isolation and the need to be self-sufficient, with her very strong belief that children needed to be able to be independent if they so chose. Another example was the teacher with an Indian culture who talked about the requirements of her upbringing in relation to changes and shifts she had had to make to teach well and in the approved way in a different culture. These types of responses demonstrated the strong socio-cultural underpinnings of the teachers but it was also supported by the style of the semi-structured questioning and the space it provided for participants to make connections amongst things they were saying.

5.3 Overall Main Findings

The results of the two data sets showed 4 main findings. These are summarised below with each finding being of equal value apart from the first one which I believe presents an idea which could fill a gap in early childhood education discourse around definitions and provide a new concept of a teaching strategy.

5.3.1 Clarifying Negotiation as a Possible Teaching Strategy

Negotiation as a different teaching strategy has been tentatively defined as *power being equally shared by two people each with their own understanding of what is wanted, solving a mutually agreed problem because of a respect for the socio-cultural theoretical perspective.* An understanding of this was reached through making various connections from the analyses of the word *instruction* and the scaffold process where the words empowerment and a balance of power were considered alongside literature which defined *negotiation* only in terms of a specific issue such as 'negotiated curriculum,' or related to negotiation as a tool when employers were negotiating with employees about their conditions of work. A *negotiation frame* of reference was produced which highlighted the equal interactive and bi-directional process involved. This definition developed over a period of time from my original definition in October 2005.

5.3.2 Scaffolding Supports the Teaching Strategy: Instruction

Scaffolding had only one mediational form from my records of observations, which was *instruction*. This was where there was transference of power through an instruction from the more expert teacher or child to the less expert child. Scaffolding which was said to be the tool used within the Zone of Proximal Development where the less expert child is taken to a higher level of thinking was sometimes described as a guided participation process rather than instructive. The analysis of my observations led me to acknowledge the inherent imbalance of power in this teaching strategy as it was *instruction*, either direct or indirect

which was mostly used when teachers were scaffolding children's thinking. *Instruction* was initially perceived as a narrow construct: that of telling. However through the analysis of observations recorded I found that there were two types of instruction: direct instruction and indirect instruction with the latter type socializing children into the culture of the centre and community through the strategies of words such as *praise* and *reminding*. Questions I determined as closed, where there was only one answer possible, were termed low-level questions and these were integral with the scaffolding processes I documented. The use of this type of questioning limited the opportunities for the teacher and child to discuss or develop some resolutions to a problem on equal terms.

5.3.3 The Relationship Between Teachers' Beliefs and Practice

The relationship between espoused beliefs and teaching strategies used in practice did relate to each other to some extent in four out of the eight comparisons made. This finding was understood from the analyses carried out of the interviews where beliefs of individual participants were identified, followed by this information being matched up with the observations of practice of these same participants with a subsequent interpretation by me as to whether there was congruency between what was practised and what was said. It could be surmised that where there was an incongruence the issue was of the teacher's weak articulation of her belief rather than a disconnection between her belief and practice. The main difficulty appeared to be about the differing understandings of what words meant. The word *scaffold* was mentioned four times out of all the

interviews and *negotiation* not used at all until I introduced it into the interview and then discussed in terms which I had assessed as 'indirect instruction.' *Instruction* was seldom used within the interview and always in relation to the rules of the centre, but when discussing their teaching, participants preferred to use words such as *power sharing* and *sometimes we have to tell children* although it was mainly the *instruction* strategy which was observed. *Instruction* could be conceived as a more linear interaction in contrast to the bi-directional interaction of negotiation.

5.3.4 A Connection between Different States of Thinking and Teaching Strategies

Different teaching strategies could be identified to relate to different states of thinking: dependent state and scaffolding with a determined outcome; interdependent state and co-construction where there is no agreed outcome; independent state and negotiation where there is an agreed outcome. From this assessment a *thinking frame* based on the balance of power was identified. Although the strategy of co-construction had not been a focus for this study it became apparent as I reflected on the weighting of power within a scaffold process and a negotiated interaction that there was a sequence of teaching strategies. These could be used strategically to move children from being dependent thinkers to interdependent thinkers to independent thinkers. Although the stages in this model would be used at any point depending on what was being learned, it seemed interesting to consider different levels of thinking leading to the desired position of a child being an independent thinker. This

understanding could be useful to teachers who liked to have a specified process for doing this. A child's thinking progress to being independent could be easily documented against this model.

5.4 Discussion of Main Findings

This section discusses the overall findings in relation to the literature and draws some conclusions concerning the research question asked: *what is the relationship between the beliefs of early childhood education teachers and their use of the teaching strategies of instruction and negotiation in relation to the scaffolding process?* Although all participants when interviewed said they used both instruction and power-sharing in their teaching practice the most visible teaching strategy I recorded was *instruction.* From the cluster of thirty-eight observations and two hundred and sixty-five single statements of *instruction* and *negotiation* one hundred and ninety-eight were instruction low level questions with the remaining sixty-seven being statements which could come within a negotiating frame. The final decision determining if statements were part of *negotiation* was by the sequence of the interaction which demonstrated the key elements of a negotiation model. Many other statements such as narrative language or those which could have come within a co-construction process have been excluded.

As mentioned earlier participants talked of sharing power with children. However this belief was not born out in many of the observations I recorded. Although the

term *negotiation* was not used, I believe the word was interpreted differently by different participants. One reason was that because teachers asked questions and allowed the child to lead a discussion or experience, it was thought that a *power-sharing* opportunity had been provided rather than the more accurate description of a *power-allowing* opportunity. As referred to in the literature review Bjorklund (2005) suggested that problem solving was about using questions as the medium to move one idea to another new one. The teachers in this study used questioning to resolve problems with children but the understanding that the type of question would keep the child in the less powerful position was not apparent. The word co-construction surfaced on 2 occasions in conversations held with the participants and I did not include it in any statement I made; but perhaps the teachers were thinking more along the lines of co-constructing meaning when they discussed sharing power with children. Jordan (2004) states "that in order to co-construct meaning and understanding, the teacher needs to become aware of what the child thinks, knows and understands, and to engage with the content of the body of knowledge. The child's own expertise is acknowledged as being as valid as the teacher's." (p. 33). This sense of equal status between the child and the teacher very closely identifies with the beginning definition of the word *negotiation*: equal power with both respecting the expertise of the other. However, if there had been an understanding of equal power sharing some participants in both centres did not demonstrate this to a degree where I could state that it was an integrated part of their practice although it was a firm belief that sharing power was a necessary teaching strategy. The question

could now become, "how much power is shared?" At the same time there was awareness by all participants of the scaffolding process and how that process enabled the advancement of learning through the social and instructional interaction between the more expert and less expert.

I saw these differing perspectives arising from the current confusion around the wide range of meanings possible with words used in early childhood discourse. I believe that the use of scaffolding is being understood to be *the* process for many teaching strategies within a socio-cultural philosophy and that teachers are using scaffolding very generally as no teacher participant mentioned negotiation and only 2 mentioned co-construction. It seems that this is an impossible position to hold if you believe in the equal sharing of meaning and power, as the very process of assisting another person to know something you as the teacher already knows, automatically positions an imbalance of power. From my analysis of the espoused beliefs of the teacher participants and analysis of the teaching strategies used I found that with four teachers there was a clear relation between these things; but although all teachers had used similar language to describe the strategies in relation to their beliefs they each had their own interpretation of what they meant in practice. These findings would support that of McLachlan-Smith and St George (2000) who discuss the idea that despite the different experiences of teachers there were congruent beliefs amongst their research participants. Vatuli (1999) presented the explanation of the incongruency as that of the influence of principals, and teaching colleagues requiring teachers to use

practices inconsistent with their beliefs. There was no clear evidence that teacher participants were aware that there was a disparity between their beliefs and practice and I believe this was the case because of the confusion over their definitions of the different teaching strategies as evidenced by my coding analysis.

The analysis of my findings around the meaning of instruction, negotiation and the literature read around the concepts of co-construction and scaffolding would suggest that there were some interrelated connections which could be clarified. Scaffolding originated as a process with an emphasis on instruction. Although Vygotsky did not use the *scaffold* metaphor, Bruner's (1978) description emphasised that it was more a process of instructional intent, not as in the traditional 'uni-directional' delivery model of instruction. Current use of this process has been somewhat altered to be seen as more of a process to provide "temporary guidance to help children moving from one level of competence to another" (MacNaughton & Williams, 2004, p. 331). This shift in perspective was mainly motivated by Rogoff (1990) who emphasised the guidance and participation component of the process rather than the constructing and instructing which was how Bruner (1978) perceived the process. It seems that the term *instruction* sits comfortably within the scaffold process and with the three components of this concept which arose in my research, that of directing, reminding and praising. I now understand why there are varying levels of scaffolding from the simple *how to reach the paper* or *say please* to the more

complex experience of *how to write your name;* but all rely on the more expert instructing the less expert making it possible for the less expert to take over the process.

