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The Visibility and Role of Intersubjectivity and Peer Collaboration in Young Children's Play and Cognitive Development

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ABSTRACT: *There is growing body of literature that encompasses sociocultural and constructivist theory and has arisen from a more collaborative approach to studying cognition, compared with the individualistic focus of the past. The wide acceptance that cognition is co-constructed, shaped by the social world and the individual, has lead to an interest in how we establish and maintain shared meaning and collaborative activity. Intersubjectivity or shared meaning is needed in order for worthwhile and meaningful collaboration to take place. Establishing intersubjectivity and involvement in collaboration, can stimulate and provoke cognitive development with recent research strongly indicating that the quality of the interaction with the child determines the cognitive transformations. This paper reports on findings from observations on the visibility and nature of intersubjectivity and collaboration in peer interactions of 26 young children, aged between 2 and 5 yrs. This study was carried out in a multicultural full day centre, as children engaged in spontaneous free play. The analysis of the data showed high levels of intersubjectivity amongst the children, collaboration clearly visible, social interaction extensive and non-verbal interactions the most frequent. Cognitive distancing was seen to at the low to middle level. Key points are made as to why it is important for teachers to understand the peer culture, really listen to children, and then using this deeper understanding of the children, be able to foster greater collaboration and cognitive transformation.*

INTRODUCTION

During the last ten years our understanding of how children learn and develop has moved away from theories that view development as a journey of individual mastery to those that view development as a journey that is a collective process. The child is an active participant, interacting with others, shaping and being shaped by the shared culture in which they live. This process of 'becoming', through establishing shared understanding with those we come into contact with,

is called intersubjectivity (Crossley, 1996). Intersubjectivity is not acquired but is transformed, as children grow and develop in their social world; even infants show an innate goal to establish meaning with others. Goncu (1993, p. 101) points out "intersubjectivity in children's play is conceptualised as constantly changing as a result of continuous knowledge exchange between children" and this study certainly affirmed that view.

There have been empirical investigations into this process of intersubjectivity and peer collaboration in young children's interactions in naturalistic settings and there is evidence from these studies that as children grow older their ability to establish intersubjectivity and collaborate progresses along with their developing social and cognitive skills (see Farver, 1992; Fassler, 1998; Gillies, 1997; Goncu, 1994; Ingnaki, 1992; Leseman, Rollenberg, & Gebhardt, 2000; Lomangino, Nicholson, & Sulzby, 1999; Meyer, Klein & Genishi, 1994; Verba, 1994). The research indicates that the negotiation of shared understanding tends to follow a similar pattern at all age levels – formation of a social bond, communication to share meanings, joint management by partners, and reciprocal contribution (Brownell & Carriger, 1991; Goncu, 1993; Verba, 1994).

The key feature of collaboration is that people are involved in others' thinking processes through shared endeavours (Rogoff, 1998). Peer collaboration occurs between people of a similar age, but not necessarily the same age. There does not have to be agreement or smooth relationships, in fact during collaboration, disagreements and conflict can be an important learning tool (Jones and Nimmo, 1999; Malaguzzi, 1993; Rogoff, 1998, Singer, 2001). There is evidence that children rely on particular communicative strategies, during interactive play, to make their actions and ideas intelligible and thus potentially sharable with a partner (Corsaro, 1986). Other research has also supported the high level of use of non-verbal strategies, even to de-escalate conflict (Singer, 2001).

If the establishment of meaning and being in relationship with others are the goal of childhood, in fact of the human race, and our cognition is socially situated, then teachers need to acknowledge, value and facilitate intersubjectivity and collaborative activity. The purpose of this study was to explore how visible intersubjectivity and peer collaboration is, in the spontaneous play of young children, in a multicultural, mixed age New Zealand early childhood centre. How exactly do young children go about establishing and repairing shared reference and negotiating meaning, as they play? What is the role that conflict and negotiation play in peer collaborations? What role does intersubjectivity and peer collaboration play in the young child's developing cognition?

