YOUNG CHILDREN'S DEVELOPING THEORY OF MIND AND SHARED STORYBOOK READING IN THE PRESCHOOL SETTING

Katrina Maree Martucci (BA)

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Faculty of Education and Arts
University of Newcastle
Statement of originality

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Synopsis

How we come to understand other people’s thoughts and feelings when we are young (our *theory of mind*) has been a question of interest to researchers for many years. However, there is little research that examines this development in settings and relationships important to young children beyond the home and family. This case study was situated in an early childhood (EC) preschool setting and explored the question of how might shared storybook reading (SSR) contribute to children’s developing theory of mind?

40 preschool children and 4 early childhood educators were observed as they engaged in their usual practice of shared storybook reading. The conversations that occurred during shared reading were recorded and analysed using a qualitative approach. Findings show the event of SSR to be a social practice where children are active contributors, and one that holds strong potential for children to enhance their knowledge about the social world. SSR can be a rich source of conversation involving multiple perspectives and reference to the thoughts and feelings of others. Individual children’s theory of mind knowledge will vary across the group situation and (EC) Educators use of causal questioning about the thoughts and feelings of storybook characters may provide a salient opportunity for children to exercise and enhance their theory of mind abilities. Possible implications for early childhood practice are discussed.
CHAPTER 1
INTRODUCTION AND REVIEW OF RELEVANT LITERATURE

Introduction

Humans are profoundly social beings who display an intense need to communicate. This need is reflected in our complex interpersonal relationships as well as in our connections to culture and wider society. One vital skill that we employ not only when communicating, but when establishing and maintaining relationships is the ability to gauge what another person may be thinking or feeling in a given situation. This ability, referred to in research literature as ‘theory of mind’ (Astington & Barriault, 2001; Carpendale & Lewis, 2006; Flavell, 2000; Wellman, 1988) is often not consciously recognised and yet it allows us (to a greater or lesser extent) to interpret and predict the thoughts and actions of others as well as giving us the opportunity to regulate our own behaviour or ways of thinking.

How this ability emerges and develops in early childhood has been a question that has captured the interest of researchers and inspired research spanning almost three decades. Research findings over that time reveal, perhaps not surprisingly, strong empirical evidence that children’s development of theory of mind is emergent from infancy, constructed within repeated social experience, and stimulated by conversation with more mature social partners. This thesis presents the background and findings of a case study that explores how preschool children’s conversations with their teachers during the social event of shared storybook reading, might contribute to their understandings about other people’s minds.

Background to the study

Questions about the development of theory of mind abilities in young children have generated a field of research inquiry that emerged from extensive research into metacognition (the ability to think about thinking) in the 1970s, and after Piaget’s studies of socio-cognition in children. By the 1980s a number of researchers had begun to explore how children come to understand people in terms of their ‘mental states’- or what others think, know and feel. Conferences held in the later part of that decade
showcased growing research interest in the phenomenon, and a collection of papers published from the conferences has become a landmark work (Olson, Astington, & Harris, 1988). Since that time there has been rapid expansion in the theory of mind field resulting in a large body of empirical studies. To read further about the history of theory of mind research refer to Carpendale & Lewis (2006) and Flavell (1999, 2000) for reviews.

As theory of mind is a phenomenon of psychological interest, the study of its development in early childhood has been situated predominantly in the sciences. This has generated a field of work produced by and for developmental psychologists with most studies involving positivist and experimental approaches to methodology. As Dockett & Sumion state, "Over several decades research into the early childhood years has been interdisciplinary. This continues to be the case today, with much overseas and Australian research conducted by health professionals, psychologists, sociologists linguists and increasingly cultural theorists, amongst others." (2004, pg 4.) One outcome of this is that much of the research discourse does not readily filter through to other research domains and professionals where it may find useful application e.g. early childhood philosophy and practice (Astington & Barriault, 2001).

Theory of mind development in young children is a subject of great relevance to the field of early childhood research and in particular, early childhood educators, and yet there is very little research attention devoted to inquiry relevant to them and their practice. There are very few studies that consider links between theory of mind development in children and activities in early childhood settings, with the exception of pretend play (Szarkowicz, 1998, 1999).

Researchers in the sciences who have sought to uncover the developmental sequence of theory of mind abilities in children, have generally centred studies on parent/child and family based factors that may impact development, as these are key environmental influences in the formative years. However, it is during the years prior to formal school entry that many children will often experience extended ‘out of home’ care in an early childhood preschool setting, with adults other than parents as their social partners. There is a need to extend existing research inquiry in this area, as to focus research only on interactions between child and parent participants does not acknowledge that other adults (such as early childhood educators) may play a significant role in children’s lives during the early childhood years. There is also a clear opportunity for links to be made to the domain of early childhood educational research, as studies have indicated important connections between adult/child communication styles and theory of mind
development (De Rosnay & Hughes, 2006; Taumoepeau & Ruffman, 2008; Wellman & Lagattuta, 2004) and this is likely to have considerations for pedagogy and practice.

A number of recent works published in the theory of mind field, highlight common ground between the two related areas of developmental psychology and early childhood education. This is primarily through the application of theories that are considered sociocultural in nature, by theorists such as Bronfenbrenner, Bruner and Vygotsky. Sociocultural theories emphasise that children’s development is embedded within the lived contexts of social and cultural interplay, and emphasise that language and communicative interaction with others is of vital importance to learning and development (John-Steiner & Mahn, 1996; Nicolopoulou & Weintrabe, 1998). In particular, the theoretical ideas of Russian theorist Lev Vygotsky have been applied to perspectives of theory of mind development (Carpendale & Lewis, 2004, 2006; Fernyhough, 2008; Nelson, 2005; Nelson, et al., 2003). While this is a somewhat more recent addition to thought in this domain, theories of learning and development derived from Vygotskian perspectives have been informing research and practice in the early childhood education field for over 20 years (Arthur, Beecher, Death, Dockett, & Farmer, 2008; Dockett & Perry, 1996; Lambert & Clyde, 2000).

The shift towards viewing questions of theory of mind development with a sociocultural perspective has paved the way for clearer connections to be made with current early childhood philosophy, practice and settings, as sociocultural based approaches to theory and practice are already common to this field. Moreover, a sociocultural perspective applied to research design, supports a wide range of research methodologies that may be appropriately applied to theory of mind questions in addition to positivist and experimental approaches. This would include ethnographic and case study styles of inquiry and qualitative analysis, methods which are used frequently in educational research domains. In particular, the analysis of naturalistic language as a methodological tool has been identified as one important method of exploring children’s construction of theory of mind knowledge (Budwig, 1999).

Recently, studies in the theory of mind field have employed the use of shared storybook reading between parents and children as a focus paradigm for research. The event of shared storybook reading between adults and children has been identified as having rich potential for theory of mind learning and for generating what is termed mental state discourse between participants i.e. talk about people’s thoughts, feelings and beliefs. Researchers in the developmental psychology field use shared reading as one method of eliciting conversation between participants in order to generate data for
analysis. However, the sociocultural event of shared storybook reading is one that occurs naturally in early childhood settings and educational programs. This raises questions of how shared storybook reading and the mental state discourse that occurs during it, might influence or support preschool children’s development of theory of mind knowledge. An extensive search of research literature did not locate any studies connecting children’s theory of mind development with shared storybook reading in the context of early childhood settings, with early childhood educators as the adult participant.

Purpose and contribution of the current study

The purpose of the present study is to explore how conversational interactions between early childhood educators and children might contribute to children’s developing theory of mind knowledge using the social context of shared storybook reading as a focus research event. The study contributes to a field of research work identified as *early childhood educational research*, which is a growing field in Australia (Holbrook et al, cited by Dockett and Sumsion, 2004) and is conducted by a researcher who has a disciplinary background in early childhood. The focus of the study is an early childhood setting, and the young children and early childhood educators provide information and considerations relevant to the early childhood field, educators and practice.

As the study employs a case study design and qualitative methods to record and analyse conversations between participants, it differs from existing studies of shared storybook reading in the theory of mind field in a number of ways. Firstly, the conversations recorded in the present study occur in a naturally existing ecological context i.e. the preschool setting, rather than an experimental or laboratory situation. In this study, the environmental and social context of the preschool setting was taken into account during data collection, whereas in experimental studies the setting in which shared storybook reading occurs is largely ignored.