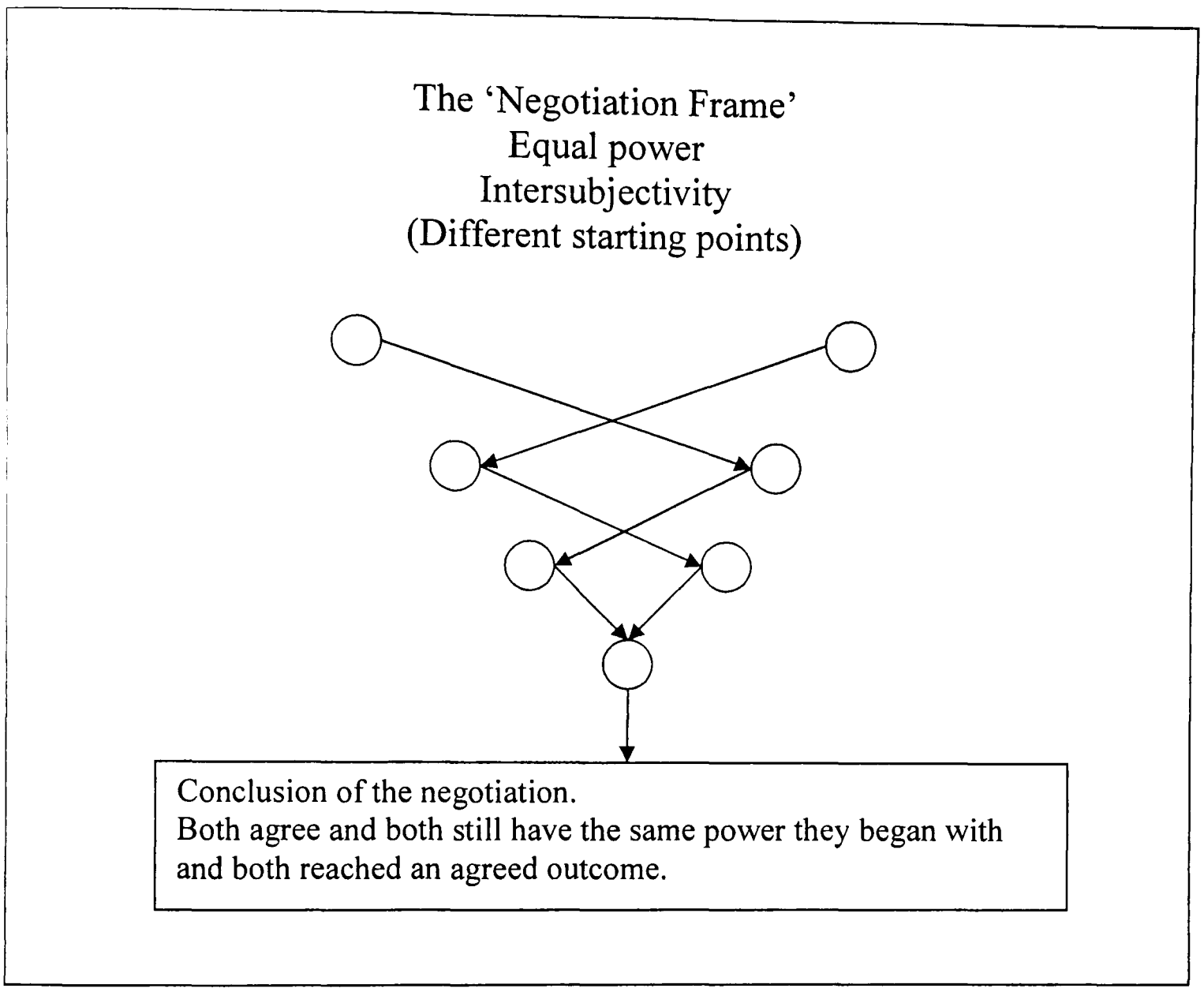
Co-construction and negotiation, by the very nature of the words imply a greater equality of status between the adult and the child. Jordan (2004) when discussing co-construction refers to the importance of the teacher's ability "to operate at the most child-empowering level of constructed decision making..." (p. 34). However including the word *empower* immediately places co-construction into an imbalance of power position. Thus it remains as a teaching strategy which although acknowledging the socio-cultural status and the implicit intersubjectivity of the child is one which must have one of the participants in the more expert position.

By contrast I suggest that the *negotiating* process can only be one of equal status for both participants within the interaction of problem solving. Literature, mainly the work of Forsyth (1991) and Fisher and Ury (1982) and from my observations, interviews and discussions brought me to this understanding, and although it initially seemed inconceivable to view the teacher and child as equals, I came to realize that if the socio- cultural theory was valued then there was no question in my mind that through the valuing of this it was possible for two equals to be resolving a problem on an equal and shared footing; that it would not be *negotiation* if the teacher and/or child had to begin by thinking "*I need to*

empower the other." It is not the age of the participants which is the issue, but the experiences and their individual interpretations of those experiences which matter. The starting point of the social interaction involved in problem-solving or decision-making, is *the level playing field.* This could be justified as the only way to regard problem solving if the theoretical position is one of a socio-cultural perspective. This theory espouses the belief that we all have our own personal social reality embedded in our particular culture. If this is understood then the concept of *negotiation* beginning as two equals with the same amount of power makes sense. Neither person is able to assume how the other will perceive the situation because of their unique past experiences until the discussion and sharing of meaning begins; so from a point of intersubjectivity the bi-directional discussion will proceed until an agreed goal or outcome is reached. The following diagram presents the process.

In this model the two top circles each represent an independent thinking participant. Each begins with the same skills therefore the same level of power, each takes a turn at speaking and perhaps compromising until an agreed position is reached and both finishing with the same level of power.

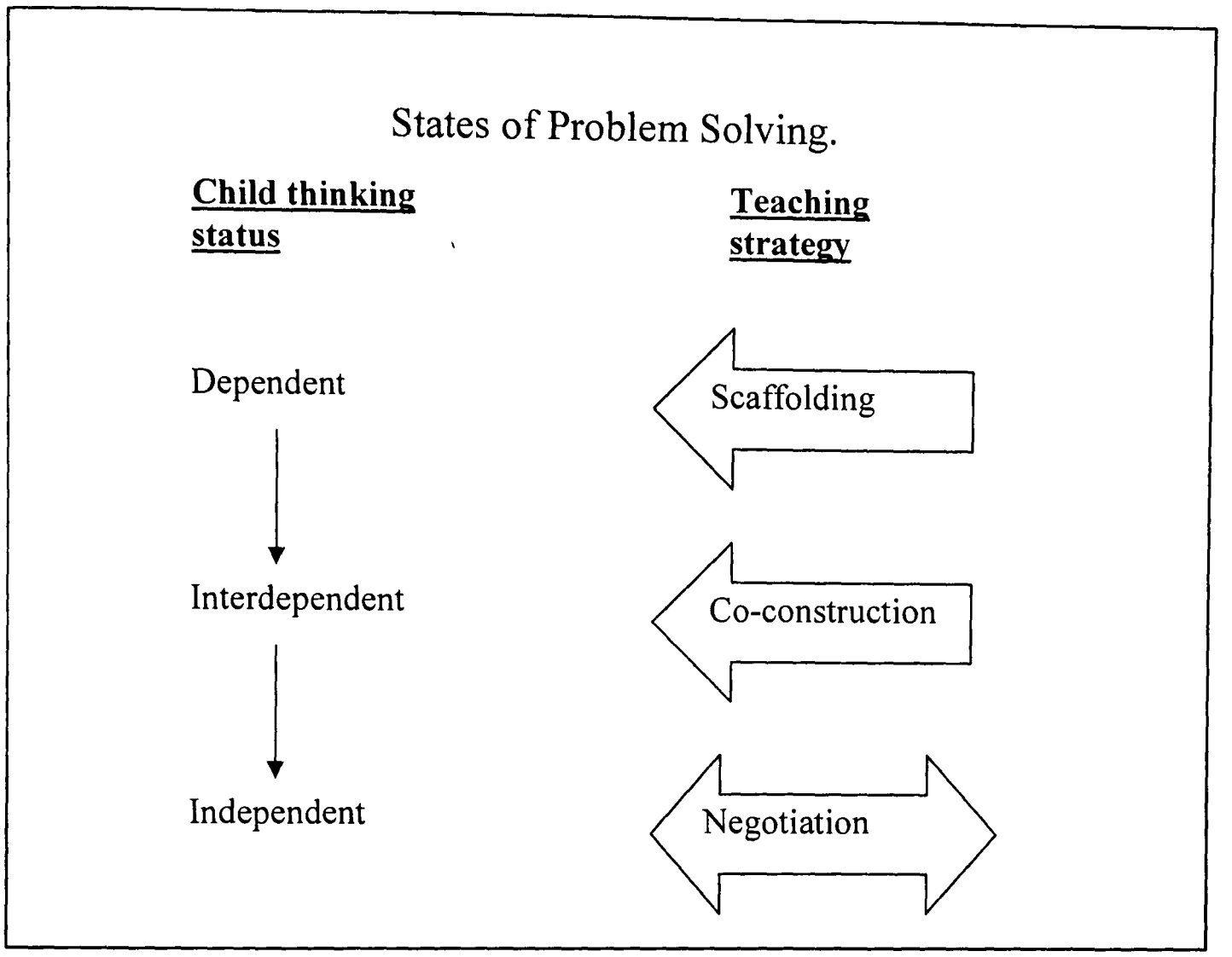
Model 2
The Negotiation Frame



This visual expression of *negotiation* allows the idea of both people beginning the conversation on an equal power-footing with each contributing until the desired outcome is reached. This could only happen if there is recognition that both have a valued cultural history and from this equally valid ideas to contribute. This understanding along with the skills suggested by Forsyth (1991) and Fisher and Ury (1982) provide the platform for a teaching strategy of *negotiation*.

An unexpected connection was able to be made from the interview with participant one from centre two in relation to how teaching strategies I have been investigating could support teachers to deliberately lead a child to an independent thinking ability. This teacher discussed the concept of children moving from a state of dependence to interdependence through to independence. This process was a goal for the teachers at this centre as all children were perceived as being competent. The question was asked as to how they did this. What were their teaching strategies? With the new definition of *negotiation* it seemed obvious that there was a clear three-stage process. By considering the balance of power it would appear that in order to move the child from a thinking or problem solving state of dependence to one of independence the teacher could be using the process of scaffolding, at the initial *dependence* level where *instruction* is the mediation process and the less knowledgeable person depends on the more knowledgeable to tell them what to do and where there is an agreed outcome, to co-construction and the development of *interdependence* where there is greater emphasis by the teacher on empowering the child, both relying on each other for mutual assistance and no clear outcome, to *negotiation* where both participants have equal power at both the beginning and end of the problem solving situation with both feeling free from being controlled in any way, are confident and capable of being *independent* thinkers but with an agreed outcome. The following diagram depicts this explanation as a 'problem solving thinking' model based on power:

Model 3
States Of Problem Solving Based On The Balance Of Power Between The Teacher And Child.



Although I have modelled this as a staged process there would be different entry points depending on what it was the child was wanting to resolve. For instance, if it was a brand new situation for the child as in learning to climb a ladder, *instruction* within a scaffold process would prevail. However, if it was a situation where the child was experienced in managing the wooden blocks and one kept tipping over, the child and the teacher could use the *negotiating* strategy to resolve the problem. This discovery was important and only surfaced because of the interplay between reflection and data enjoyed by case study design. Although all teaching strategies within this model have the same outcome of

'independent thinkers,' the processes of how these states of independent thinking are reached, are the points of difference.

5.5 Summary

This chapter has presented the findings from the analysis of each of the two sets of data, observations and interviews. Also it has presented and discussed in relation to the literature a summary of the main findings emerging from the two data sets. This study now moves to the final chapter where conclusions are drawn, recommendations are made and further research identified.

CHAPTER VI

Conclusions

6.0 Introduction

This chapter begins by providing a summary of the previous chapters. It then reiterates the research questions and summarises how the study has answered these. Conclusions are drawn and the significance of the study is described. Limitations of the study follow with the possibilities for further research being identified. The value this study could have on early childhood education teaching strategies involving problem solving is also identified.