METHOD

The setting was an all-day centre for children, aged from two to five years old, in a low socio-economic area of Auckland, New Zealand. The children came from a diverse range of ethnic groups and backgrounds. Of the children observed in the study there were: 11 Maori; two Pakeha; one Chinese; one Tongan; two Niuean; two Indian; five Samoan; and two Fijian. The children (11 boys and 15 girls) ranged in age from two years and three months to four years and 11 months; the average age was three years and eight months. Most of the children have been attending the centre for at least nine months, and were therefore very familiar with each other. The children had access to both indoor and outdoor play as long as the weather permitted. Inside comprised two large play spaces adjacent to each other with a wide range of equipment and resources available. The outside area was L shaped, with a sandpit, climbing frame, swings, drawing table, and an assortment of bikes, balls etc. The centre had a free flow play programme and morning tea took a rolling format though I noted most children ate at the same time.

Five, one hour, naturalistic semi-participant observations using a reactive method of recording (Corsaro, 1986) were carried out. This method allowed for children to react to and define my presence, while I maintained a peripheral role. I did not initiate contact but I did respond when children asked me what I was doing, or asked me to help them. When they showed interest in the tape recorder, I would explain that I was recording all the things they were doing and saying and on several occasions I played back to them a small portion of the tape so they could hear themselves, much to their delight. I visited the centre three times prior to commencing the observations, in order to allow familiarisation between the children and staff, and myself.

In determining when observations began and ended I used the following criteria. On arrival at the centre and after a play episode had ended, I would look around and note if two or more children appeared to be engaged in interactions without a teacher present, move closer and begin observing. If an adult became involved, I would keep observing as long as the teacher's involvement was not overly directive. The end of the observation would be indicated when the children themselves ended the play by moving away from each other, moving to morning-tea or a teacher directed activity like mat time.

I kept a narrative record of the children's actions and conversations, identifying each child using a random alphabet letter. I also used a microcassette recorder to record the children's conversations, though due to background noise this was limited in its usefulness. The data was analysed using a combination of: intersubjectivity and cognitive distancing indices, collaborative play functions, communicative, and social behaviour categories used by other researchers

(Corsaro,1986,1992; Brown, Oldom &Holcombe,1996; Fantuzzo, Coolahan, Mendez, McDermott & Sutton Smith,1998; Garvey ,1984, cited in Farver, 1992; Goncu, 1993; Leseman, et al., 2000; Verba ,1994).

The reason for using a combination of categories was that it gave me access to a broader range of behaviour descriptors, rather than being restricted to just one particular researcher's categories, and also because I was looking for indicators of intersubjectivity and peer collaboration. I acknowledge the data was recorded and interpreted through the fabric of who I am.

RESULTS

The Visibility of Intersubjectivity and Collaboration

The observation data contained substantial and varied examples of shared understanding and collaboration between pairs, small groups and larger groups of children, across all ages. The visibility of intersubjectivity and collaboration was often nonverbal.

> O (3yrs) is driving a truck with a tray on the back and B (4 yrs, male) is sitting in the tray. B reaches for crayons off the drawing table as they go past and O helps B put crayons in the truck tray.
>
> G (4yrs) & P (3 yrs) still racing up and down, then stop near O and A (3yrs) and they have a pretend fight without any discussion of the script.
>
> In the block area, X (4yrs) picks up little cylinder blocks and starts singing to herself and gives a block each to T (3 yrs) & V (3 yrs) who are back sitting on the large blocks. They each put them up to their mouths and pretend to eat. V says" finished" and hands block back to X. T pretends to eat.
>
> In the family play area X and T have been lying on the couch, they sit up and laughing get off couch and move very slowly in absolute unison towards morning tea table. Then they both move quickly in unison and sit down

These examples show how visible established shared meaning is through non-verbal indicators. Meanings shared by inferential processes, or possibly because the script was familiar and had been played before many times.