Secondly, the storybooks used in the present study are those that are chosen by the participants as part of their normal story reading practice. Therefore, this study provides an account of what children might regularly be experiencing in a natural context. In comparison, storybooks that are used for shared reading in existing studies tend to be selected by researchers and edited or adapted specifically for study tasks. Finally, in this study early childhood educators are situated as the interactive adult partner, whereas in existing studies of shared storybook reading (related to theory of mind development) parents are enlisted as the adult participant.
The remainder of this chapter contains a review of relevant literature, including definition of the terms *theory of mind* and *mental states* and key empirical findings from the theory of mind domain relevant to the present study. Research involving shared storybook reading is included, and finally, research questions that were used to guide the present inquiry are presented.

The development of theory of mind

Definition of terms

**Theory of mind**

Theory of mind is a semantically complex term that carries multiple meanings throughout the research literature. As well as denoting a specific field of research, the term most commonly refers to *cluster of interrelated cognitive skills* that assist an individual to understand and interpret others as *mentalistic* beings. That is, to perceive other people as having thoughts, feelings, desires and intentions, and to understand that it is the workings of the mind that motivate people's actions and influence their decisions and behaviour. Requisite cognitive skills, in particular joint attention and affective perspective taking abilities, are outlined in more depth later.

The term theory of mind as used in research studies and literature has generated debate over its usefulness, and a number of alternatives have been suggested as being more appropriate e.g. *socio-cognitive understanding* (De Rosnay & Hughes, 2006) and *social understanding* (Carpendale & Lewis, 2004, 2006; Fernyhough, 2008). While these arguments have merit, these terms are perhaps suggestive of a wider range of abilities that include aspects of moral reasoning and the ability to identify real versus apparent emotion which are generally not included in studies specifically pertaining to young children's theory of mind. Despite debate, the term theory of mind has found widespread use in research literature and for reasons of consistency rather than semantics, the present study uses the term also.

**Mental states**

The term *mental states* as used in this study, refers to workings of the mind that motivate our behaviour and contribute towards our communicative responses. Although the term mental states is perhaps suggestive of psychological states only, in many studies it also includes affective states of being such as emotions and moods. This acknowledges that in early childhood, the ability to understand emotion is closely
linked to the ability to understand cognitive states. In this study, the term mental states is used to refer to affect (emotion) states such as happy, sad and scared, as well as cognitive states, for example; think, know, remember, references to intentions, beliefs, and cognitive concepts such as imagining and dreaming. Also included are references to desire states, such as wanting or missing something. Behaviour related states such as tired and asleep are not included.

Theories of development

There are numerous theoretical accounts which seek to explain the psychological development of theory of mind. While a detailed discussion of each of these theories falls outside the scope of this study, some of the most frequently cited theories are briefly referred to here. For more in-depth reviews see (Aston & Baird, 2005; Carpendale & Lewis, 2006; Flavell, 1999).

Some of the theories proposed by researchers include an ‘innate module theory’ attributing skill development to the maturing of brain mechanisms that allow children to process multiple mental representations about the world (Leslie, 1987, 1988; Scholl & Leslie, 2001). Others include ‘simulation theory’ (Harris, 1992; Johnson, 1988) which proposes that children use an intuitive sense of their own behaviour in order to take the perspective of others.

Wellman (1988), proposed a ‘theory-theory’ account of development. This somewhat metaphorical interpretation (that children’s understanding of mind is theory-like in nature) attributes development to the child’s gradual construction of an internal framework of reference about others’ minds, that is formed through experience, and drawn upon and adapted within social interaction (Wellman, 1988). This framework also provides children with a causal-explanatory base with which to understand and advance their knowledge of the world (Hickling & Wellman, 2001).

Nelson et al., (2003) account of development asserts that children’s learning is experiential in nature and part of a process of entering a community of minds. From infancy, children’s knowledge about the minds of others in their community is developed through repeated social and communicative practice which is shaped by culture.
Recent theories have also incorporated the work of Vygotsky (Astington, 1996; Carpendale & Lewis, 2004, 2006; Fernyhough, 2008) although Vygotsky himself did not advance his theories of development to the theory of mind domain. A central tenet of the Vygotskian approach is that children’s development of higher mentalistic (cognitive) functioning is constructed within interpersonal interaction with others and is mediated by psychological tools such as language, and culturally derived artefacts (Vygotsky, 1978). In the present study this would include storybooks.

Carpendale and Lewis (2004, 2006) assert that earlier theories have overemphasised the individualistic nature of children’s development of what they term social understanding. They argue that development in this area is fundamentally more interactive in nature with the active interplay of social agents and the surrounding environment as being crucial to the construction of knowledge.

Many current theories in the theory of mind field such as those described above, emphasise the crucial role of social interaction and culture in development. This is closely aligned to many theoretical approaches found in the early childhood field and therefore highlights connections between the two domains.

Connections between Vygotsky and the field of Early Childhood Education

The work of Vygotsky has been applied to perspectives of learning and development in the early childhood field for many years (Dockett & Perry, 1996; John-Steiner & Mahn, 1996; Lambert & Clyde, 2000; Rogoff, 1990) and is often referred to in relation to social constructivist views of development. Definitions of social constructivism differ depending on whether the interpretation derives from a Piagetian or Vygotskian perspective (Ernest, 1994 cited by Dockett and Perry 1996). One notable difference concerns the notion of shared meaning and the internalisation of knowledge.

In the Vygotskian view, learning is intimately connected to social interaction and jointly constructed with others; however the internalisation of knowledge is particular to the individual. This means that, while people construct shared (or collective) meanings in multiple cultural contexts, it does not automatically follow that each individual's understanding of that shared meaning is the same (Perry & Conroy, 1994, cited by Dockett & Perry, 1996). This view encourages early childhood educators to consider the individual nature of children’s learning and to encourage collaborative and negotiated meaning with children as part of their teaching practice (Dockett & Perry, 1996).
Although interpretations of Vygotsky’s work have been very influential in the early childhood field and provide important theoretical background to this study, it is important to acknowledge that tensions exist around the automatic application of Vygotskian principles and terms to early childhood education (Lambert & Clyde, 2000). In revisiting his written works, Lambert and Clyde (2000) argue that Vygotsky did not focus theoretical perspectives on children younger than the age of seven years, nor did he consider the thinking of young children (in early childhood) as significant as that of older school children. This makes the application of his perspectives to early childhood problematic. For more detailed discussion see Lambert & Clyde (2000). Of particular relevance here, the terms ‘zone of proximal development’ and ‘scaffolding’ require some clarification.

Vygotsky's concept of the zone of proximal development (ZPD) is used widely across a number of disciplines in relationship to, or to describe potential learning situations and pedagogy. ZPD refers to the potentiality that exists between what children can achieve independently and what is achievable with assistance from a more knowledgeable other (Fernyhough, 2008; Lambert & Clyde, 2000) and is often used in reference to the style of interactions between adults and children. More specifically, the ZPD refers to a structured ‘learning in training’ instructional situation controlled by the teacher, with children much older than preschoolers. In this controlled interaction, “Free social interaction, play and open dialogue were not part of Vygotsky’s notion of the ZPD” (Lambert & Clyde, 2000 pg. 29). As this is not consistent with current approaches in the early childhood field that acknowledge the child as an active participant in learning processes, the term is not used in the present study. Instead, the term ‘scaffolding’ which is often mistakenly used in conjunction with or even in place of Vygotsky’s ZPD is used; however, clarification is required in relation to the use of this term in the present study.

The term scaffolding was originally proposed by Wood, Bruner & Ross (1976) in their study of the tutorial relationship that occurred when an adult assisted young children to construct a pyramid from interlocking blocks. The graduated forms of support that were identified from this task were defined as the scaffolding process and included tutoring behaviours that assisted the learner to achieve a level of independence with the task (Wood et al., 1976, pg. 98). Over time, the term has gained wide acceptance and use in the early childhood field, however, interpretation has broadened considerably, and is
now synonymous with adults (or more knowledgeable others) assisting children to reach new levels of understanding or ability through graduated and sensitively-pitched guidance. It is this more general interpretation of scaffolding that is used in the present study.

Development of theory of mind abilities

Theory of mind abilities have been shown to emerge early in life, and in the years prior to school entry children rapidly develop fundamental and quite sophisticated knowledge about people and their mental states. Literature documenting this complex area of development is spread over a wide range of subjects and a number of researchers in the field have provided overviews, see (Astington, 1996; Astington & Barriault, 2001; Carpendale & Lewis, 2004; Flavell, 1999, 2000; Olson, et al., 1988). Key aspects related to the theoretical grounding of the present study are reviewed here.