6.1 Summary of Previous Chapters.

The study began (Chapter 1) with an overview which outlined the unfolding of the exploration of the research question. A rationale was provided which included factors influencing the direction of the study. These were identified as the importance of the social cultural theory on which curricular for early years education in both England and in New Zealand were established; the value the training of teachers placed on students having good problem solving skills and the learning from piloting observations of children and interviewing of teachers with one particular observation of the child in a position of legitimate peripheral participation. This observation and a question posed by Daniel (2001) led me to the different viewpoints on scaffolding and whether the teacher instructs or

negotiates within this process. Reading literature around various teaching strategies further highlighted the direction to be taken in the investigation with this initial chapter concluding with a current assessment of political influences apparent in this sector of the education system in both countries. Through a critique of the literature the second chapter provided an analysis of the literature concerned with the major components and issues related to thinking skills and their teaching with young children. The importance of metacognition and the use of this self-regulatory mode of behaviour in the development of thinking skills for independent thinkers and problem-solvers was followed by a discussion of the impact of the knowledge we now have on the structure and development of the brain, the influence of teacher beliefs on their practice and play as a vehicle for problem solving. These first sections of the literature review, provided the unseen motivators for the strategies teachers use to promote problem solving with children. It was in this section that the literature about the teaching strategies of scaffolding, instruction and negotiation, the three key words being explored in this study were identified. Co-construction required a brief inclusion as it is a key strategy when advancing the thinking of children in a socio- cultural environment. Chapter three provided an explanation of the methodology, the case study, with the underpinning drive of constructivism having an influence on the processes employed for an analysis of observations and interviews which were the methods for the gathering of data. Ethical considerations were discussed along with information about the context of the study and the participants involved. The analysis of the data and the results from this analysis

comprised chapter four, with chapter five providing the findings and a discussion of these.

6.2 The Research Question

This study investigated *the relationship between the beliefs of early childhood education teachers and their use of instruction and negotiation in relation to the scaffold process.* From this focus, specific research questions followed. These were:

-Are teachers aware of the congruency between their beliefs and teaching strategies?

-Why is negotiation not referred to as a teaching strategy?

-Can the word negotiation be defined within the aegis of early childhood education?

-Does negotiation fit within a scaffold process?

-Is it possible for the process of negotiation to be a teaching strategy?

All these questions were answered through the study with the first question leading through to the following four questions. These answers are now summarised.

Although teachers understood the need for congruency between their beliefs and practice the observations exposed that this was not always the practice in reality; the questions which followed focussed on the word *negotiation* and it was the

process of this study which enabled it to be understood that although teachers used the word *negotiation* in terms of a strategy it emerged that several were confusing it with instruction and indirect questioning, and co-construction; the literature and the data gathering methods had not defined *negotiation* as a teaching strategy. However within this study *negotiation* as a teaching strategy was defined with evidence that this was possible within the socio-cultural beliefs integral within an early childhood centre; the study also provided evidence that *negotiation* could not be the mediation used within scaffolding because the basic premise of scaffolding was one of support and guidance with one person holding more power than the other whereas the definition of *negotiation* was based on both problem solvers holding equal power. These answers to the research questions gave rise to five conclusions which are now considered fully.

6.3 Conclusions Drawn from the Research

A first conclusion is that of a model of a negotiating process which could be used as a teaching strategy. This is the most important conclusion from my perspective. Although this study explored and observed *negotiation* as a teaching strategy few teacher participants understood it as a word which needed defining although other teaching strategies such as scaffolding, co-construction, and empowerment all had specific teaching strategy definitions (MacNaughton & Williams, 2004). The word *negotiation* was used by teachers but they did not connect the word to a definition within their teaching strategies in their practice.

Therefore it had been difficult to understand how the teacher participants were interpreting *negotiation* when they used it to describe some of their practices. The data, literature and the socio-cultural theory combined to conclude that *negotiation* could not fit into the scaffold process because of the 50/50 power sharing required for *negotiation* to succeed.

From this study a definition of negotiation can only work if teachers uphold a strong belief in the ability to see a child as an equal. My argument is that by understanding and valuing every individual's socio-historical and cultural unique interpretation of their past experiences, the teaching strategy of negotiation could be successful. This requires the teacher to understand the equal sharing of power and in this study that is related to problem-solving. Although I have a few examples of an adult having an equal sharing of power with a child in certain situations I do not think it will be seen by some teachers as possible. However, unless they can achieve an acceptance and understanding of equal power sharing with a child, this would be the major limitation to my developing understanding of negotiation as being a viable teaching strategy. A child will often have little difficulty in perceiving her ability to have equal power with another child and I have provided evidence of this.

The second conclusion is that there is a relationship amongst scaffolding, *instruction* and the types of questions used within an *instruction*. Scaffolding and instruction are integral. Although this was a known factor the main limitation was

that there was insufficient awareness of what the word *instruction* encompassed when applied or discussed within the scaffold process, and the power of the teacher's question within *instruction* to either advance a child's thinking through the use of open questions which had the associated high quality level of question or not advance the child's thinking through the use of *instruction* which had the associated low level question within it.

Scaffolding was the recognised process in which *instruction* was observed although teachers varied in the emphasis they placed on *instruction* with some teachers preferring to use the term 'guiding the children.'

The third conclusion confirmed there was a relationship between what teachers believed and what they practiced. Although teacher participants held similar beliefs there was sometimes disparity in how these were interpreted. This was apparent when discussing the use of power and teacher participants' interpretation of this. Pajares (1992) refers to this as the teachers' poor conceptualisation of beliefs. This aspect was a clear limitation on making any definite statement about beliefs and practice as there was no time taken to explore whether the definitions of the words the teachers used influenced what they understood; for example the use of guided participation which several teachers used in their linking with sharing power with the child. It was also clear that this disparity between the practice and beliefs was because of the confusion around the definition of the teaching strategies.

The fourth conclusion is that there is a place for a model where different states of problem solving thinking can be connected to different teaching strategies. This conclusion was drawn from the thought that through association the states of dependent thinking, interdependent thinking and independent thinking could each be connected to a particular teaching strategy based around the balance of power between the teacher and the child. These can be seen as graded from dependent with the teaching strategy of *instruction* via the scaffold process, the power held by the teacher or more expert person; interdependent and the strategy of *co-construction* where the greatest empowerment is given to the less knowledgeable; and finally an independent thinking state where *negotiation* is used with both the child and the teacher having equal power. It could also be perceived that these states of problem solving thinking and their associated teaching strategies could be used separately. For example if the child had a lot of experience playing with blocks she could be an independent thinker who could use *negotiation*. However this same child could be dependent and need *instruction* when the play involved screen printing, this being a new experience for her. A possible limitation here is that of belief by the teacher that she could *negotiate* with a child where there was an equal sharing of power.

The fifth conclusion is that around the discourse within early childhood education. I conclude that the words which define different teaching strategies are not being used because they are not always understood. The confusion surrounding this

terminology that is shown in the literature also was shown in my study. Thus, I suggest that the discourse is becoming more complicated but also that it is leading to a deeper understanding of the effect the level of teachers' knowledge and beliefs may have on the variety of learning opportunities they provide for children. Some evidence is beginning to emerge but this does need to be thought about as more early childhood teachers undertake advanced research programmes which will bring with them an increase in the detail of knowledge. From this position the long term effect could be that of pushing parents further and further away from the early childhood context of learning because of the refined and detailed discourse.

6.4 Limitations of the Research Design

Case study was a useful approach as I believe the investigation fulfilled the requirements for such a process to succeed. While the general advantages and limitations of the case study research have been identified in Chapter 3 undertaking a case study approach has prompted a critical evaluation of some specific technical aspects which are explored below.

The multi-layered complexity of the process required a concentrated focus which I found limiting although at the same time understanding the need to set some boundaries on the study. Time of course was the major limit as the opportunities to gather data were constrained because of my full time employment. It would have been helpful to return to the centres to gather more examples of what I

eventually defined as the teaching strategy of *negotiation* and also to carry out a greater number of interviews; but this was not possible within the time frame available.

I had not anticipated the limits set by the participants when it came to discussing the theory of their practice and their understanding of some of the early childhood discourse such as *negotiation.* This aspect of control by the participants had a major influence on the depth of the information gathered during the interviews and this was reflected in their practice. In sharp contrast were the cutting edge skills of other teachers in their practice and their ability to discuss in some depth the theory or reasoning for their practice. This was especially apparent when observing some teachers being highly skilled in taking a lead from a child and never changing any decisions the child made over a significant period of time: for example over an hour while working intensely with the child.

Although participants said they felt comfortable being observed and interviewed I do wonder if my presence did add some tension to the situations not only because of what I was doing but in terms of their responsibilities as teachers as all interviews and observations were carried out in the work place during work time. Staff would have been conscious that because they were not there to carry out their particular share of the teaching responsibilities there may have been children and staff needing assistance. However not one staff member mentioned this as a limitation and always seemed keen to help me in any way possible.

Although the data gathering methods had been trialled during the pilot programme processes of analysis had not been trialled. If this had been accomplished I may not have used 'template analysis' as an additional analytical process as it did not provide deeper information as had been expected.

I had a difficulty keeping a focus on the critical question and selecting the appropriate direction to take. This was especially apparent in the final analysis of the findings when it was understood that the defining of *negotiation* had taken priority as a focus for the study. The findings also highlighted the need to have defined and discussed in greater detail two further additional words; those of empowerment and co-construction. I needed to have defined *empowerment* as my research could be questioned in relation to how I had interpreted *negotiation* as being an equal power-sharing situation between an adult and child when it would appear logical that the adult would have more power and control. The need to discuss *co-construction* in greater depth because of its deep level of empowerment for the child was also evident.

An unexpected influence was interviewing staff six weeks after the observations. During that six weeks the centre one group of teachers were reviewing their centre philosophy and practice having understood that their disparate views were affecting the quality of their teaching. This six week period of time limited any element of synchrony occurring although a positive aspect was that for this

situation the practice was not compromised by any discussions occurring around the teaching team's development of new teaching policies which included the need for coherence between practice and espoused beliefs.

Although the choice and size of the participants' group was justified, it might be that with a larger sample size the findings would have emerged differently.

A final and probably the greatest influence of all was that of my own biases when interpreting what I saw, heard and read. It could have limited the openness I would have had to the findings because of my own thinking and as a consequence limited my findings and the rationales I created.

6.5 The Significance of the Study

In spite of the above limitations the study has proved meaningful in several ways. It has provided a definition for the word *negotiation* as a teaching strategy and this could be seen as significant because of the frequency with which the word is used in early childhood education literature in relation to discrete situations such as 'the negotiated curriculum' and by teachers when describing a teaching strategy they think they employ within their repertoire of teaching children. However the evidence gathered from observing teachers suggests that this latter interpretation of *negotiation* as a teaching strategy is far more closely aligned with the definition of co-construction which Jordan (2004) suggests is a process where there are no prescribed outcomes and where the teacher is at her most

empowering of the child. This current research did identify that the discourse used in early childhood education in relation to teaching strategies was loosely referred to and inaccurate when analysed against their observed behaviour with only those teachers who could clearly identify their beliefs about teaching understanding the significance of the power relations within the teaching strategies under scrutiny and applying the more accurate teaching strategy label.

Data regarding the beliefs of early childhood education teachers and their use of *instruction* and *negotiation* and scaffold found that there was some congruency amongst *all* the teachers and what they believed in terms of current knowledge about teaching: this finding being similar to McLauchlan-Smith and St. George (2000) and their research where teachers were able to describe a similar theory of practice which Bakhtin (1981) referred to as a speech genre underpinned by a similar belief in constructivism and Fang's (1996) theory supporting the notion evident in this research, of the context having a powerful influence on teacher beliefs and their application to practice.

I believe two of the subsequent questions have been answered. However, the question about 'why negotiation had not been referred to as a teaching strategy' I can only surmise that nobody had identified this gap in the definitions within early childhood education pedagogy.