Use of Non-Verbal Actions and Paralinguistic Cues

The most common indicator of established intersubjectivity, within the cultural context of the centre, was the unwritten script - the enactments. It became evident by the end of the observation period that there was an implicit shared understanding between the children, developed over time, that was part of the centre's play culture. It was as if there were agreed chains of action for particular play scripts which were initiated largely by paralinguistic cues or gestures.

The following 'enactment' was usually triggered by the non-verbal action of a lifting up of one or two hands in the air in the shape of claws and was usually accompanied by a paralinguistic cue. These examples show the intersubjectivity established within the culture of the centre regarding this non-verbal action.

> T (3yrs) scrapes paint onto his hand with scraper. Makes a growling noise as he lifts up his hand in the air. A (3yrs) puts his hands into the paint tray and puts hand on paper then lifts his hand up making a growling noise. Y (2yrs) paints hand and makes growling noises. T, Y, B, and A all make growling noises holding their hands up like claws and they race off to the bathroom, growling all the way.
>
> Outside by the climbing frame U (3yrs) has joined O (3yrs) on the large box. P (3yrs) approaches them making growly, scary noises- "wooooooooooo; wooooooooooo..." (hands held chest high facing children). U starts making the noises, along with B (4yrs).
>
> B chases X (4yrs) making scary noises with his hands up like claws.
>
> P,U and Y (2yrs) are on climbing frame making scary noises, also. "Booooooooo, wooooooooooo....."
>
> B and Z (2yrs) come over and join in with others making scary noises at the children around them. O, A (3yrs), P & B are all making growling noises. Several children call out – "Here's the monster, the monster".
>
> More growling and roaring, as they run around outside. All children outside become involved in making these noises.
>
> S (3yrs) is in the sandpit and goes - "Grrrrrrrrrrrrrr" in the direction of children walking past the sandpit. V (3yrs) says "we're not playing" as he walks past. S who continues to fill containers.

V's response showed that he understood exactly what the "Grrrrrr' cue meant but rejected the idea. There were many examples of brevity in the verbalisations, which also lead to, or resulted in, joint actions indicating mutual

understanding. These high levels of intersubjectivity, in spite of a lack of verbal negotiation, were associated with peer collaboration or co-construction of meaning. The following example of the co-construction of meaning appears to indicate there was an underlying plan, indicative of intermediate to high level distancing (see Leseman et al., 2000).

> Three boys are in the block area sitting on the floor building. There is no conversation going on between them. Two are collaborating together to build a structure. O (3 yrs) places two upright blocks on top of the horizontal block that U (3yrs) places. Building upwards repeating the pattern. It falls over, O and U laugh. One minute later, U places horizontal block and O places vertical blocks on top, repeating pattern as they work together. O and U's structure is now six squares high. O says "bust it". U kicks.and the blocks fall down. They all laugh. O, P (3 yrs) and U all begin stacking a pile of blocks vertically on their own. P's fall down. He laughs. O laughs as his fall down. They continue playing in the block area though more individually and 15 minutes later U stands on blocks, picks up a block and places it on O's structure. W pushes U and the structure nearly falls. U and O knock it over, simultaneously. O says "we busted it aye". O starts to build again with U.

The interactive pattern of joint interest, social bond, and shared meaning is evident. The two children achieved a shared goal, their actions complemented each other and management of the activity was shared. The collaborations were interspersed with times when 'U' in particular insisted on building on his own. This ebb and flow of collaborative and then individual activity was also evident in many of the other observations.

Observation-Elaboration Mode

The repetition and reproduction of another's actions or words, happened frequently across all ages of children, indicating intersubjectivity and the beginnings of collaboration. It is evident from the following examples how one child's action or verbalisation is imitated by other children with one child serving as a model.