Towards the end of their first year of life, infants begin to engage in interactional behaviours which are viewed by theorists as fundamental antecedents to theory of mind development and the ability to participate in culture (Baldwin & Moses, 1996; Baron-Cohen, 1995; Bruner, 1986; Carpendale & Lewis, 2004; Gernsbacher, Stevenson, Khandakar, & Goldsmith, 2008; Racine & Carpendale, 2007; Rakoczy, 2007). These interactional behaviours include joint attention: which is characterised by behaviours such as the infant following the gaze of another and engaging in attention with that other, of an aspect of the environment (Butterworth, 2001). Other behaviours are pointing gestures (Liszkowski, Carpenter, Henning, Striano, & Tomasello, 2004) and social referencing –where, in a novel or ambiguous situation an infant will direct their gaze to a parent's face to assist them in determining an appropriate emotional response (Baldwin & Moses, 1996; Moses, Baldwin, Rosicky, & Tidball, 2001; Striano & Vaish, 2006).

While these behaviours emerge initially within dyadic interaction with others, as they mature, children’s interactions develop a triadic nature which permit the child, other and objects to be involved. For example, an adult refers to an object in the environment by pointing, the child understands and follows the meaning of the gesture, and shares joint attention with the adult - allowing adult and child to engage in meaningful communication about the object identified. It is this triadic style of interaction which is integral to the current study of shared storybook reading. When sharing the reading of a storybook, adult and child engage in joint attention focussed on an external text and
as they do so, a level of intersubjectivity is created where they are jointly constructing and sharing meaning between them (Bruner, 1986; Carpendale & Lewis, 2006).

From toddlerhood, children begin to show awareness of others’ emotions and display what are termed affective perspective taking abilities -the ability to interpret how another person may be feeling (Denham, 1986; Denham, Zoller, & Couchoud, 1994). This skill is highly interconnected with the later ability to understand and ascribe psychological mental states such as thoughts, intentions and beliefs to others (Cutting & Dunn, 1999; Dunn, Brown, & Beardsall, 1991; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991; Harwood & Farrar, 2006).

Longitudinal analysis of children’s productive speech has led to general acceptance that young children come to understand and talk about people in terms of their affective states (emotions and desires) first, before coming to understand and talk about others in terms of their cognitive (belief and thought) states (Bartsch & Wellman, 1995; Dunn, Bretherton, & Munn, 1987; Jenkins, Turrell, Kogushi, Lollis, & Ross, 2003; Taumoepeau & Ruffman, 2008). Of these cognitive states, one termed false belief has been of particular interest to theory of mind researchers, with the question of at what age false belief understanding begins to appear in children a specific research focus.

Theory of mind and ‘false belief’

During their development of theory of mind, children become aware that reality can be deceiving. They begin to understand that thoughts held in the mind may not be true, and that people will act on their mistaken thoughts or ‘false beliefs’ about the world. False belief awareness incorporates the knowledge that people can be manipulated by what they do not know or are mistaken about and thus opens the door for children to begin to understand trickery, lies and some forms of humour, as well as being able to experience an enhanced perception of other people’s intentionality. Therefore, false belief awareness is considered a hierarchical skill that other conceptual and perceptual skills involved in theory of mind reasoning hinge upon. Its emergence heralds a qualitative shift in cognition where children can exercise an enhanced recursive understanding of other people’s behaviour.

Due to its perceived conceptual importance, false belief understanding has become a benchmark skill in many theory of mind studies. In order to determine casual or correlational links to variables, measurements of theory of mind are used. In quantitative studies, this often occurs in the form of false belief tasks (Wellman, Cross, & Watson, 2001).
Studies show that children’s understanding of mind undergoes genuine conceptual change in early childhood, and that before the age of 4 years, children find reasoning about false belief very difficult. Once children are accurately able to ascribe false beliefs to another person in general circumstances, then they are considered by a large number of researchers to have achieved a ‘working’ theory of mind (Austing & Barriault, 2001; Hughes, et al., 2005; Liu, Wellman, Tardif, & Sabbagh, 2008; Scholl & Leslie, 2001; Slade & Ruffman, 2005; Szarkowicz, 1999; Wellman, et al., 2001; Wimmer & Perner, 1983).

Recent cross cultural research continues to support that theory of mind appears to be a phenomenon with a universal developmental trajectory, with typically developing children generally achieving the benchmark false belief understanding at around 4-5 years of age regardless of cultural background (Callaghan, et al., 2005; Liu, et al., 2008). It is for this reason that children between 4-5 years of age are a very common sample in theory of mind research. However it is acknowledged that false belief begins to emerge around this time, and continues to undergo important development throughout childhood and beyond.

Researchers have considered why most children develop skills at around a similar age, and there is some evidence from neurological experiments that may indicate a maturational aspect to theory of mind development. Saxe et al’s (2004) results of neuro-imaging studies suggest that there are separate regions in the brain for reasoning about goals and actions and representing the content of beliefs. The authors suggest that the cognitive functions involved in theory of mind have separate specialized neural systems; therefore individual development would then be dependent on the time required for neural pathways to be constructed and connections between regions to be synchronised. For most children this appears to begin in the preschool years (Saxe, Carey, & Kanwisher, 2004). However, while maturation may be a consideration in determining an approximate age of onset of abilities in children it must be emphasised that research indicates significant difference in individual ability - and this is attributed to cultural and experiential factors in children’s lives (Hughes, et al., 2005; Liu, et al., 2008).

Factors that influence theory of mind development.

Determining what factors may have causal influences on children’s theory of mind development has been an area of intense research interest. Hughes et al (2005) study
is presented as an example because its findings are representative of other studies in this area and because of its study design. This study compared environmental factors, with the results from multiple theory of mind and language testing tasks in a very large sample of twin children. Both mono (sharing same genetics) and dizygotic (genetically separate) twin pairs were included and selected from a wide social stratum. The use of twin pairs in study design provides an indication of what factors may be attributable to genetics and what may be more attributable to other influences such as environment. The findings emphasise that children's individual difference in theory of mind knowledge is correlated strongly with their language ability. Another potent influence is family structure.

**Family structure**

In general, socioeconomic factors thought to impact on language ability also appear to impact on theory of mind understanding in children, most notably parental occupation status and maternal education level (Cutting & Dunn, 1999; Hughes, et al., 2005). Accelerated performance on theory of mind tasks has also been observed in children from large families (Perner, Ruffman, & Leekam, 1994).

Having siblings is thought to impact of children's theory of mind knowledge as there is potential for more numerous social interactions, and children witness the socialisation of their sibling(s) by caregivers, which may contribute to their understandings of the social world. In addition, there appears to be a connection to theory of mind abilities with the age of the siblings. In comparison to those that don't, children with older siblings show an enhanced understanding of theory of mind (as displayed by performance on false belief tasks) (Jenkins & Astington, 1996; Perner, et al., 1994), though the same effect does not apply to younger siblings (Ruffman, Perner, Naito, Parkin, & Clements, 1998). The exact causal relationship between siblings and children's development of theory of mind knowledge is not clear, but it is thought that play with older siblings may increase a child's exposure to more frequent and salient social interactions that could involve instances of teasing, lying and advanced forms of pretend play.

Pretend play is a social phenomenon that inspires and encourages theory of mind learning as it involves children holding multiple cognitive representations of reality and the playing of roles (Astington, 2001; Jenkins & Astington, 1996; Szarkowicz, 1999). Playing roles often involves affective perspective taking and awareness of other players' mental states.
The social environment of the preschool holds parallels to that of a large family with siblings. In the present study, the preschool setting is an environment that presents children with the opportunity to interact with many peers in a large group. Presumably, some children may be older or more socially advanced than others and this would impact on the types of play (including pretend play) and learning children are involved in and may possibly exert a similar influence on development as that of older siblings. Additionally, in the preschool setting children witness frequent examples of adults directing and assisting the socialisation of numerous children and this could provide a rich social context for experiencing and considering the multiple perspectives of others.

Language
There is strong converging evidence that one of the most crucial factors to influence theory of mind development in individual children is language ability, and that the understanding of other's minds is deepened over time by linguistic communication with others (Hughes, et al., 2005; Nelson, 2005; Ruffman, Slade, & Crowe, 2002; Slade & Ruffman, 2005). For a compilation of history and thinking in the field see (Astington & Baird, 2005).