6.6 Future Research

The findings of this study suggest further research is necessary. A key focus for future study would be to explore the validity of *negotiation* as a teaching strategy which has both the teacher and the child or two or more children being able to move through a problem solving process where all participants have equal power. Although I have examples of this occurring they are too few to come to any significant conclusion other than such a process is possible. The critical question with this research would be whether having a socio-cultural perspective is sufficient for such an equal power sharing of meaning.

Another study could investigate the terminology used within early childhood discourse with specific reference to teaching strategy labels and the connection of these with the ability of teachers to express the beliefs which drive their practice. This research focus would need to ask if it is the context and its beliefs and structures which effect teachers' abilities to understand what they say they do and which would enable the congruency with their practice.

On reflection, because of the emphasis on 'power relations' within the teaching strategies investigated, critical research methodology may provide an opportunity for a greater depth of acknowledgement of the power relations within these strategies. The emphasis on this design for its ability to transform society to be more equitable (Cohen, Manion & Morrison, 2000) which is much discussed in early childhood education, could be sufficient to investigate processes teachers

use to support this desired goal of children being equal and being respected for their own interpretation of their experiences as much as that of the teacher's.

The definitions of the strategies need to be explored amongst countries which profess to use instruction and co-construction and to discover whether they see *negotiation* as a viable strategy to complete the 'problem solving thinking' model connected to the three states children may find themselves. The rationale for such a study could be to compare interpretations and the closeness in thinking amongst countries as we continue to develop our understanding of the 'global village' concept of the world and the ability of the future generation to work internationally with a common core of skills and understanding.

6.7 Overall Conclusion

This study investigated the relationship between the *beliefs* of teachers and their use of teaching strategies, instruction and negotiation in relation to the scaffold process. In conclusion it showed that teachers had an awareness of the need to have a congruency between their beliefs and practice but for most the confusion around their definitions of teaching strategies they used mitigated against their ability to fit their practice and beliefs together. For those teachers with clearly defined beliefs this was not an issue as the teaching strategies were discussed in ways which demonstrated an understanding of application to their practice.

Negotiation was explored and it was clear that once defined as a teaching strategy it could not be used within the scaffold process. *'Instruction'* was the mediation applied to this particular process because of the understanding of the power balance when any teaching strategy was used. *Negotiation* as a teaching strategy was the only one which could have an equal power base between two people as the other strategies considered of instruction and co-construction were related to 'empowerment.' From these understandings developed a model where teaching strategies and states of thinking could be directly linked: instruction with dependent thinking, co-construction with interdependence and negotiation with independence. The strength of this model lies in its ability to refine the practice of teachers in relation to individual children and their state of thinking around a particular skill or understanding they were exploring.

6.7.1 Personal Reflection

A sense of both satisfaction and dissatisfaction concludes this investigation: satisfaction in that concepts emerged which could provide some new thinking for those dedicated to improving their early childhood practice and excitement that new connections and ideas continued to emerge throughout the investigation which I could use to challenge the early childhood teacher education students I was teaching. This was an ideal situation for an early childhood lecturer as I could model the presentation of dilemmas or different understandings for which I genuinely had no answer. Thus a process was used where together we could *negotiate* either a further question or a range of responses. This focus on the

way we use words in early childhood education finds support when Farquhar (1999) comments on the trend in our understanding of *quality* requiring that we introduce more precise terminology "focused on what we actually mean" (p. 7) rather than a single definition or universal construct. Of course the argument arose that the more precise we become with the definitions of words the more likely it is we could exclude and disempower those *who are not in the know.* Any dissatisfaction felt related to the continuing surfacing of ideas and the lack of time to take a closer look at them, as all seemed integral to the current investigation.

Now this is not the end.

It is not even the beginning of the end.

But it is perhaps the end of the beginning.

Winston Churchill (1874-1965)

REFERENCES

Abelson, R. (1979). Differences between belief systems and knowledge systems. *Cognitive Science,* 3, 355-366.

Adelman, C., Kemmis, S., & Jenkins, D. (1980). Rethinking case study: notes from the second Cambridge Conference. In H. Simons (Ed.), *Towards a Science of the Singular* (pp. 45-61). England: Centre for Applied Research in Education, University of East Anglia.

Allan, G. (2003). *A critique of using grounded theory as a research method.* Department of Information Systems and Computer Applications, Portsmouth University. **Retrieved November 10, 2005, from http://www.ejbrm.com**

Alpay, E. (2003). *The Contribution of Vygotsky's Theory to our Understanding of the Relation Between the Social World and Cognitive Development.* Department of Chemical Engineering and Chemical Technology, Imperial College of Science, Technology and Medicine, Prince Consort Road, London. **Retrieved December 12, 2004, from http://www.ce.ic.ac.uk/common-room/files/PsychEd_5.pdf.**

Anning, A. (1988). Teachers' theories about children's learning. In J. Calderhead (Ed.), *Teachers' Professional Learning* (pp. 128-145). London: Falmer.

Argyris, C., & Schon, D. (1974). *Theory in Practice: Increasing Professional Effectiveness.* San Francisco: Jossey-Bass.

Arthur, L., Beecher, B., Dockett, S., Farmer, S., & Death, E. (2005). *Programming and Planning in Early Childhood Settings.* (3rd. ed.). Sydney: Harcourt Brace and Company.

Bakhtin, M. (1981). *The Dialogic Imagination: Four Essays.* M. Holquist (ed.); translated by C. Emerson and M. Holquist, Austin: University of Texas Press.

Barell, J. (2003). *Developing More Curious Minds.* Alexandria, VA: Association for Supervision and Curriculum Development.

Bassey, M. (1999). *Case Study in Educational Settings.* Buckingham: Open University Press.

Beauvais, N., & Scholl, R. (1995). *A Self Concept Based Model of Work Motivation.* Presented at the Annual Meeting of the Academy Management. **Retrieved October 10, 2005, from *http://www.cba.uri.edu/Scholl/Notes/Self_Concept_Model.html***

Belsky, J. (1992). Consequences of child care for children's development: A deconstructionist view. In A. Booth (Ed.), *Child Care in the 1990s: Trends and Consequences* (pp. 83-85). Hillsdale, NJ: Erlbaum.

Benson, M. (1999). I don't think I can do it; I can't work it out for myself. *UNESCO International Education Newsletter.* 24, 4.

Bergen, D., & Coscia, J. (2001). *Brain Research and Childhood Education: Implications for Educators.* Olney, MD: Association for Childhood Education International.

Bergen, D. (2002). The role of pretend play in children's cognitive development. *Early Childhood Research & Practice,* 4(1), 1-13.

Berk, L. (1992). Children's private speech: an overview of theory and the status of research. In R. Diaz & L. Berk (Eds.), *Private Speech: From Social Interaction to Self Regulation.* Hillsdale: Lawrence Erlbaum Associates.

Berk, L. (2004). *Development Through the Lifespan.* (3rd ed.). Boston: Allyn and Bacon.

Berk, L., & Spuhl, S. (1995). Maternal interaction, private speech, and task performance in pre-school children. *Early Childhood Research Quarterly,* 10, 145-169.

Berk, L., & Winsler, A. (1995). *Scaffolding Children's Learning: Vygotsky and Early Childhood Education.* Washington: National Association for the Education of Young Children.

Bjorklund, D., Hubertz, M., & Reubens, A. (2004). Young children's arithmetic strategies in social context: How parents contribute to children's strategy development while playing games. *International Journal of Behavioral Development*, 28, 289-298.

Bjorklund, D. (2005). *Children's Thinking.* (4th ed.). USA: Thomson Wadsworth.

Blaikie, N. (1993). *Approaches to Social Enquiry.* Cambridge: Polity.

Blunden, R. (1999). Vocational Education and Training and Conceptions of the Self. *Journal of Vocational Education and Training,* 51(2), 165-184.

Bodrova, E., & Leong, D. (1996). *Tools of the Mind: The Vygotskian Approach to Early Childhood Education.* Columbus, OH: Merrill.

Bower, T. (1974). *Development in Infancy.* San Francisco: Freeman.

Bowman, B., Donavan, M., & Burns, M. (Eds.). (2001). *Eager to learn: Educating our Preschoolers.* Washington, DC: National Academy.

Britz, J. (1993). *Problem Solving in Early Childhood Classrooms.* ERIC, ED355040.

Brown, C., & Cooney, T. (1982). Research on teacher education: A philosophical orientation. *Journal of Research and Development in Education,* 15(4), 13-18.

Brown, A., Bransford, J., Ferrara, R., & Campione, J. (1983). Learning, remembering and understanding. In J. Flavell & E. Markman (Eds.), *Cognitive development,* 3, of P. Mussen, (Ed.), *Handbook of Child Psychology (*pp.77-166). New York: Wiley.

Browning, L., Davis, B., & Resta, V. (2000). 'What do you mean "think before I act?": conflict resolution with choices,' *Journal of Research in Childhood Education,* 14(2), 232-238.

Brownlee, J., Thorpe., K., & Phillip, S. (2005). Improving learning and teaching in early childhood teacher education: A focus on personal epistemology. Proceedings of *HERDSA*, Sydney: Australia.

Bruer, J. (1999). *The Myth of the First Three Years.* New York: The Free Press.

Bruner, J. (1978). Learning to do things with words. In J. Bruner & A. Garton (Eds.), *Human Growth and Development.* Oxford: Clarendon Press.

Bruner, J. (1997). Celebrating divergence: Piaget and Vygotsky. *Human Development,* 40, 63-73.

Buchmann, M. (1984). The use of research knowledge in teacher education and teaching. *American Journal of Education,* 93, 421-439.

Burns-Hoffman, R. (1993). Scaffolding children's informal expository discourse skills.

In *Biennial Meeting of the Society for Research in Child Development,* New Orleans: ERIC.

Chaiklin, S. (2003). The Zone of Proximal Development in Vygotsky's analysis of learning and instruction. In A. Kozulin, B. Gindis, V. Ageyev & S. Miller (Eds.), *Vygotsky's Educational Theory in a Cultural Context* (pp.39-64). Cambridge: Cambridge University Press.

Chamaz, K. (2000). Grounded theory objectivist and constructivist methods. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research* (pp.509-535). Thousand Oaks, CA: Sage.

Charlesworth, R., Hart, C., Burts, D., & Hernandez, S. (1991). Kindergarten teachers' beliefs and practices. *Early Child Development and Care,* 70, 17-35.

Chomsky, N. (1957). *Syntactic Structures.* The Hague: Mouton.

Chomsky, N. (1972). Stages in language development and reading exposure. *Harvard Educational Review,* 42, 1-33.

Clark, C. (1988). Asking the right questions about teacher preparation: Contributions of research on teaching thinking. *Educational Researcher,* 17(2), 5-12.

Coffey, A., & Atkinson, P. (1996). *Making Sense of Qualitative Data.* Thousand Oaks: Sage.