> A (3yrs) and V (3yrs) are inside in the block area sitting on large plastic blocks. T (3yrs) comes over with a helmet in his hand. V says " He naughty". A says " He naughty". V says " Get that back, I don't want it" A says "Get that back, I don't want it". T repeats " I don't want it". A repeats " I don't want it". V repeats "I don't want it". A gets off the blocks and picks up two cylinder shaped blocks

> holds them up to his mouth singing. A gives one to V. A back sitting beside V on blocks. They both start singing. A claps his hands, still sitting beside V. V claps his hands.... T and V are still sitting on the large plastic blocks and T starts tapping back of puzzleboard. T sings and V joins in with tapping the board and singing. They repeat this chain of performance several times, always initiated with the tapping of the board by T.
>
> T (3yrs) is rolling a paint roller over a scraper that is on a table covered in newsprint. Then A (3yrs) and B (4 yrs) roll paint over scraper and the over table. Lots of rolling, backwards and forwards, by all the boys.

These examples of spontaneous joint action, that arose out of observation-elaboration mode, were common place, across all ages. In order for spontaneous joint action to occur, intersubjectivity is already well established regarding the action and script involved. Determining the level of cognitive stretch that may be occurring for those involved in the interaction, is however difficult. Cognitive transformation is often not immediately visible.

The Cognitive Complexity of the Peer Collaborations.

Collaborations ranged in cognitive complexity from low level distancing, through to higher level distancing, both verbally and non-verbally or a combination of both. The preceding examples of repetition are indicative of low level cognitive distancing, along with observing and repeating words and /or actions, giving directions and labeling. The co-construction mode, however has indications of intermediate and higher levels of verbal and non-verbal distancing. The following excerpt illustrates joint interest and joint activity, as two boys, U (3yrs) and J (3yrs) in the block area, form an enclosure with the blocks, one end is open and there is a cow in the enclosure. Pretend play is evident by J's description and introduction of a new idea, as J and U co-construct.

> J: The cow is not alone. Ha, ha the cow can't get in (he stacks more blocks on top of each other at the back wall of the enclosure). The cow can't see me (the blocks get higher then they fall).
>
> U: You bust the game, busted (straightening up the walls of the enclosure).

U rejects J's attempt to rebuild, both verbally and non-verbally and claims possession of structure.

U: This is my castle, me first, am me first.

J's response shows a desire to understand and collaborate with U. He continues to add to the structure and he uses the words, 'we' and the tag 'aye' and the effect on U is that he appears to accept J's resolution.

J: We make castle aye. Shall we look at .....? (U goes back to his own part of the structure). Me hold it (knocking over the blocks).

This is possibly a desire to enact a previous play script with U, informing U that he wants to play the game of knocking over the blocks. U rejects the idea.

U: I am not going to play (begins to get up).

J: Let's make it both together.

This comment indicates that U understood the meaning behind J's comment. Once again J attempts to bring a resolution and maintain the play. The change from 'me' in the previous comment to an inclusive suggestion, that uses two pronouns and an adverb, indicates a desire for collaboration. U accepts J's idea, extends it and demonstrates his plan.

U: Make blocks like this (as he knocks over existing structure and begins to build again). Shall we make our castle? This and this (placing blocks flat on floor). Like that.

Social bond, joint interest and collaboration, which are components of co-construction, is evident. J goes back to using 'me' as he describes his pretend play action, though he is careful to include U through looks, laughter and calls for attention, which U responds to by repeating U comments and joining in the laughter and smiling at J.

J: Me making batman, batman (Looking at U and laughing. Gets longer blocks from shelf and stands them up vertically). Look at me. (U still laying blocks flat then stands up and jumps up and down on blocks). Look at me. They both laugh as J's vertically placed blocks falls.

U: Ha, ha, ha, ha (smiling and looking at J).

It appears from the next sequence that U has accepted J's idea of knocking over the blocks – mutual understanding and collaboration continues.