References to basic emotional states (happy, sad, angry and scared) and some psychological states (think, dream) have been observed in very young children’s productive speech utterances, showing that children begin to talk about internal mental states early (Bretherton & Beeghly, 1982). However, while strong verbal ability has shown to have a positive impact theory of mind ability, the effect does not appear to be reciprocal i.e. early theory of mind ability does not impact on language (Astington & Jenkins, 1999).

While these studies show that language ability is correlated with theory of mind abilities, these findings do not explain how, and what aspects of language may be impacting on development. This has led researchers to explore causal aspects of language to theory of mind development, and of these, conversation with others has been highlighted.

The importance of conversations
There has been push by researchers for a general consensus that theory of mind understanding is primarily constructed through social interaction, with conversation as the pivotal vehicle (Astington & Baird, 2005; Budwig, 1999; De Rosnay & Hughes, 2006; Dunn, et al., 1987; Harris, 2005; Racine & Carpendale, 2007). In their
comprehensive review of research literature, De Rosnay and Hughes' (2006) synthesis of research findings, strongly acknowledges "...the fundamental importance of conversational interaction for the development of children's socio-cognitive understanding." (De Rosnay & Hughes, 2006, p 32). The authors recommend further linguistic study of conversations and for research to explore the importance of relationships in theory of mind development. Indeed, a number of researchers agree that it is relationships that determine conversation - and relationships vary as do the contexts in which they operate. While conversation is of significant importance, it is the nature of the relationship and the context and quality of talk that will determine outcomes for learning (De Rosnay & Hughes, 2006; Racine & Carpendale, 2007; Wellman & Lagattuta, 2004). In particular, the ways in which children are spoken to and engaged as a social partner has a bearing on their development of knowledge about others' mental states.

A number of studies employing conversational analysis and family observation methods have become much cited works in the field (Dunn, et al., 1987; Dunn, Brown, & Beardsall, 1991; Dunn, Brown, Slomkowski, et al., 1991), identifying conversational interactions in the family as providing children with a forum for understanding emotion and behaviour in others. Findings show how frequently families include children in discussion that involves the identification and causes of other people's emotions, can have a strong link to their ability to recognise emotion in others later in childhood (Dunn, Brown, & Beardsall, 1991). Family discourse involving disputes is also thought to raise children's knowledge of other people's thoughts, as intentions are explained within a salient social context (Dunn, Brown, Slomkowski, et al., 1991). Therefore, conversation about the causes of people's mental states and behaviour is of clear importance for children's development of theory of mind knowledge, with children's seeking and providing of explanations shown to be a pivotal factor.

Conversation involving causality and explanations
Longitudinal examination of conversations between parents and children show that young children frequently engage in causal questioning of adults e.g. “Why did she do that?” almost as soon as they begin talking (Callanan & Oakes, 1992 cited by Hickling & Wellman 2001).

Hickling and Wellman's (2001) analysis of extensive transcripts of naturalistic conversations show that as they develop, children in the preschool years are curious about and seek explanation about the activities and actions of others and this often
involves talking about mental states. However, young children do more than seek explanations about people's behaviour from others. As Wellman and Lagattuta (2004) state,

“Young children not only seek explanations, they provide them. When children provide explanations, they, like adults, include two parts: the topic or entity to-be-explained and the explanation itself” (Wellman & Lagattuta, 2004 pg.482).

After reviewing findings from research which focussed on children's psychological explanations i.e. children's explanations of why people think or act the way they do, Wellman and Lagattuta (2004) conclude that there is a strong interplay between explanations and theory of mind, and in particular, children's generation of psychological explanations for people's mental states and behaviour appears to provide them with a specific mechanism for learning about theory of mind. The authors extend this idea further to encompass pedagogy, and argue that children's psychological explanations have an important role in teaching and being taught more generally:

“Namely, encouraging children to think about and explain someone else's reasoning provides a valuable teaching method for advancing students’ thinking and learning” (Wellman & Lagattuta, 2004 p.g.493).

Asking children to make explanations based on another person’s perspective, for example “Why do you think he thought that?” is thought to be particularly effective as it requires children to explain their own reasoning while adopting the perspective of another (Siegler (1995b) cited in Wellman & Lagattuta 2004). This kind of questioning requires a child to engage in higher order thinking, in order to understand the perspective of a person in the first case, and then to frame their verbal response so that their reasoning can be understood by another.

While these findings have not been explored extensively in relationship to aspects of teaching and learning in early childhood contexts, they support the idea that the questioning styles of adults (in particular the way adults frame questions to children) could play an important and causal role in children's construction of theory of mind knowledge and constitute a form of support for theory of mind learning.

This notion raises questions in regards to shared storybook reading. For instance, how might the kinds of questions adults ask of children while engaged in shared storybook reading enhance children’s theory of mind understanding? Furthermore, the questions that children ask adults during shared storybook reading (that may hold connections to
theory of mind knowledge) are also worthy of consideration and are aspects not fully explored in current literature.

**Shared Storybook Reading (SSR) and connections to theory of mind**

In this section, the literature surrounding shared storybook reading (SSR) and connections to theory of mind development is reviewed. This begins with the potential for storybooks to convey theory of mind related material in a format that is accessible to young children: and research that identifies children's ability to understand mentalistic content conveyed by storybook plot and characters. The use of SSR as a research paradigm is discussed, and findings from experimental studies involving adult child interaction during SSR are reviewed.

**Children's storybooks**

The proliferation of literature titles produced for young children who are not able to 'read' independently, indicates that sharing storybooks with children continues to be a popular social practice that many children will be exposed to as a natural and regular part of their childhood (Makin, Jones Diaz, & McLachlan, 2007). Storybooks can be seen as cultural tools that introduce children to pictorial illustrations and narrative traditions (Madej, 2003; Nicolopoulou, 1997, 2008) The benefit of shared storybook reading to children's emerging language and literacy development is well established (Brice-Heath, 1982; Clay, 1991; Meek, 1988; Snow, 1999; Snow & Ninio, 1986; Sulzby, 1985; Teale & Sulzby, 1986).

If, and how the construction of texts contribute to children’s understanding of mind has been the focus of recent research effort although studies in this particular area are rare. Dyer, Shatz & Wellman (2000) analysed a large selection of children’s storybooks specifically for mental state references attributed to plot or characters via inference or specific reference. Their findings are more comprehensive than similar previous studies because they include a measure of the frequency with which these terms appear throughout books over two age ranges (3-4 and 5-6) years. Despite a slight reduction in frequency of references in the younger age range, the findings consistently show that storybooks produced for children are thick with reference to the internal psychological states of others. This explicit mental state reference is conveyed not only through written text, but through the interplay of text and pictures. In addition,
situational irony was identified as a commonly used literary device offering perspectives on the beliefs, thoughts and feelings of others.

Depictions of false belief are also important to consider in relation to storybooks. Storybooks often portray situations such as those found in everyday social interaction and these often include incidence of false belief. Storybooks therefore, will presumably contain false belief content in the form of mistaken intention, lies and trickery and this may provide a context for children to exercise and enhance their growing false belief understanding.

Shared storybook reading is a reciprocal social event where adult and child engage in patterns of interaction termed *book reading routines* (Bruner, 1986). As adult and child jointly attend to the text, they share experience of the representations, characters and plots contained within and create a context of intersubjectivity where meaning is jointly constructed.

In Danis, Bernard, & Leproux's (2000) study, adults and children were shown to adapt their verbal interactions to each other during shared storybook reading. The adults initially adapted their interactions to *match* a child’s cognitive level in order to facilitate discussion. Once a shared communication level was established, many adults displayed a tendency towards raising the level of abstract talk in order to try and enhance their child’s knowledge. The researchers interpret this interaction style using Vygotskian notion of ZPD, whereby parents are attempting to move children through the zone of proximal development to a higher level of awareness. This tendency to engage in pedagogical behaviour can equally be described as *scaffolding* whereby parents sensitively pitch their level of communication to promote children's increased understanding of representations conveyed by the text.

Storybooks and shared reading therefore, provide a strong potential context for children to access theory of mind knowledge as well as creating a stimulus that encourages readers to consider and talk about mental states. Dyer et al. (2000) suggest that extensive study is needed to determine what role storybook narratives may have in influencing children's theory of mind development. This is an important question because although children's storybooks themselves are shown to provide a rich source of mental state reference, it does not necessarily follow that children are able to access this meaning readily. This question has been explored recently in a
study of children’s understanding of characters in narrative (Nicolopoulou & Richner, 2007).