Cohen, L., & Manion, L. (1989). *Research Methods in Education.* (3rd ed.). London: Routledge.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research Methods in Education* (5th ed.). London: Routledge Falmer.

Conner, D., Knight, D., & Cross, D. (1997). Mothers' and fathers' scaffolding of their 2 year olds during problem solving and literacy interactions. *British Journal of Developmental Psychology,* 15, 323-338.

Coplin, R., Gavinski-Molina, M., Lagace-Seguin, D., & Wichmann, C. (2001). When girls versus boys play alone: Non social play and adjustment in kindergarten. *Developmental Psychology*, 37(4), 464-474.

Costello, P. (2000). *Thinking Skills and Early Childhood Education.* London: David Fulton.

Cresswell, J. (1998). *Qualitative Inquiry and Research Design Choosing Among Five Traditions.* London: Thousand Oaks.

Crotty, M. (1998). *The Foundations of Social Research.* Australia: Allen & Unwin.

Crowley, K., & Seigler, R. (1999). Explanation and generalization in young children's learning strategy. *Child Development,* 70(2), 304-16.

Cullen, J. (1991). Metacognition and the young learner. *Australian Journal of Reading,* 14(4), 339-348.

Cullen, J. (2000). The early years conceptual issues and future challenges. *New Zealand Research in Early Childhood Education*, 3.

Cullen, J., Hedges, H., & Bone, J. (2005). *Planning, Undertaking and Disseminating Research in Early Childhood Settings: An Ethical Framework.* New Zealand: Childforum's Early Childhood Research Network.

Curran, J. (2000). Constraints of pretend play: Implicit and explicit rules. *Journal of Research in Childhood Education,* 14(1), 47-55.

Daniels, H. (2001). *Vygotsky and Pedagogy.* London: Routledge Falmer.

David, T. (1990). *Under Five-Under-Educated?* Milton Keynes: Open University Press.

Davidson, C., & Tolich, M. (2003). Charting research design. In M. Davidson & C.

Tolich (Eds.), *Social Science Research in New Zealand* (2nd ed.). New Zealand: Pearson.

Denzin, N., & Lincoln, Y. (2000). The discipline and practice of qualitative research. In N. Denzin & L. Lincoln (Eds.), *The Handbook of Qualitative Practice* (2nd ed.). Thousand Oaks, CA: Sage.

Denzin, N., & Lincoln, Y. (2005). Epilogue: The Eighth and Ninth Moments-Qualitative Research in/and the Fractured Future. In N. Denzin & L. Lincoln (Eds.), *Handbook of Qualitative Research*. (3rd ed.). Thousand Oaks, CA: Sage.

Diaz, R., Winsler, A., & Montero, I. (1994). *The Role of Private Speech in the Transition from Collaborative to Independent Task Performance.* Stanford, California: Typescript.

Dixon-Krauss, L. (1995). Partner reading and writing-peer social dialogue and the zone of proximal development. *Journal of Reading Behaviour*, 27 (1), 45-63.

Dewey, J. (1933). *How We Think.* Boston: D. C. Heath.

Dewey, J. (1938). *Experience and Education*. New York: Macmillan.

Drummond, M. J. (1999). Another way of seeing. In L. Abbott, & H. Moylett (Eds.), *Early Education Transformed.* London: Falmer.

Duffy, G. (1982). Fighting off the alligators: what research in real classrooms has to say about reading instruction. *Journal of Reading Behaviour,* 14, 357-73.

Duffy, G., & Ball, D. (1986). Instructional decision making and reading teacher effectiveness. In J. Hoffman (Ed.), *Effective Teaching of Reading: Research and Practice.* Newark, Del.: IRA, 163-60.

Duffy, G., & Anderson, L. (1984). Teachers' theoretical orientations and the real classroom. *Reading Psychology,* 5, 1-2, 97-104.

Edwards, A., & Knight, P. (1994). *Effective Early Years Education: Teaching Young Children.* Milton Keynes: Open University Press.

Egeland, B., & Hiester, M. (1995). The long-term consequences of infant day-care and mother-infant attachment. *Child Development*, 66, 474-485.

Erikson, E. (1950). *Childhood and Society.* New York: Norton.

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research,* 38, 1, Spring.

Farquhar, S. (1999). *Research and the Production of 'Worthwhile' Knowledge about Quality in Early Years Education.* Paper presented at AARE-NZARE conference, Melbourne, Australia, December.

Fisher, E. (1992). The impact of play on development: A meta-analysis. *Play and Culture,* 5(2), 159-181.

Fisher, R. (*1990*). *Teaching Children to Think.* Cheltenham, UK: Stanley Thornes.

Fisher, R. (2002, September 13). Deviation is the key to progress. *Times Educational Supplement.* p.19.

Fisher, R. (2005). *Teaching Children to Think* (2nd ed.). Cheltenham: Nelson Thomas

Fisher, R., & Ury, W. (1982). *Getting to Yes.* UK: Business Books.

Flavell, J. (1976). Metacognition and cognitive monitoring: A new era of psychological inquiry. *American Psychologist,* 34, 906-924.

Fleer, M. (2003). Early childhood education as an evolving 'community of practice' or as lived 'social reproduction': researching the 'taken-for-granted.' *Contemporary Issues in Early Childhood,* 4(1), 64-79.

Fleer, M., & Robbins, J. (2006). Working in the zone: new insights into the Zone of Proximal Development. In M. Fleer, S. Edwards, M. Hammer, A. Kennedy, A Ridgway, J. Robbins & L. Surman, (Eds.), *Early Childhood Learning Communities. Sociocultural Research in Practice.* NSW. Australia: Pearson Education.

Flick, U. (1998). *An Introduction to Qualitative Research: Theory, Method and Applications.* London: Sage.

Forman, G. (1996). Design, Documentation and Discourse: Cornerstones of Negotiated Curriculum. Paper presented to the *Weaving Webs: Collaborative Teaching and Learning in the Early Years Curriculum Conference.* Melbourne, July.

Forsyth, P. (1991). *How to Negotiate Successfully.* London: Sheldon.

Foster, P. (1996). Observational Research. In R. Sapsford, & V. Jupp (Eds.), *Data Collection and Analysis.* London: Sage.

Garnham, A., & Oakhill, J. (1994). *Thinking and Reasoning.* Oxford: Blackwell.

Gearing, B., & Dant, T. (1990). Doing biographical research. In S. Peace (Ed.), *Researching Social Gerentology: Concepts, Methods and Issues.* London: Sage.

Gee, J. (2000). The new literacy studies: from 'socially situated' to the work of the social. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), *Situated Literacies: Reading and Writing in Context.* London: Routledge.

Gillen, J. (2000). Listening to young children talking on the telephone: a reassessment of Vygotsky's notion of 'egocentric speech.' *Contemporary Issues in Early Childhood,* 1(2), 171-184.

Gillham, B. (2000). *Case Study Research Methods.* New York: Continuum.

Gipps, C., McCallum, B., & Brown, M. (1999). Primary teachers' beliefs about teaching and learning. *The Curriculum Journal,* 10(1), 123-134.

Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research.* Chicago: Aldine.

Glaser, B. (1992). *Basics of Grounded Theory Analysis.* USA: Sociology Press.

Gold, K. (2002, 14 June). Thinking the next big idea... *Times Educational Supplement.* p. 24.

Gomm, R., Hammersley, M., & Foster, P. (2000). Case study and generalisation.

In R. Gomm, R., M. Hammersley & P. Foster (Eds.), *Case Study Method.* Thousand Oaks: Sage.

Guha, M. (1996). Play in School. In G. Blenkin & A. Kelly (Eds.), *Early Childhood Education* (2nd ed.). London: Paul Chapman.

Habermas, J. (1976). *Legitimation Crisis (*trans. T. McCarthy). London: Heinemann.

Hanks, F. (1991). Forward by F. Hanks. In J. Lave, & E. Wenger, *Situated learning Legitimate Peripheral Participation.* UK: Cambridge University Press.

Hardie, B-J. (2002). Challenging developmental theory in early childhood education. *NZ Research in ECE,* 5, 123-131.

Harris, V. (2000). A unique pedagogical project contextualized within a children's art exhibition. *Contemporary Issues in Early Childhood,* 1(2), 153-70.

Haywood, C. (1997). Thinking as an educational imperative. *Special Children,* 100, 24-7.

Hedges, H. (2003). Teaching and learning: Theories that underpin 'wise' practice in Aotearoa/New Zealand. *Early Education*, 31, Autumn.

Huot, J. (1998). Understanding thought processes for improved teaching of thinking. *The Learning Resource.* **Retrieved 28 February 2000 from http://foxnstn.ca/~huotmodel-tk.html**

Hyson, M., Hirsh-Pasek, K., & Rescorla, L. (1990). The classroom practices inventory: An observation instrument based on NAEYC's guidelines for developmentally appropriate practices for 4- and 5-year-old children. *Early Childhood Research Quarterly,* 5, 475-494.

Isenberg, J., & Jalongo, M. (2001). *Creative Expression and Play in Early Childhood.* (3rd ed.). New Jersey: Merrill Prentice Hall.

Jayaratne, T., (1993). The value of quantitative methodology for feminist research. In M. Hammersley (Ed.), *Social Research: Philosophy, Politics and Practice.* London: Falmer.

Johnson, D., & Johnson, R. (1989). *Cooperation and Competition: Theory and Research.* Edina, MN: Interaction.

Jordan, B. (2004). Scaffolding learning and co-constructing understandings. In A. Anning, J. Cullen & M. Fleer (Eds.), *Early Childhood Education Society and Culture* California: Thousand Oaks.

Katz, L., & Raths, J. (1985). Dispositions as goals for teacher education. *Teaching and Teacher Education,* 1(4), 301-307.

Kennedy, M. (1997). *Defining an Ideal Teacher Education Programme.* Washington, DC: National Council for the Accreditation of Teacher Education.

King, N. (1998). Template analysis. In G. Symon, & C. Cassell (Eds.), *Qualitative Methods and Analysis in Organisational Research* (pp.118-134). London: Sage.

Kozulin, A. (2003). Psychological tools and mediated learning. In A. Kozulin, B. Gindis, V. Ageyev & S. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context.* Cambridge: Press Syndicate of the University of Cambridge.

Krafft, K. & Berk, L. (1998). Private speech in two preschools: Significance of open ended activities and make- believe play for verbal self-regulation. *Early Childhood Research Quarterly,* 13(4), 637-658.

Laevers, F. (1993). Deep level learning-an exemplary application on the area of physical knowledge. *European Early Childhood Education Research Journal,* 1(1), 53-68.

Laevers, F. (1994). *The Leuven Involvement Scale for Young Children LIS-YC. Manual and Video Tape, Experiential Education Series 1*, Leuven, Belgium: Centre for Experiential Education.

Lantolf, J. (2003). Intrapersonal communication and internalisation in the second language classroom. In A. Kozulin, G., Gindis, V.S., Ageyev, & Miller, S. (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 349-370). Cambridge University Press.

Lave, J., & Wenger, E. (1991). *Situated Learning Legitimate Peripheral Participation.* Cambridge: Cambridge University Press.