U pulls more blocks off the shelf – two of the longest pieces. J stacking blocks. U standing beside J holding one long block, looks at J. J says " bash it". U hits tower with long block. J says "bash it over this one, over here". J stacks more blocks but they fall over before U can hit them. J says" get this" and pulls blocks off the shelf.

The play episode continued for another five minutes, though altered by the entrance of a third child and redirection of the play by a teacher. This excerpt contained elements of guided activity as seen in J's expertise in conflict resolution and ability to maintain the social bond, which enabled u to continue to engage in the joint activity.

The Role that Conflict Played

As already seen in the observation of U & J in the block area, there is evidence that conflict helps the establishment of greater intersubjectivity and results in collaboration that is indicative of intermediate and higher cognitive distancing. The following play episode is another example. Two boys, A (3 yrs) and B (4 yrs), have been at the dough table playing individually but both making dolphins. A briefly leaves. He returns and notices that B has placed cutters and shapes upright in the dough in front of him:

A: My birthday.

B: (not decipherable)

A: My birthday, my birthday.

B: My birthday (says louder and leaning towards A).

Here we have an observation, leading to an idea, that includes a claim of possession, rejection of the idea, and revision or extension of the idea (also including a possession claim) that leads to verbal and non-verbal (object aggression) expression of anger.

> A takes the cutter wheel from B's hand. B reaches to get it back. B says "I need it" in loud angry voice and cries out. A teacher in another area hears and reminds B to use his words and ask for it back.

The teacher's directive is accepted and leads to a more conciliatory interaction. A change occurs in the structure of the verbal statements, as the play continues, from 'my' to 'I' statements, the claim for possession is more open-ended by A, that leads to an inclusive verbalisation by B. This results in joint interest, social bond and shared understanding, extension of each others ideas and resolution of problem.

B: Please.
A: (gives it back and says) I got a birthday.
B: Have too.
A: It' s my birthday now.

B: (sings) Happy birthday, happy birthday to everyone.
A: (sings)
B: Not for big kids.
A: Little kids.
B: Little kids aye
A: I'm going to get a baby.
B: I'm going to get a baby. (They both move towards family play area. Look around). No baby. No. No baby. (A teacher in another area suggests they look in the pram. They both go over to the pram).
A: It's a bag, I'll wear it (he picks it up. B pushes pram and A follows B putting on the backpack . They both go outside. B parks pram by climbing frame and follows A who has gone up the ladder).

Evidence of Patterns in Negotiation of Shared Understanding

As seen in the examples described, joint interest and the formation of social bonds were constantly evident and ever changing, but always at the core and beginning of the children's interactions. Communication to share meanings was very evident, with a high frequency of : repetition of others' ideas and actions; emphasis on children's own ideas; elaboration and extension of ideas and actions; and disagreement with others ideas and actions. Description of action and directives were common, as were claims for possession. A minimal amount of role assignment occurred but there was considerable non-negotiated pretend play.

Acceptance of an idea or action was often implicit, not specifically verbalised. Indicators of acceptance included: repetition of others idea/action; continuation of collaboration and play; the action or idea being followed through; and involvement of the person. Rejection of an idea and disagreement were frequent, with the many instances where the children used 'stop-action' to prevent or stop another's' actions or perceived future action, some using verbal commands or sounds, combined with gestures. Most of the children demonstrated perseverance with their ideas or actions, or accepted the rejection of the idea, or a revision of the idea, in order to be part of the play as evidenced in the following excerpts.

C, E & G walk up over plank and onto large tyre lying flat on the ground and they jump off. G laughs and then C& E laugh. G says "come on" as he runs into the sandpit. C & E do not follow so he returns to the tyre. G goes up plank.

S, K, H & M go just inside the door to where the double painting easel is. K points a painting on the easel and says "that's my

painting". S starts doing a painting on a clean piece of paper. K & M each take a paint brush and start painting over K's picture. H picks up paintbrush and tries to join in but M spreads her right arm across the easel making a whining noise. K says to M "let him". K then says to H "You can paint". (All three children paint on the one piece of paper). K says "not finished yet aye". M says "I have red". K asks " who wants purple, I like purple". (All three children continue to brush up and down strokes on the painting). M says " Ohhhhhhh". K responds " sorry that was an accident" (group laughter).