Children’s understanding of characters as ‘mental agents’

Nicolopoulou & Richner (2007) present an important extension to inquiry in the field of narrative research, exploring the question of what age children can understand, and are able to describe, characters in stories in terms of their mental states. These findings challenge a current belief held by many narrative researchers that “…children do not portray characters as mental agents with much frequency until around 8 or 9 years of age.” (Nicolopoulou & Richner, 2007, p. 413). This was an important consideration, especially as findings in the theory of mind field clearly show children capable of understanding psychological states in others much earlier at around age 4-5 years.

Using naturalistic methods of data collection rather than soliciting children’s knowledge through experimental measures, the researchers recorded spontaneous examples of children’s narrative stories as dictated to their preschool teachers during free play. When given the freedom to choose their own plots and characters, children’s told narratives give strong evidence that they are able depict characters with rudimentary mental states at age 4 and as developed ‘people’ with inner psychological states that inform their behaviour (including false beliefs) at around age 5 years.

In addition, research suggests that by the age of 5 years, children display an adult-like ability to track the mental perspective of storybook characters, which allows them to follow a character’s “thoughts” (O’Neill & Shultis, 2007). These findings are much closer in alignment with those in theory of mind research and suggest that children are able to apply their theory of mind understandings to character representations in narrative almost as readily as they are able to attribute them to people in the real world.

SSR in theory of mind research

In recent years, there has been an increased use of shared storybook reading in experimental methodology as a “…paradigm commonly used in research to elicit conversation between parents and young children” (LaBounty, Wellman, Olson, Lagattuta & Liu, 2008 pg.760). Studies usually employ parents and children in a dyad situation and record the conversation that occurs for analysis and correlation to variables.
SSR is attractive as a focus event for research involving theory of mind for a number of reasons. Apart from being an effective way to elicit conversation, the event of SSR provides a focussed conversational forum between adult and child. Research indicates that specific interactional contexts (like SSR) where children are paired with socially mature partners increases the level of mental state language used in conversation (Symons, Peterson, Slaughter, Roche, & Doyle, 2005). As a cultural artefact, storybooks produced for young children contain rich reference about the mental states of others, which provides a source of stimulus for mental state discourse. Despite the potential of published storybooks to convey and encourage mental state reference, researchers often specifically design or alter storybooks in order to increase the mental state content depicted. A result of this is that findings do not reflect an account of what might normally occur during engagement with usual storybooks, or interactions in naturalistic contexts. Furthermore, there is a lack of research that involves groups of children in naturally occurring social settings such as preschool.

Adrian, Clemente, Villanueva & Rieffe’s (2005) study was one of the first to use storybooks in relation to theory of mind connections. Other previous studies had used pictures or wordless picture books (Ruffman, Slade & Crowe 2002, Sabbagh & Callanan 1998, as cited by Adrian et al. 2005). Maternal use of mental state terms during SSR was coded and correlated with measures of verbal and false belief ability, along with data about the educational level of parents and the frequency of picture book reading in the home. Their findings suggest that frequency of book reading in the home may have an influence on theory of mind ability – as does the frequency and variety of mental state terms used by the mother. According to Adrian et al.(2005), both emotion and cognitive terms are considered to be important contributors to children's theory of mind ability - but terms related to cognitive aspects appear to have the strongest relationship (Adrian et al. 2005).

In a following study in 2007, the same researchers used SSR in a longitudinal study of mothers’ use of cognitive state verbs such as; think, know, remember, believe, expect, imagine, forget, explain, understand etc. Emotion and desire terms were not included. The storybooks used in both this and the 2005 study consisted of a commercial storybook (Snow White) in which the text had been removed, and 3 other short narrative stories that were specifically designed for the study “All the stories had in common a presentation of events with obvious mentalist content: false belief, trickery, lies, etc” (Adrian et al. 2005: pg. 677).
Findings showed a correlation between the frequency of the mother's use of cognitive state verbs and children's later ability to understand the mental states of others. Data also indicated a strong correlation between mother's references to the mental states of others (storybook characters) during SSR and children's understanding of mental states as shown in later theory of mind measurement tasks. The researchers describe participant interactions using the notion of ZPD. Parents showed a tendency to focus on what the child did not yet already know. This supports the notion that many parents will attempt to scaffold their children's knowledge through questioning and instruction (Adrian, Clemente, & Villanueva, 2007).

The study of mental state term use during picture book tasks was explored recently by LaBounty et al. (2008). This study was designed to include fathers in addition to mothers as conversational partners of children during book sharing, as almost all other related studies focus on mothers as the main dyad partner. In this study, a wordless picture book was used to elicit conversation between participants and the data analysed for the frequency of mental state terms. Findings suggest that the conversations of both mothers and fathers were equally supportive to children's developing theory of mind knowledge. However, while mothers tended to use more causal emotion language than fathers, the father's casual explanations of desires and emotions appeared to be particularly influential to children's theory of mind understanding.

For this study, LaBounty et al. (2008) devised a *keyword bank* of mental state terms for the coding of transcripts. This list of mental state terms includes cognitive and desire related terms as well as affective (emotion) terms. As this keyword bank appeared to have an inclusive list of terms, it was adopted for used in the present study. Further explanation as to its use is provided in the methodology chapter.

Symons, Peterson, Slaughter, Roche & Doyle (2005) explored theory of mind and mental state discourse between parents and children who were a little older than preschool age (5-7 years) using SSR and children’s storytelling tasks. The storybook in this case was a *regular* storybook that participants had not seen before. One finding of this study is that the conversations that occurred immediately *after the reading of the book* held the most promising interactions for theory of mind learning. After the storybook reading had finished, parents and children were shown to discuss the behaviours and mental states of characters in the book in a type of *review* - more so than throughout the storybook reading. The level of mental state reference during this
review conversation was positively correlated to children’s performance on theory of mind measures. The researchers attribute this positive correlation to the elaborations made by parents during the discussion.

A feature of the methodology used in Symons et al. (2005) study, was the coding categories designed for the analysis of verbal interactions. These categories moved beyond counting single keyword frequencies and coded the utterances made by participants using four different types of mental state references e.g. affective, desire, cognitive and behaviour references. These categories allow for an enhanced method of coding of verbal conversation as it allowed for the coding of utterances that related to mental state talk, but did not contain keyword terms. As this is a potentially a more inclusive way of viewing conversational data, the categories devised by Symons et al. (2005) are adopted in this study and explained in depth in the methodology chapter.

Study design and research questions

In summary, during the preschool years, children’s ability to understand others as mental beings increases rapidly. Research evidence shows that language ability and conversations with more mature social partners supports this development. From an early age, children seek causal information about other people’s mental states from more knowledgeable others to increase their understanding, however, studies have suggested that prompting children to provide their own psychological explanations for others’ actions and behaviour may provide a mechanism for theory of mind learning by encouraging children’s ability to reason in this area.

In recent years, theoretical approaches in the theory of mind field have also placed a greater emphasis on the sociocultural nature of learning and development and the use of naturalistic language as a method for exploring questions in research. Additionally, shared storybook reading has been identified as a useful focus event for studying conversations between children and parents and how this may link to theory of mind development. However, the majority of studies to date are experimental and employ parents as the adult conversational partner.

In designing research that acknowledges a sociocultural perspective of development, the lived contexts of research participants are of great importance. When focussing on young children as participants in research, it is important to consider the social and cultural contexts in which they are developing (Graue & Walsh, 2004). One such setting is that of the preschool.
In Australia, the Australian Bureau of Statistics indicates that a majority of children will attend a form of preschool in the year before they begin school: around 85% of 4 year olds (ABS, 2009). For the purposes of definition, preschool refers to a setting that particularly caters for children in the year (or in some cases possibly 2 years) prior to their entry to formal schooling. This indicates that attending a preschool setting is a significant social experience for many children, and one that occurs around the time that they will be experiencing a rapid burgeoning of theory of mind development.

Shared storybook reading is a social event that is common to many early childhood preschool programs, however there are no studies of shared storybook reading and its relationship to theory of mind development situated in a preschool setting, that include early childhood educators as a conversational partner with children. The question of how shared storybook reading in preschool settings may contribute to children's growing understanding of other's minds has not been addressed.

The preschool as a site for research
Preschools provide a rich world for sociological perspectives and represent a social matrix where children, parents, staff and service providers generate a social reality that is embedded in wider cultural and social influences (Buchbinder, Longhofer, Barrett, Lawson, & Floersch, 2006) Preschools are also an environment involved in the care and education of children. It is within a preschool setting that many children will experience their first separation from parents in an environment other than the home, and have the experience of being socialised by other adults who are not family members and who stand ‘in locum parentis’.