Lewis, H. (1990). *A Question of Values.* San Francisco: Harper & Row.

Lipman, M., & Sharp, A. (1979). Some educational presuppositions of P4C. *Thinking: The Journal of Philosophy for Children,* 1(2), 47-50.

Lipman, M. (1988). *Philosophy Goes to School.* Philadelphia: Temple University Press.

Lloyd, B., & Howe, N. (2003). Solitary play and convergent and divergent thinking skills in preschool children. *Early Childhood Research Quarterly,* 18, 22-41.

Lortie, D. (2002). *Schoolteacher: A Sociological Study.* Chicago: University of Chicago Press.

MacNaughton, G., Rolfe, S., & Siraj-Blatchford, I. (2001). *Doing Early Childhood Research International Perspectives on Theory and Practice.* Buckingham: Open University.

MacNaughton, G., & Williams, G. (2004). *Techniques for Teaching Young Children Choices in Theory and Practice.* Australia: Pearson.

MacLauchlan-Smith, J., & St. George, A. (2000). Children learn by doing: Teachers' beliefs about learning, teaching and literacy in New Zealand kindergartens, *New Zealand Journal of Educational Studies*, 35(1), 37-47.

Mangano, N., & Allen, J. (1986). Teachers' beliefs about language arts and their effects on students' beliefs and instruction. In J. Niles & R. Lalik (Eds.), *Solving Problems on Literacy: Learners, Teachers and Researchers.* Rochester, NY: National Reading Conference. 136-42.

Marcon, R. (1988, August). *Cluster Analysis: Creating Independent Variables in Evaluation Research.* Paper presented at the meeting of the American Psychological Association, Atlanta, Georgia.

Marshall, C., & Rossman, G. (1999). *Designing Qualitative Research.* Thousand Oaks: Sage.

May, H. (1996). *Discovery of Early Childhood.* New Zealand: Auckland University Press with NZ. Council for Educational Research.

Meade, A. (2000). *The Brain Debate*. Fullbright Lecture, Wellington, New Zealand.

Meade, A. (2002). Remembering knowing the moment cannot be repeated. *Childrenz Issues,* 6(2), 12-17.

McGuinness, C. (1999). *From Thinking Skills to Thinking Classrooms: A Review and Evaluation of Approaches for Developing Pupil's Thinking.* Nottingham: Department for Education and Employment Publications.

McKenzie, G. (1997). The age of reason or the age of innocence? In G. McKenzie, J. Powell & R. Usher (Eds.), *Understanding Social Research: Perspectives on Methodology and Practice.* London: Falmer.

Meadows, S., & Cashdan, A. (1988). *Helping Children to Learn: Contributions to a Cognitive Curriculum.* London: David Fulton.

Miles, M., & Huberman, M. (1994). *Qualitative Data Analysis.* (2nd ed.). London: Sage.

Ministry of Education. (1996). *Te Whaariki Early Childhood Curriculum.* New Zealand: Learning Media.

Ministry of Education. (2003). *Best Evidence Synthesis Iteration.* New Zealand Council for Educational Research.

Moll, L. (Ed.). (1990). Introduction. *Vygotsky and Education. Instructional Implications and Applications of Socio-Historical Psychology,* 1-27. Cambridge: Cambridge University Press.

Morrison, K. (1993). *Planning and Accomplishing School-Centred Evaluation.* Norfolk: Peter Francis.

Moss, P., & Penn, H. (1996). *Transforming Nursery Education.* London: Paul Chapman.

Moyles, J. (1989). *Just playing: The Role and Status of Play in Early Childhood Education*. Milton Keynes: Open University Press.

Mundy, H. (1982). The place of teachers' beliefs in research on teacher thinking and decision making, and an alternative methodology. *Instructional Science,* 11, 201- 225.

Munn, P. (2006). Mathematics in early childhood – The early years maths curriculum in the UK and children's numerical development. In *International Journal of Early Childhood,* 38(1), 99-111.

Murray, L., & Lawrence, B. (2000). *Practitioner-Based Enquiry.* London: Falmer Press.

Nash, M. (1997). Fertile Minds. In '*Time Life*,' Special Report, 149(5).

Nelson, C., Treichler, P., & Grossberg, L. (1992). Cultural studies: An introduction. In L. Grossberg, C. Nelson, & P. Treichler (Eds.), *Cultural Studies* (p.1-16). New York: Routledge.

Nespor, J. (1987). The Role of Beliefs in the Practice of Teaching. *Journal of Curriculum Studies,* 19, 317-328.

Newman, D., Griffin, P., & Cole, M. (1989). *The Construction Zone: Working for Cognitive Change in School.* Cambridge: Cambridge University Press.

Nisbet, J. (1993). The thinking curriculum. *Educational Psychology,* 13(3) 4, 281-290.

Nisbet, R., & Ross, L., (1980). *Human Inference: Strategies and Shortcomings of Social Judgement.* Englewood Cliffs, N.J: Prentice-Hall.

Nutbrown, C. (2006). *Key Concepts in Early Childhood Education and Care*. London: Sage.

Nuttall, J. (2004). Negotiating reality in early childhood curriculum: The social psychology of teaching as a group. *New Zealand Journal of Educational Studies*, 39(1), 44-53.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, Fall, 62(3), 307-332.

Papuesk, H. (1969). Individually variability in learned response to humans. In R. Robinson (Ed.), *Brain and Early Behaviour*. London: Academic.

Paris, S., Wasik, B., & Turner, J. (1991). The development of strategic readers. In R. Barr (Ed.), *Handbook of Reading Research.* New York: Longman.

Parten, M. (1932). Social Participation Among Preschool Children. *Journal of Abnormal and Social Psychology*, 27, 243-269.

Perkins, D. (1984). Creativity by design. *Educational Leadership*, 42, 18-25.

Piaget, J. (1926). *The Language and Thought of the Child.* New York: Harcourt, Brace & World.

Piaget, J. (1952). *The Origins of Intelligence in Children.* New York: International Universities Press.

Plumert, J., & Nichols-Whitehead, P. (1996). Parental scaffolding of young children's spatial communication. *Developmental Psychology,* 32, 523-532.

Posner, G., Strike, K., Hewson, P., & Gertzog, W. (1982). Accommodation a scientific conception: Toward a theory of conceptual change. *Science Education,* 66, 211-227.

Pramling, I. (1988). Developing children's thinking about their own learning. *British Journal of Educational Psychology,* 58, 266-278.

Prawat, R. S. (1992). Teacher's beliefs about teaching and learning: a constructivist perspective. *American Journal of Education,* 100(3), 354-395.

Pugh, G. (Ed.). (1996). *Contemporary Issues in the Early Years.* (2nd ed.). London: Paul Chapman.

Ranck, E. (2006). *Brain Scan Research: Phase Two*. (2006, April 25). **Retrieved 25 April , 2006, from exchangeeeveryday@ccie.com**

QCA. (2000). *Curriculum Guidelines for the Foundation Stage*. London: QCA.

Ramsey, P. (1987). *Teaching and learning in a Diverse World: Multicultural Education for Young Children.* Colombia: Teacher's College Press.

Rath, J. (2001). Teachers' beliefs and teaching beliefs, *Early Childhood Research and Practice,* Spring.

Resnick, L. (1987). *Education and Learning to Think.* Washington, DC: National Academy.

Robson, C. (2002). *Real World Research.* (2nd ed.). Malden, USA: Blackwell.

Roehler, L., & Duffy, G. (1991). Teachers' instructional action. In R. Barr, et al. (Eds.), *Handbook of Reading Research.* New York: Longman, 861-84.

Rokeach, M. (1968). *Beliefs, Attitudes and Values.* San Francisco: Jossey-Bass.

Rogoff, B. (1990). *Apprenticeship in Thinking: Cognitive Development in the Social Context.* New York: Oxford University Press.

Rogoff, B. (2003). *The Cultural Nature of Human Development.* New York: Oxford University Press.

Rogoff, B., Mistry, J., Goncu, A., & Moshier, C. (1993). Guided participation in cultural activity by toddlers and caregivers. *Monographs of the Society for Research in Child Development*, 58 (Serial No. 236).

Royal Tangaere, A. (1997). Maori Human Development Learning Theory. In P. Te Whaiti, M. McCarthy & A. Durie (Eds.). *Mai Rangiatea. Maori Wellbeing and Development.* Auckland: Bridget Williams Books.

Rubin, K., & Everett, B. (1982). Social perspective taking in young children. In *Young Child: Reviews of Research,* 3. S. G. Moore, & C. R. Cooper (Eds.). Washington, D.C: NAEYC.

Sandberg, A. & Pramling Samuelsson, I. (2003). Preschool teacher's play experiences then and now. *Early Childhood Research & Practice,* 5(1), 1-3.

Sawyer, R. (1997). *Pretend Play as Improvisation: Conversation in the Preschool Classroom.* Mahwah, NJ: Erlbaum.

SCAA. (1996). *Desirable Outcomes for Children's Learning.* London: DfEE/SCAA.

Schneider, W., & Bjorklund, D. (1992). Expertise, aptitude and strategic remembering. *Child Development,* 63, 461-473.

Schwandt, T. (1997). *Qualitative Inquiry a Dictionary of Terms.* Thousand Oaks, CA: Sage.

Schwandt, T. (2000). Three epistemological stances for qualitative inquiry interpretivism, hermeneutics and social constructionism. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research* (pp.189-213). Thousand Oaks, CA: Sage.

Scott, D., & Usher, R. (Eds.). (1996). *Understanding Educational Research.* London: Routledge.

Seefeldt, C. (1980). *Teaching Young Children.* New Jersey: Prentice Hall.

Seefeldt, C., & Barbour, N. (1986). *Early Childhood Education.* Toronto: Merrill.

Seifert, K. (1993). Cognitive development and early childhood education. In B. Spodek (Ed.). *Handbook of Research on the Education of Young Children.* New York: Macmillan.

Shavelson, R., Webb, N., & Burstein, L. (1986). Measurement of teaching. In M. Wittrock (Ed.). *Handbook of Research on Teaching* (pp. 50-91). New York: Macmillan.

Siegler, R. (1998). *Children's Thinking.* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Sigel, I. (1985). A conceptual analysis of beliefs. In I. Sigel (Ed.), *Parental Belief Systems: The Psychological Consequences for Children* (345-371). Hillsdale: NJ: Erlbaum.

Silverman, D. (1993). *Interpreting Qualitative Data.* London: Sage.

Simons, H. (1996). The paradox of case study. *Cambridge Journal of Education,* 26 (2), 225-40.

Siraj-Blatchford, I., Sylva, C., Muttock, S., Gilden, R., & Bell, D. (2002). *Researching Effective Pedagogy in the Early Years.* London: Department of Education and Skills.

Smilansky, S., & Shefataya, L. (1990). *Facilitating Play: A Medium for Promoting Cognitive, Socio-Cultural and Academic Development in Young Children.* Gaithersburg, MD: Psychosocial and Educational Publications.