A comes over and tries to get on the back of the truck O is driving. O lies across the tray and stops A from getting in. O says "don't hop on it. Here we go". (Perseverance eventually paid off for A. Initially prevented from joining the play by 'stop action' as evident in the excerpt above. A after three further unsuccessful attempts, during a ten minute period, to join the play gets to push the truck. Then two minutes later A is sitting in the tray of the truck with O driving).

DISCUSSION

Effects of the Multi-Cultural, Mixed Age Setting and Adult Interactions

The maximum age gap across the children was three years. The data showed that the children interacted across the range of ages, not just with those closest in age. There did not appear to be significant age-related differences in their collaborations or communicative strategies. A wide range of communicative and social strategies was evident and all the children, regardless of ethnicity, appeared to play together at some stage and all used English to communicate verbally. Also important was the familiarity that existed between the children. The children's long free play periods provided them with lots of opportunities to engage in building their own social structure, across cultures and ages.

Educational Implications

I found the complexity and profound depth within the children's interaction striking. The children demonstrated that they already had a vast amount of knowledge about their social world. Their genuine need to be in relationship with others was clear – their absolute enjoyment and pleasure in engaging in joint activity apparent. They actively sought out other children to interact with and exhibited a wide array of interpersonal skills, with non-verbal interactions the most frequent.

According to Seigal (1991) children are both "sophisticated and limited users of rules of conversation that promote effective communication" (p. 24). The early

years are critical for socialisation, as Malaguzzi (1993, p. 11) states "interaction among children is a fundamental experience during the first years of life. Interaction is a need, a desire, a vital necessity that each child carries within. Children seek opportunities for positive interactions with adults and other children". For the social constructionist "social interaction is the critical element in young children's meaningful construction" (MacNaughton & Williams, 1998, p. 178) and this belief in the collaborative nature of learning underpins the view that co-constructing is a valid teaching strategy (MacNaughton & Williams, 1998).

In this study the children were mainly engaged in co-construction with each other. In order for higher level cognitive distancing to be promoted it is vital that teachers use co-constructing as a relevant teaching technique. Forman (1996a, cited in MacNaughton & Williams, 1998, p. 179) explains that in a co-constructivist curriculum "teachers form a community of learners with the children and with the parents and other teachers.... They discuss the social and symbolic processes by which meanings are negotiated toward some level of shared understanding".

The high level of non-verbal actions and unspoken shared meaning in the spontaneous free play of young children observed was an 'eye-opener'for me. Leseman et al (2000), who studied co-construction in Dutch kindergarten children's free play, and Singer and Hannikainen (2000; cited in Singer, 2001), who investigated free play of two and three year olds in Dutch and Finnish daycare centres, found that nonverbal behaviour was quantitatively the most important action mode observed.

The co-operative and cognitive quality of the behaviour of other children and teachers affects the quality of the individual behaviour (Leseman et al., 2000). Children are expert observers of each other, as evidenced in this study, and of adults. They extract, interpret and internalise models of behaviour from the adults that live in their social world (Bandura & Walters, 1963; MacNaughton & Williams, 1998). Modelling is deemed a low–intervention technique (MacNaughton & Williams, 1998) and can be used exceptionally effectively. Teachers in early childhood education need to take a look at the way they work, think, discuss, collaborate, express meaning and treat each other, as they will be used as models. My observations showed that children are using each other as role models and thus I would encourage teachers to provide opportunity for children to work and play with similar aged peers and with a wider range of age groups; this way the benefits of both mixed age and peer groups are experienced.