Preschools are an important site of enculturation as children experience an introduction to routines and social interactions that are reflections of the wider social world they will enter as they reach formal schooling. Through attending preschool, children spend extended periods cared for by early childhood educators, thus providing further support for the preschool as a meaningful environment, and to the relevance of early childhood staff as important partners and contributors to children’s developing understandings of the social world.

Early Childhood Educators as children’s social partners
As previously discussed, studies of SSR and theory of mind have focussed on the primary relationship between parent and child. However, early childhood educators also play an important role in many children’s lives. Some general expectations
regarding the approach of early childhood educators towards communication and shared storybook reading with young children are listed below.

It is expected that;

- Early childhood educators in the preschool setting will possess an insightful understanding of child development and will encourage children’s development with the provision of activities and learning experiences that are connected to children’s home and communities, as well as being meaningful to children’s levels of development.
- Given that current research strongly reflects the importance of exposing children to literacy based activities in order to support emergent literacy development, early childhood educators will provide a range of suitable experiences and this will include shared storybook reading as part of the preschool program.
- Early childhood educators will be interested in and open to children’s communications with them and will use explanation and questioning to support and extend children’s learning (Zucker, Justice, Piasta, & Kaderavek, 2010).
- Early childhood educators, like parents, will engage in scaffolding techniques to assist children’s learning throughout shared storybook reading, but the relationship to potential theory of mind development in children is yet to be explored.

Research questions to guide the current study

The current study investigates conversations between children and early childhood educators during shared storybook reading and how this might relate to children’s developing theory of mind. To do this, naturally occurring shared storybook reading events which children might normally and regularly be exposed to as part of their preschool experience were the focus for data collection.

The overarching question guiding the inquiry was;

*How might SSR in the preschool setting contribute to children’s developing theory of mind understanding?*

To assist in answering this question, two contributing questions were employed;

1. *How does SSR occur in the site?* This question included considerations such as; Identifying if shared storybook reading occurred in the site. If so, how often, and in what format? (For example, one on one, small or large groups). What are the observable
social aspects of SSR experiences i.e. patterns in interaction and do SSR events have observable structure?

2. Do teachers and children talk about mental states during SSR? This question included considerations such as; Do participants engage in conversation during SSR? If so, do they use mental state terms during conversation and how frequently do they use them? Which of the participant are using them and in what ways?

The methodology used to explore these questions is outlined in the following chapter.
The methodology used in the study is outlined in this chapter, beginning with an overview of the theoretical background and case study approach to the study design. Information about the site and participants is presented, along with a description of the researcher's role in the site. Descriptions of the techniques used to collect, code and analyse data is also presented. Finally, considerations about the credibility and transferability of the study are discussed.

Background to study design

In recent years it has become common for research within the early childhood field to explore connections between theory in domains such as developmental psychology and implications for early childhood education and care (Kilderry, Nolan, & Noble, 2004). Work by researchers that interprets and emphasises the sociocultural nature of children’s learning has further facilitated links to educational practice and educational research paradigms (Carpendale & Lewis, 2006; Nicolopoulou & Weintrabe, 1998).

There are many traditions in educational research. Of these, two in particular have informed this study. The first, described by Jacob (1997) is ‘Ethnography of communication’ where cultural patterns and practices are seen to influence social interaction (such as practices in the classroom) and the focus of inquiry is on "patterns of face to face social interaction in specific scenes in significant settings" (Jacob, 1997 pg, 34). Research in this tradition usually collects data from initial fieldwork and detailed data collection (such as videorecording) and employs qualitative and/or quantitative methods of analysis (Jacob, 1987).

The second influence is that many studies in the education field derive from a constructivist research paradigm. Denzin and Lincoln (1994) describe this paradigm as one that "...assumes a relativist ontology (there are multiple realities), a subjective epistemology (knower and subject create understandings), and a naturalistic (in the natural world) set of methodological procedures." (Denzin & Lincoln, 1994 pg. 13). The theoretical approach adopted in this study is one that follows aspects of both ‘ethnography of communication’ and constructivist paradigm descriptions.
Additionally, this study uses a qualitative approach to design and methods. This involves mixed methods of data collection, including field observations and audiovisual recording to generate transcripts, as well as computer assisted analysis e.g. frequency counts and constant comparative analysis of data (Creswell, 1998; Glaser & Strauss, 1967).

Empirical evidence has shown that the preschool years are a time when theory of mind knowledge is rapidly developing. Therefore, situating research in contexts of relevance to young children at this time is particularly important. It is crucial that there is research inquiry that views children’s development within the *lived contexts in which they are developing* (Graue & Walsh, 1998) such as the preschool education setting.

In qualitative educational research, case studies have been used for many years as they “focus on one particular instance of educational experience and attempt to gain theoretical and professional insights from a full documentation of that instance” (Freebody, 2003 pg 81). For this reason a case study situated in an early childhood education setting was chosen as the site of inquiry.

This descriptive case study is used in what Stake (1995, cited in Creswell, 1998) calls an 'instrumental' way, to explore the research questions i.e. employing a case study example to increase understanding of a particular phenomenon. The case in focus is the event of shared storybook reading, situated in the context of a preschool setting (Creswell, 1998). The preschool site and its participants were considered to be a representative sample of other similar early childhood settings in the regional area at the time (Creswell, 1998; Hatch, 2006).

**The case study**

**The site**

The site chosen for this case study was a preschool situated in what could be considered a middle class suburban region of coastal Australia. The consideration of socioeconomic status is supported by economic statistics relevant for this regional area (ABS, 2009). The preschool was chosen because it caters specifically for children in the year prior to primary school entry, providing a socially occurring group of children aged between 4-5 years of age. Proximity to the University was also a consideration in
choice. Participants were two groups of children, comprising of 21 in one group and 20 in the other, and the staff who regularly work with them (a total of 5 teaching staff).

The groups each have their own classroom and are self contained in terms of resources and staffing. The groups share bathroom and outdoor playground facilities. Although children are assigned to a particular classroom group, they are permitted and at times encouraged to move between rooms and ‘visit’ with the other groups. The teachers of each room design and implement their own program and daily routine. A wide range of learning experiences were observed during the observation period, and the activities appeared to be generated from child initiated interests and community events. This is consistent with a child centred and emergent curriculum approach to teaching (Arthur, et al., 2008).

Entry into the site
Prior to the researcher's entry to the site, permission to conduct the study was applied for and granted by the Human Ethics Committee of the University of Newcastle. An information pack was distributed to all potential participants, with all children and staff in the preschool rooms invited to participate in order to strengthen the ecological validity of the case study sample. The information pack contained a letter of introduction outlining the study and participant consent forms.

Participants were assured that no personal information about themselves or their family would be collected. In a separate section of the consent form, participants were asked to consent to the possible use of vignette examples, snippets of video footage or quotes made by children as part of communicating study findings for academic or teaching purposes.

Participants were also informed that they were able to withdraw from the study at any point in time without needing to give a reason. In addition, participants were invited to view any of the recorded video data or transcriptions of recordings at any point during the study. In the letter of introduction, parents/caregivers were encouraged to talk to their child about participation in the study, and where possible gain joint consent.

All staff members and families consented to participate, with the exception of one family whose child had a developmental disorder, and data was not collected involving this child.
Study participants

Children
A total of 41 children (18 girls and 23 boys) took part in the study. At the time of the data collection, all of the children were over 4 years of age but younger than 5 years. All of the children attended the preschool on a regular basis, 3 days per week. As data was collected during the latter half of the year, this meant that all of the children had been attending the preschool for 7 months prior to the commencement of the study. The children were all from predominantly Anglo-Celtic backgrounds and spoke English as their first language.

Staff
5 staff members who had direct regular contact with children were included in the data collection. All had been working at the preschool for more than two years and there had been no recent staffing changes in the site. All staff members held tertiary qualifications in early childhood studies. Throughout this study, staff members are identified by the term ‘teacher’ regardless of whether they hold a 2 year tertiary qualification or a 4 year university degree. All of the teachers were from predominantly Anglo-Celtic backgrounds and spoke English as their first language.

Data collection and analysis

Role of the researcher on site
The first week of the data collection consisted of observation only, as a way of orienting the researcher to the setting, participants and usual routines and activities. This orientation period allowed the participants time to build familiarity with the researcher’s presence in the environment and allowed the researcher to establish a rapport with the staff and children, to recognise and know them by name. As all research data involving participants can be can be influenced by the presence of a researcher in the environment, it was important that the children and staff felt at ease with the researcher’s presence during their activities. During the first week the researcher spent extended time observing, recording field notes and at times interacting with the staff and children when appropriate.