Spodek, B. (1987). (Ed.). *Handbook of Research on the Education of Young Children* (pp. 50-91). New York: Macmillan.

Stake, R. (1995). *The Art of Case Study Research.* Thousand Oaks: Sage.

Stake, R. (2000). Case studies. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative research* (2nd. ed.). (pp.435-455). Thousand Oaks: Sage.

Stake, R. (2005). Qualitative case studies. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research* (3rd ed.). Thousand Oaks: Sage.

Stenhouse, L. (1985). Case study methods. In T. Husen & T. Postlethwaite (Eds.), *International Encyclopaedia of Education.* (Ist. ed.). Oxford: Pergamon, 640-6.

Strauss, A. (1987). *Qualitative Analysis for Social Scientists.* New York: Cambridge University Press.

Sturman, A. (1994) Case study methods. In J. Keeves (Ed.), *Educational Research,*

Methodology and Measurement an International Handbook. (2nd ed.). (pp. 61-6). Oxford: Pergamon.

Sturman, A. (1999). Case study methods. In J.Keeves & G. Lacomski (Eds.), *Issues in Education Research.* Oxford: Elsevier Science.

Sutcliffe, R. (1997). Constructive thinking and reconstructive thinking: some thoughts about De Bono's thoughts. In *The Journal of Philosophical Enquiry in Education*, 3, June.

Sutton-Smith, B. (1986). The spirit of play. In. Fein & M. Rivkin (Eds.), *The Young Child at Play: Reviews of Research.* 4, 3-16. Washington, DC: National Association for the Education of Young Children.

Thorne, S. (2000). Data analysis in qualitative research. *Evidence –Based Nursing,* 3, 68-70.

Thornton, S. (1995). *Children Solving Problems.* Cambridge, MA: Harvard University Press.

Tudge, J., & Rogoff, B. (1989). Peer influences on cognitive development : Piagetian and Vygotskian perspectives. In M. Borstein & J. Bruner (Eds.), *Interaction in Human Development.* Hillsdale, NJ: Lawrence Erlbaum.

Vatuli, S. (1992). *Revision of the Classroom Practices Inventory.* Unpublished instrument.

Vatuli, S. (1999). How early childhood teacher beliefs vary across grade level. In *Early Childhood Research Quarterly*, 14(4), 489-514.

Vygotsky, L. (1962). *Thought and Language.* E. Hanfmann & G. Vakar (Eds. & trans.), Cambridge, M.A.: MIT Press.

Vygotsky, L. (1967). Play and its role in the mental development of the child. (Trans.) *Soviet Psychology 3.*

Vygotsky, L. (1978). *Mind in Society.* Cambridge, MA: Harvard University Press.

Walsh, J., & Sattes, B. (2005). *Quality Questioning.* Thousand Oaks: Corwin Press.

Wylie, C., Thompson, J., & Lythe, C. (2001). *Competent Children at 10. Families, Early Education, and Schools.* Wellington: New Zealand Council for Educational Research.

White, J. (1992). The roots of philosophy. In A. Griffiths (Ed.), *The Impulse to Philosophise* (pp. 73-88). Cambridge, Cambridge University Press.

Wilson, V. (2000). Can thinking skills be taught? *Education Forum on Teaching Thinking Skills Report.* Scotland: Scottish Executive Publications.

Wing, L. (1989). The influence of preschool teachers' beliefs on young children's conceptions of reading and writing. *Early Childhood Research Quarterly,* 4, 61-74.

Winsler, A., Diaz, R., & Montero, J. (1997). The role of private speech in the transition from collaborative to independent task performance in young children. *Early Childhood Research Quarterly*, 12, 59-79.

Winsler, A. (1994). *The Social Origins and Self- Regulatory Quality of Private Speech in Hyperactive and Normal Children.* Ph.D. diss., Stanford University: Stanford, CA.

Wood, D. (1998). *How Children Think and Learn.* (2nd ed.). Oxford. Blackwell.

Wood, D., Bruner, J. & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry,* 17(2), 4-9.

Wood, R. (2004). *The Think Report.* A presentation at Manukau Institute of Technology Research Seminar Series. New Zealand. Birmingham University. UK.

Wyver, S., & Spence, S. (1999). Play and divergent problem solving: Evidence supporting a reciprocal relationship. *Early Education and Development,* 10(4), 419-444.

Yin, R. (1993). *Applications of Case Study Research.* London: Sage.

Zeichner, K., & Tabachnick, B. (1981). Are the effects of university teacher education 'washed out' by school experience? *Journal of Teacher Education,* 32(3), 7-11.

APPENDIX A: Observations

Example of a pre-coded observation

OBSERVATION FOUR

FRIDAY 24 JUNE 2005

What I am going to do is write it on your hand for Mummy to see
Now we need to do our plan
Do we need the book or do you know what to do ?
Got a favourite
Yes
Will I get the book
You start writing your name while I get the book
Do your 'B' up there
Looking excellent
Straight line –
Remember you did the circle
Nearly done and the 'e'
That is excellent
Better put the date - 27th
Look through and you could choose, okay?
Yes
You like that
We will keep it in mind for when we come back
I'll jot down the ones you like
Teletubbies – 5 things
Yes up to 5
Need to do some looking
Have to choose things you really like
Remember we have to choose
That's enough
Easter camping
In the tent
We've written down 9 and we only need 5
Have to choose between 'Frog's lunch' or 'Space'
(child was then asked to select one picture out of pairs of pictures which got the number to 5)

Example of the analysis of a coded observation

OBSERVATION SIX (B)

1 JULY 2005

10.25am – 11.47am

(Carpentry table)
2.6

2.6.1 ***DI-***	Oh dear,? have a look
2.6.2 ***N-HLQ***	-How can you fix it (child pasted his sign on but found it was covered by the cardboard of his construction of a bed for his cat)
2.6.3 ***HLQ-N-***	What are you going to do? (Child began writing a new sign) II-very good writing can you help me
2.6.4-***I I***	you've done well without my help
2.6.5 ***DI-CQ-***	do the 'B'and what comes after the 'e.'
2.6.6 ***II-OQ-***	What does it say?
2.6.7 ***II-NL***	That's right – you did it yourself Can you help me now
2.6.8 ***N-OQ-***	How can I help I need another glue There you are Are you alright there (to another child who had had begun constructing) (Child is now sticking his new sign on his cat box)
2.6.9 ***II-OQ-***	Why did you put the label on It's the cat's name
2.6.10 ***NL-***	Now she will know her name
2.6.11 ***II-CQ-***	Is it a him or her Her I'm going to put the cover on
2.6.12 ***OQ-II-***	Where are you going to find a cover
2.6.13 ***NL-***	You just cut that piece off and now you are going to put it back on
2.6.14 ***II-OQ-***	What made you decide to put back on
2.6.15 ***II-OQ***	Is there a reason I'll just wait and see Can you help me
2.6.16 ***N-OQ-***	What do you want me to do Glue it
2.6.17 ***CQ-***	On here?
2.6.18 ***CQ-II-***	Can you touch where you want me to put the glue I see More glue
2.6.19 ***CQ-***	Is it working the way you thought

2.6.20 ***OQ-II-*** Is there anything else we could try (it was not sticking)
Staples
2.6.21 ***N-*** You could get the stapler.
Staple gun
2.6.22 ***NL-*** Oh a that's a teacher tool
----------(teacher got the gun)
2.6.23 ***OQ-N-*** How will you use the staple gun?
2.6.24 ***DI-*** Have to put it there and squeeze it hard
2.6.25 ***DI-CQ-*** Can you do it
(child squeezes it)
2.6.26 ***OQ-N-*** what do you want to do
2.6.27 ***DI-*** need to push with all your might
2.6.28 ***DI-CQ-*** did you have a good breakfast
2.6.29 ***N-*** ready, want to squeeze it with me (They did it together in an effort to staple the piece the child had cut off and was trying to return)
2.6.30 ***OQ-*** I wonder why you want to put this back on?
2.6.31 ***OQ-*** I was just wondering about the shape of this
2.6.32 ***T-or NL-***There's a gap there (child moved the piece to cover the gap which then left another gap)
2.6.33 ***NL-*** Now there's another gap over here
2.6.34 ***NL-*** Like a jigsaw
(If the child had turned it around it would have fitted)
2.6.35 ***NL-*** I think this is like a jigsaw puzzle you know
2.6.36 ***OQ-*** How do we make puzzles fit
2.6.37 ***NL-*** We turn it around -------gap as teacher attended to another child
2.6.38 ***OQ-N-*** what are we up to ?
2.6.39 ***OQ-N-*** what are we going to do?
I'm going to put the cover on
It's going to make it there
2.6.40 ***NL-*** You have used the glue stick
I want to try the glue stick
2.6.41 ***NL-*** (recording what ch.had done) We tried the staple gun and it didn't work
(child got ruler and measured the top of the box then picked up the purple crayon and began colouring the white corners on the box)
2.6.42 ***CQ-II-*** Are you giving the bed some colour
2.6.43 ***CQ-II-*** What did you do with the ruler
I put it from there to there.
2.6.44 ***NL-II-*** A good idea to do some measuring
2.6.45 ***II-*** That will look beautiful
2.6.46 ***II-*** Sooty will love her bed
2.6.47 ***CQ-II*** I have forgotten – is it a him or her
It's a her
Look at what I've done

	Lovely colour
2.6.48 ***OQ-N-***	Do you want to look for something
2.6.49 ***NL-***	Might be something in the office
	What are you doing
	It's very bendy
	(child sawing the cardboard – then used the scissors to cut it)
	can you fix it
2.6.50 ***OQ-N-***	how do you want it
	that way
2.6.51 ***CQ-N***	what's that bit going to be called
2.6.52 ***DI-***	where's your plan
2.6.53 ***–OQ-N-***	how far are you going to take it
	there and there
2.6.54 ***CQ-N***	where do you want these
2.6.55 ***CQ-N***	do you want these beside it or underneath it (paper rolls)
	beside it (child is using glue and staples to attach these rolls)
	need to see how they fit
	I'm going to stick that
	How could you position this to make it fit
	Then like that
2.6.56 ***CQ-II***	Is that how you want it
	Like that
2.6.57 ***OQ-II-***	So where do we need the glue (beginning to use 'we')
2.6.58 ***OQ-II-***	What would be the best thing to stick it on with
	The glue
2.6.59 ***NL-***	Now let's have a look
2.6.60 ***CQ-II-***	Are we going to stick these two together
	(used staples and it stuck to the table – child went back to the glue)
	need the glue again
2.6.61 ***OQ-II-***	how are we going to stick the top on?
2.6.62 ***CQ-II-***	What are we going to use?
2.6.63 ***DI-***	Hold on to it
	I'm cutting it
	? can you fit it on there
2.6.64 ***OQ-II-***	how are you going to stick it
	(child using staples to put a new base on)
	(Dilemma developing – teacher wants him to have success but also believes in him making his own decisions – discussed the issue of time as the teacher knew that things were going to need to be finished soon. Child let the teacher do some stapling)
	can you help me
2.6.65 ***NL-***	(record. what ch had done) you put a staple there and then took it out
	what didn't you like about it?
	It was over the edge