Opportunity for free play certainly appears to be advantageous for promoting intersubjectivity between children but when adults are only marginally involved

in the children's free play, and contribute only minimally to cognitive distancing, then the cognitive potential of the free play is not realised. Teachers need to value the role that spontaneous free play and pretend play have, as children try to make sense of their world and teachers also need to understand that they can co-construct knowledge with the children through emphasising the study of meaning rather than the acquisition of facts (MacNaughton & Williams, 1998). As Forman (1996a) states "in a co-constructivist curriculum the teacher form a community of learners with the parents and other teachers...they discuss the social and symbolic processes by which meanings are negotiated toward some level of shared understanding"(cited in MacNaughton & Williams, 1998, p. 179).

Te Whaariki, New Zealand's early childhood curriculum guidelines, emphasises "the critical role of socially and culturally mediated learning, and of reciprocal and responsive relationships for children with people place and things" and that "children learn through collaboration with adults and peers, through guided participation and observation of others, as well through individual exploration and reflection" (Ministry of Education, 1996, p. 9). I believe that as New Zealand teachers take the time to develop a deeper personal and collaborative understanding of the concepts and principles in *Te Whaariki* we may move closer to understanding the importance of intersubjectivity, the power of collaboration at all levels, and how best to promote learning and development, through listening to children and to each other.

SUGGESTIONS FOR FURTHER RESEARCH

There is a need to explore further the impact of teacher intervention in children's play and conflicts. Adult intervention had been found to be directive when confronting typical conflict situations in early childhood settings (Leseman et al., 2000). This notion was supported in this study. Often directives are based on assumptions and a desire to get things sorted as quickly as possible, rather than from a sound knowledge base and appreciation of the peer culture. Knowledgeable interventions into disputes or play episodes are more effective and help preserve the positive aspects of the children's play (Corsaro & Schwarz, 1991; Singer, 2001). Cullen & Allsop (1999, p. 6) in looking at the effects of informal adult interactions during play found that " talking with children about their play is an important mechanism for helping children to extend their play and resources must also be linked to the children's knowledge base" (p. 6).

Another area worthy of further research is exploring teachers' attitudes to conflict. As Nimmo (1998, p. 300) asks " in our desire to help children get along

with each other, do we see conflict as something only to be avoided?". A valuable concept of conflict that promotes learning is about differing viewpoints, considering new ideas and the "possibility of co-constructing a shared understanding" (Nimmo, 1998, p. 301). Singer (2001) argues that "the teacher has to understand that conflicts are a natural part of social life and playing together" (p. 11).

Procedures for observing children need to be critically evaluated. Observation methods must be contextualised and reflective of our current understanding that cognitive development is not just an individual process but also a socially situated one. The methodology I used allowed the observations to be contextualised, it was like recording a 'group learning story' (see Carr, 2001), and this gave me a truer picture of the nature of the intersubjectivity and collaboration that existed amongst the children. The ongoing establishment of shared meaning and collaboration is an important aspect of learning in the early years. If understanding these concepts, as they are occurring among the children we work with, means we can more effectively help them learn what they are saying they need know, then surely we can make the time available to listen.

FINAL COMMENT

The purpose of this study was to explore the visibility and nature of intersubjectivity and peer collaboration, in the spontaneous play of young children, in a multicultural, mixed age New Zealand early childhood centre. The results showed that both intersubjectivity and peer collaboration are both highly visible and have a clear role in cognitive development. Early childhood teachers who take the time to observe, listen and analyse the children's shared meanings and then make considered interventions, extending and challenging children's thinking in a meaningful way, must surely increase the complexity of the play; and promote cognitive development. Early childhood teachers need to think carefully about the balance needed in the centre programme between ensuring deep level interactions with children, providing meaningful experiences and challenges, and allowing free flow spontaneous play. It is imperative that early childhood teachers have the theoretical knowledge of constructivism, social constructivism and co-construction, in order to fully realise not only the potential of *Te Whaariki*, early childhood curriculum guidelines but also of the young children of New Zealand.

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