Some research approaches place an emphasis on the researcher being as anonymous as possible in a site with personal interaction to be avoided. Through observation and
discussions with both the director and teachers in the centre it was evident that this would not be an appropriate mode of being in the site for a number of reasons. Firstly, this setting was (on almost a daily basis) a placement site for a range of early childhood student pre-service educators and carers to engage in practical experience. Children in the site were therefore in regular contact with numerous student teachers and their interactions and verbal communications showed that they knew why they were there, and that their presence was temporary. Many children in the site appeared to enjoy the presence of extra adults to share in games and activities, therefore, to be a static non-interacting presence was not consistent with what children were familiar with. Additionally, the researcher believes that to deny child research participants the opportunity to talk with and about why the researcher is present in the site underestimates children’s abilities to understand research as a process and their involvement with this process. Furthermore, it may reduce their comfort in asking to withdraw should they wish to do so.

The general approach adopted by the researcher in this site was to be a non-initiator of relationships, where the researcher did not instigate communication but would answer participants’ spontaneous questions. The researcher engaged in some group activities such as circle games and helped with activities such as packing away and cleaning toys and equipment, which was consistent with other visitor behaviour in the site.

The occurrence of shared storybook reading (SSR) in the site Initial observations made in the first week were used to inform the collection of further data, by first establishing whether shared storybook reading occurred regularly in this setting and secondly, to gauge the times when such events were likely to occur.

In the outdoor playground area, comfortable seating and children’s literature texts were made available to children during ‘free play’ time. Children were observed using these resources independently from time to time; however, there were no observed examples of experiences that could be considered shared storybook reading with an adult. Staff members also indicated that SSR between adults and children in the outdoor play area occurred infrequently. Therefore this was not deemed to be a suitable source of data.

In the classrooms, children’s literature was displayed and easily accessed by children on low purpose-built shelving, situated in a section of the room furnished with comfortable seating away from more ‘active’ play sections of the room. Children were
observed engaged in SSR experiences with each other, sometimes as part of a role playing game where children took turns pretending to be a ‘teacher’ and ‘reading’ a book to peers. On a few occasions it was observed that a child would instigate a SSR experience with an adult, however, these events were infrequent and at times were interrupted by other children, or by the teacher needing to assist with other matters elsewhere in the room.

Observations revealed that the main occurrence of SSR between teachers and children occurred as part of group time experiences where the all the children in the preschool room joined together and were directed in the activity by a teacher. These SSR events were a regular part of the daily routine in the site, and it was these, group shared reading events that were selected for the data recording. The selecting of specific bounded times (such as the SSR event) for data collection is an approach identified as behaviour sampling (Kellehear, 1993; Martin & Bateson, 1993). The advantage of this approach being that the researcher can focus observations on instances of participants repeated behaviour, in order to identify patterns of interest.

The teachers confirmed that SSR events had been a part of their preschool routine since the start of the preschool year, suggesting that for the participant children, group SSR had been a regular and familiar activity as part of their preschool experience. It was an important consideration that the SSR events were a regular part of the routine for children as it suggests children engage in repeated exposure to this social behaviour.

The SSR events were observed to occur in two main forms in terms of intent. One form was where the book to be read was chosen by the teacher as a stimulus activity: where the shared reading of the book occurred prior a group discussion or application of book related content to another literacy based activity. The second form was where SSR of one or multiple storybooks occurred as part of the regular daily program around the same time each day, and where the books were read for enjoyment. It was also noted that the ways in which participants selected texts for shared reading differed; this aspect will be described in more detail under relationships with books in the analysis chapter.

During the observed SSR events, the children sat close to each other on the floor and the teacher sat on a low chair in front of them displaying the book. At the start of each
event, the teachers generally took time to move or settle children's sitting positions to ensure that all children could see the storybook illustrations. Where the term storybook is used throughout the study, it is used to denote a book produced for young children that contains both illustrations and written text.

Data collection techniques

The preschool structured attendance patterns around those of the school year, which consists of 4 terms in a year. The collection of data occurred over the period of one term, in the third term of the year.

Field notes
In the initial week of observation the researcher recorded reflective and analytical field notes only. Throughout the remainder of the data collection, field notes were taken as a means to support the researcher’s thoughts and ongoing analysis of the shared storybook reading events as they occurred.

Digital video recording
Digital videorecording was chosen as the preferred technique for recording the shared storybook reading events for a number of reasons, though primarily because children of this age group are particularly paralinguistic (i.e. convey communication through gesture and body language) in their communication style. Video footage can assist in clarifying a participant's possible communication intention by allowing facial display and body gesture to be considered. This technique would therefore allow responses to be considered that may be missed through audio recording alone (Walsh, Bakir, Byungho Lee, Chung, & Chung, 2006). This technique is also useful where there are discrepancies between what is said verbally and what meaning the person may be portraying in other communication signals.

Since initial observation revealed that most shared storybook reading events occurred as a group situation with multiple children involved, video recording was particularly useful, as it allowed for individual children’s responses to be attributed to them. To be able to see children as they spoke assisted accurate transcription, especially when more than one child was speaking at once. Therefore, the focus on the camera was
situated on the children in the group in order to help identify verbal and gestural responses.

Finally, the resulting digital video files also had the advantage of being easily downloaded to computer. Files could be efficiently categorised and stored as well as entered into software programs to aid the transcription and analysis processes. When recording the group shared reading events, a single camera, tripod and remote control operation of the camera was used. The recording device was set up in the room prior to the children coming together for the SSR events. This was to reduce the obvious nature of the recording and elements of distraction that may have occurred with the researcher working equipment. It also meant that the researcher did not need to be in the immediate vicinity of the group while recording occurred.

Transcription

After data generation, the recordings were transferred to digital video editing software, Cyberlink Power Director v5® and separated into individual ‘events’. A SSR event was defined as all utterances that occur from the time the children were seated on the floor together ready for the teacher to begin the storybook reading and concluded when the conversation at the end of the storybook reading finished and the teacher and children move on to another activity. Each event was then transcribed verbatim by the researcher, a technique which allows the researcher to build familiarity with the data (Bogden & Bicklen, 1992). The stylistic conventions (such as // to denote interrupted speech) applied to transcripts are those devised by Sacks, Schegloff & Jefferson (1974) adapted and cited by Graue & Walsh (1998).

Changes to the transcription conventions for this study included the use of generic child to indicate when the child speaking could not be identified (rather than boy or girl). As the group were videorecorded this occurred infrequently. Children was used in group situations to indicate when more than 5 children responded with the same response for example, ‘yes’ to answer a question from the teacher. To protect anonymity, participant names were removed during the transcription process and replaced with a code number.

All recorded speech was broken into utterances, delineated by the code number of speaker. In this study an utterance is defined as a verbal response, word or string of words bounded by pause, interruption in speaking or grammatical completeness.
(Symons, et al., 2005). Each utterance was entered onto a separate line denoting a new conversational turn and to allow for greater flexibility with data at analysis stage. The transcripts also included the read words of the storybook text (by the teacher). This was included as the story text may have an integral connection to the conversation that occurs around it, and to assist in analysis of the surrounding utterances. The read words of the storybook text were identified in transcripts by the use of formatted coloured font. This technique allowed for it to be filtered out of transcripts in later analysis when necessary.

Coding

Transcriptions were inserted into Microsoft Excel® a spreadsheet analysis program for coding and analysis. The spreadsheet analysis software was chosen because of its flexibility, customisation properties and powerful search and filtering of data functions. It also had the benefit of being able to display data in multiple ways without the need for additional software (Hahn, 2008).

Analysis consisted of a constant comparative approach (Glaser, 1965; Glaser & Strauss, 1967) and methods of analysis that that seek the identification and interpretation of patterns within data (Hatch, 2006; Stake, 1988, 1995). The first approach to coding the data was the application of a keyword search.

Keyword bank search

Numerous studies that analyse references to mental states made by parent and child during naturalistic conversations as well as during SSR, often employ a keyword search to measure the occurrence mental state terms in transcripts (Adrian, et al., 2007; Adrian, et al., 2005; Bretherton & Beeghly, 1982; Dunn, et al., 1987; LaBounty, et al., 2002). The use of similar techniques for coding this data, provided a means to determine if participants engage in talk about mental states. As the first extensive coding exercise, the keyword search also had the benefit of providing an entry point into the transcripts and a way for the researcher to move around and come to ‘know’ the data.