	It's the wrong way
2.6.66 ***OQ-***	What can you do
	Is my crayon there
	There it is
	Can you write it for me
2.6.67 ***DI-***	No, you can do it
2.6.68 ***NL***	(scaffold) 'S' 'o' (teacher spelt it out for him)
	(This was the third sign he had written with his cat's name on it)
	? help me
2.6.68 ***OQ-***	what do you want me to do?
	(Teacher stapling the card on)
	Stick it right in
2.6.69 ***CQ-II-***	Is it finished
	Have to staple there
2.6.70 ***NL-***	Is that bettter
2.6.71 ***NL-***	All done – Sooty has a bed
	There
2.6.72 ***NL-***	Let's look at Sooty's bed
2.6.73 ***OQ-N***	What might happen to Sooty if you sat it there?
2.6.74 ***CQ-N-***	Are you going to put a blanket in the bed
2.6.75 ***OQ-N-***	Where can we find some fabric
2.6.76 ***OQ-N-***	What do you need to do with the fabric now
	---------gap – as they went to find some fabric
2.6.77 ***OQ-N-***	what do you need to do to the fabric now
	Look ?
	I'm going to put these in (child tidying the blanket in the box)
2.6.78 ***NL-***	Bet your room is tidy
2.6.79 ***CQ-***	Do you make your own bed
	Yes
	I'll just go and get some other blanket
	Can you fold this ?
2.6.80 ***OQ-II-***	What is it to fit?
	To go in there
	Now I need another piece
	Oh my favourite colour (pink)
	Are you finished
	(Child refolding pink fabric for the 4th time to make it as a pillow)

2.6.81 ***OQ-N-*** will you be finished after you have done the pillow (teacher using 'you' again)
Yes

2.6.82 ***CQ-II-*** Is it finished now?
Yes (re did pillow)

2.6.83 ***CQ-II-*** Is it perfect now?
Yes

APPENDIX B: Interviews

This section demonstrates the process for one participant.

Example of interview transcription

(Key points transcribed from the tape)

Participant 1

17 August 2005

Strong philosophy – challenged this year as staff been with for 13 years – moved – had talked a lot about philosophy – brand new teachers making me think about my philosophy
Some -I have absolute truths – around ch ability – seeing as competent learners – not doing things for chr – expecting them to do it or with scaffolding – minimal support – true of all types of situations – from simple to complex

Why important – believe its always been in my heart – didn't have the theories that supported that – don't know where it came from – some may have thought me a hard mum – chr had freedom because on a farm so poor had to use what was there.
Don't know where I got that from. –came from being poor – importance of independence – value - times when there isn't a choice – can tell chr that is not an option – important to be independent
Not saying dependent at cost of interdependence – feminist – strong woman but developing boys who are challenging in behaviour – grabbing these behaviours and turning it into positive energy – believ for both man and woman
Independence to be together or on own – gives emotional intelligence as well – to be independent don't need to be the dominant but make decisions – good decisions – setting chr around that – im okay not okay behaviour – group independence – go away from the ch whose bugging you or say don't want to play – don't want to make them victims so not a lot of support for the victim – want them to stand up to the person.

So give them the skills.

Thinking strategies eg glues not working need sellotape don't need to check with adult – I can make this decision
Team chosen to fit that philosophy
Talk to parents when they start
See tchers standing back
Watch if ch hit --will notice to see how they handle it.

How do parents see this.
I explain this to parents if this is not what they want –find a different place
Have to go with it as these things are the programme –cant set out to achieve what you want with chr – to deeper level of thinking
Situation tidy up time – parent didn't know and said she just did it for them so had to talk to her about this
When we show what we can do this programme most come on board
Especially for Asian parents – have pictures to talk about the beliefs to help them

Need language and knowledge
What are the strategies to get them to this
Clear goal – new chr. fairly diabolical – pushing etc
We talk about it – supervision mode – pick off things we will not tolerate
Parents helpful here in helping here.
Couple of weeks we turn it around so that they can be independent
Work with them but wont do it for them
Take half an hour to change a child but know how to become independent – know how to get the plastic bag off the shelf etc

Making aware how tools can be used – don't have the more complex things they have in the morning
Afternoon –more control – more games – turn taking – cooperative

Identified skills about chr being independent or interdependent – the 2 fit together
Similar skills – giving the chr the confidence they can do it

Language and speech important – background in sp ed
Parents tell them to get friends to play
Whose going to school have photos of friends going to same school
Don't see that we work with chr we work with families – mum , dad, separate, same parents families
Leadership PD take 8 parents to it
Not every parent 'got it.' Where we have it the support is superb. Eg positive army thing-
Didn't ask her but she offered – this is the ideal where they want to come into the programme.
Independence not for the chr but for the staff, parents, parent helps
Cant separate out one component, value everybody is difference
To be able to negotiate you have to know what to do.
Example of tch and ch negotiating to get the paper ch kept putting up obstacles, tch move forward and both went to together
This child needed to be strong as a ch. To know what he wanted. The tcher compromised.

Think a compromise is good – bit tougher with the chr nearly at school eg asked to open the chip pkt – if we open it we eat it –
Give strategies to open the chip pkt, but give them other solutions – mum I need a scissor cut to open my pkt.
Each case is individual – need different ways – get to them know the chr. – which ones we can push and which ones need a little more help.
Have to observe – ch hadn't cleaned up at home- would not know that if parent hadn't been confident to tell us.- tell parents – for chr and adult does the more obscure things eg dough area chr are able to tidy that area – will be other people to model and the social experience –

Have up to 10 adults in the morning – couldn't do it with 3 teachers –
Parents feel safe to tell them things-
Not for all parents but we work on it – philosophy that sets it up to happen- change the environment – trying make people more successful not change people

Small change – lots of new chr . so wont have water to begin with – noticed that was taking a lot of energy – for a couple of weeks we don't have it
Meet with parents and chat – portfolios – parents can stay – so parent has helped the child make a book at home about coming to kdgt – parent put photos in portfolio- connection with home

Holistic – wking that word – childs dev includes the parents, cultural, big change over the last 10 years, - useful is asking the parents – have parent consultant who can be more direct – translate
Helps so chr don't get behind.
Passion
Prefer to train our own parent aides – train into our philosophy – wked for us for many years
Problematic if different philosophy

Student teachers – what about their values –
It is attitude – need one of openness – even staff not to agree all the time – would limit programme we wouldn't be building on individual strengths

Students need to want to learn – agreeing is not the issue – need to why they disagree

Analysis of the interview by key themes

Philosophy

1.1 strong philosophy – challenged with new staff – making me think about it again

1.2 absolute truths around children's ability – competent learners – don't do things for children – minimal support
1.3 work with families
1.4 value everybody's differences
1.5 its your philosophy which sets it up to happen (having parents around)
1.6 passion

Practice

2.1 scaffold – simple to complex
2.2 boys with challenging behaviours - turning it into positive energy
2.3 independence to be on own or interdependent with others – supports emotional intelligence
2.4 teach them to say "go away' – not a lot of support for victims as want them to stand and be a person- so give them skills - strategies
2.5 thinking strategies "I can make this decision"
2.6 talk to parents about philosophy – if they don't like it they go elsewhere
2.7 example was tidy up time to find out how dependent a child is – provide pictures for Asian parents to understand philosophy
2.8 have clear goals – discuss these
2.9 work with children but won't do it for them
2.10 making them aware of how tools can be used in the morning group when dev. their interdependence – afternoon chr. don't access complex resources
2.11 chr. gain confidence
2.12 parent offered to talk to chr. about the army
2.13 to be able to negotiate have to know what to do – child needs to as strong and capable as the teacher
2.14 have to observe chr. to know them

Knowledge

3.1 not saying dependent at cost of interdependence
3.2 independence doesn't mean to dominate but can make decisions – I'm okay behaviour – group independence
3.3 staff team chosen to fit philosophy
3.4 need language and knowledge to have independence and interdependence
3.5 language and speech important
3.6 links to schools
3.7 leadership about professional development, I take 6 of our parents
3.8 have up to 10 adults attending the morning sessions

Background

4.1 These beliefs always in my heart – didn't have theories to support it – don't know where it came from- some thought me a hard mum – farming – poor – had to use what was there – had to be independent

4.2 feminist – strong woman

Table 8: Stage Three of the Interview Analysis

Participant 1 Centre 2 **Philosophy / beliefs**	**Practice**	**Independence**	**Knowledge of child**	**Background**	**Negotiation**	**Power**	**Teacher role**	**Problem solving**
Strong philosophy / chr. competent / change environment not the people / holistic / passionate / training own parent aides / families important/value difference	Scaffolding / minimal support / grab challenging behaviours, turn into positive experiences / self decision making / deepen thinking / clear goals	Important to move chr thro. Dependence to interdependence to independence	Must know each individual child / know which one to push on or support more. Important to know the families. This is why portfolios are important	Beliefs seem to be always there and with me. I live in the country, were poor /had to use what was there / had to be independent / feminist / strong woman	To do this you have to know what to do/compromise	Share the power in the learning/more control if chr. have the tools. We provide chr. with the tools of language and how to access resources through the way we support their learning.	Have a clear goal / making chr. aware of tools/give chr. strategies/observe/ Bring families together/language –speech important/ Identify skills of Independence etc./ Supervise/help parents understand	Select Equipment chr. use at start-simple to complex. The way we support this ability but we believe chr. are capable to solve problems. We help by developing their skills needed for this.

APPENDIX C: Permission Letter

11 March 2005

REQUEST FOR PERMISSION TO OBSERVE YOUR CHILD

My name is Helen Bernstone and I am a senior lecturer at Manukau Institute of Technology in the Early Childhood Education section of Social Sciences.

For my Doctoral studies I am investigating the various ways teaching staff support children in the development of problem solving skills and independent thinking.

To do this I need to observe staff working with children and I am delighted that Kids' Domain has agreed that I can carry this out in the 3-5 year old area of the centre.

No person involved would be identifiable from the report I finally submit to my university. Initials or numbers would be used in place of names of people or the name of the centre.

At this stage the data is only being used for my report and for feedback to the staff involved as it is they who are the focus of the study. If it was to be used in a different arena I would seek further permission from you.

I would be very happy to meet with you to discuss any issue you may have with my request. I could also keep you informed as to the progress of the observing and information gathering as it evolves.

The observations will take place during March, April, May and June of 2005.

Manukau Institute of Technology ethical requirements will not allow me to begin my observations until I have the required approval.

Thank you for giving consideration to my request.

Please complete the form below.

My contact details are as follows:

Helen Bernstone
Email; Helen.bernstone@manukau.ac.nz
Phone; 09 689000 x 7145
Or: helenbernstone@clear.net.nz

RESEARCH PERMISSION

I .....

Agree / do not agree to have Helen Bernstone observe my child at Kids' Domain.

Signed.....

Date.....