The keyword bank chosen to be applied to the data was one developed by LaBounty et al. (2008), in a recent study involving both mothers and fathers as conversational partners, and is itself a hybrid bank drawn from preceding studies. This bank was
chosen because it included both affective as well as cognitive terms under the banner of *internal state references*. The inclusion of both sets of terms acknowledges a belief that for children in the participant age range, the understanding of affective and other cognitive states in others is highly interrelated. To view the keyword bank terms included in this study see Appendix A.

The occurrence and location of keywords in the transcripts were identified by the use of the search function application in the spreadsheet program. Each word was treated separately and all derivatives of terms were searched for by entering the root of the word (minimum 3 letters) into the search application. The search then returned all forms of the root word, e.g. the word ‘excite’ would be entered in search as ‘excit’ and returns ‘excite, excited, excites, exciting, excitable.’

Utterances where the target word appeared (and those utterances previous and post to it) were reviewed to determine the context that the word was being used. There was no distinction made between those terms used in reference to the self or those being attributed to others.

An initial review of the keyword coding searches showed that the keyword searches did provide a useful way to engage with the transcripts and a measure of the frequency with which terms were used by participants. However, the keyword bank also had limitations, as the data revealed anomalies particular to its community of participants. For example, the word ‘mad’ (usually a negative emotion term) was used colloquially by children to express approval e.g. “That would be mad! (good)” It was also used in context to describe someone as not being of sound mind e.g. “He’s mad!” (crazy). Additionally, the term ‘disgust’ (which includes disgusted and disgusting) was not included in the keyword bank searches yet it appears in the transcripts, used in context by children.

While this bank included a comprehensive list of mental states it was thought that the keyword list was not extensive enough as it omitted terms such as, imagine (a cognitive state in which thoughts in the mind are able to suspend reality), miss (as a desire state), proud and grumpy. The keyword bank also excluded some terms that would imply a negative contextual use of a word. For example; ‘nice’ is included as an emotion term, however the negative ‘not nice’ is not included, yet it appears in the transcripts used in context by children. For this study, the keyword bank was subsequently adjusted to include the words imagine, and proud only.
The review of the keyword bank also identified that the focus on 'internal state references' resulted in some limitation for use in the present study. For instance, the bank does not include verbs that imply false belief thinking such as tricking, pretending and lying. These terms could be seen as being of key importance, because their use by children shows that these mentalistic terms (that involve false belief) have become a part of their vocabulary and may therefore indicate at least some rudimentary level of false belief understanding. Non inclusion of these terms in key word searches would mean that examples of relevant on topic data could be missed.

While the keyword bank searches returned results that contributed especially towards addressing the second research question (Do teachers and children talk about mental states during shared storybook reading?) it was apparent that a more inclusive and contextual method of coding would also be required.

Mental state criteria coding
A second coding scheme was applied in order to identify contextual categories within the transcripts to denote not only if particular lexicon was being used but how. A coding approach developed by Symons et al. (2005) in their studies of children’s storytelling connected to pictures was utilised with minor adaptations.

Symons et al. (2005). Mental state coding criteria
The transcribed utterances were assigned to one of four categories as defined below

1. Cognitive states: When participants refer to and reason about mental states, involving words such as think, know, remember, forget, believe, imagine, and dream.
2. Affect desire states: When participants refer to or express a want, need, desire, a wish or state of missing someone or something.
3. Affective states: When participants refer to basic emotion states, for example; happy, sad, fear, anger, like, love, hate, worry, surprise, good or bad.
4. Behavioural states: When participants refer to behaviour as a result of or directly linked to mental states, for example “He’s hiding because he’s scared”

In this study, one change was made to the original categories. In the Symons et al. coding, category 4 is used to refer to behaviour e.g. “coding for other action verbs or
substantive responses not applicable to the other categories e.g. tired/asleep” (Symons et al, 2005 pg 91). For the purpose of this study, category 4 has been adapted to show when participants are referring to causal reasoning for behaviour connected to mental states. This adapted category is seen as being more specific to the mental state questions being asked of the data and may capture examples in the transcripts that may be missed by the more specific cognitive state category 1.

Frequency of utterances during SSR
Data analysis also included measurements of the volume of utterances made by participants during shared storybook reading events. This was done to provide an indication of the amount of talk, and in particular, who was doing the talking. The number of utterances made in each reading event was counted; also counted were the number of teacher utterances and utterances made by children.

Further considerations

Credibility
One method identified by Lincoln and Guba (1985) as assisting credibility in qualitative studies is persistent observation. The purpose of this method is to "...identify those characteristics and elements in the situation that are most relevant to the problem or issue being pursued and focussing on them in detail” (Lincoln & Guba, 1985, pg.304).
In this study, the researcher engaged in persistent observation of the SSR events as a way to provide in-depth data collection and analysis. This occurred on a daily basis throughout the term of data collection.

A form of data triangulation was achieved through the collection of multiple sources of data (Mathison, 1988). Frequency counts of keywords during conversation were included in analysis and were considered alongside measures of detailed conversation patterns that emerged from coding of mental state categories. These two measures were considered in relation to supporting field observation notes recorded throughout the data collection and analysis process.

Peer debriefing is also considered an effective method of achieving credibility (Lincoln & Guba, 1985) and regular debriefing with experienced peer researchers occurred throughout all stages of this study. In addition, multiple presentations were made to the University research community as the study progressed.
Generalisation and transferability
The transferability of results from the present study to other contexts and scenarios would be dependent on the similarity of the context where they were to be applied and the reasons for the comparison.

The detailed description of SSR events contained in the analysis chapter, and the frequent inclusion of supporting transcript extracts contribute towards providing a ‘thick description’ of the shared reading events (Holloway, 1997). This comprehensive description will assist those who may wish to make decisions about the application of findings in this study, to other situations and contexts (Lincoln & Guba, 1985). In addition, consideration could be given to similarity with the use of case study example or approach to analysis when generalising to other situations.
CHAPTER 3
ANALYSIS AND INTERPRETATION OF THE DATA

Introduction

Analysis and interpretation of the collected data is presented in this chapter, using the research questions as main headings to organise the information. The two supporting research questions *How does shared storybook reading occur in the site?* and *Do the teachers and children talk about mental states during shared storybook reading?* are presented first; followed by the main research question *How might shared storybook reading in the preschool setting contribute to children’s developing theory of mind?*

During the data collection period 30 Shared storybook reading (SSR) events were recorded. The recording of one event was damaged due to a digital file corruption which made a full verbatim transcription impossible, leaving 29 full events suitable for transcription and analysis. A table showing detailed information about the shared storybook reading (SSR) events included in analysis is presented in Appendix B.

Throughout the chapter, excerpts from transcripts are used to illustrate interpretations. These appear with the following style conventions;

Teacher: Indicates a teacher talking

117**: Indicates a child talking (** indicates the identifying number assigned to the child)

( ) and "": Parentheses and double quotation marks indicate speech that is direct reading of the storybook text i.e. the storybook words.

Normal font italics: Used for storybook titles and to indicate speech emphasis.

[Squared brackets] Indicates a comment made by the researcher within the excerpt.

All of the transcript excerpts included have been checked for accuracy by the researcher (i.e. that the speech recorded is typed verbatim). Therefore, where anomalies in grammar, syntax, or word repetition occur within the transcripts, these are an accurate record of speech.
How does shared storybook reading occur in the site?

To begin, analysis and interpretation of field notes and transcripts are presented to provide a background picture of SSR events in the site. For reasons highlighted in the literature review, this study focussed on interactions in a naturalistic setting which makes it important to provide an account of what usually occurred and to describe those aspects of interactions relevant to more specific analysis presented later.

As discussed previously, verbal conversations between children and adults have been identified in literature as being an important vehicle for children to develop understanding of the world and to build theory of mind awareness. Additionally, SSR between child and parent has been shown to be a particular social activity that stimulates conversation between participants. Therefore, it was important to establish whether SSR was a source of conversation in the preschool setting between groups of children and teachers. Also included in this chapter is a description of the types of conversations children and teachers engaged in to provide an indication of what they talked about: as well as a measure of the number of teacher and children's utterances to indicate who was doing the talking.

Additionally, identifying the structure of the SSR events in the preschool setting was of importance as previous studies have suggested that conversations that occur at the end of the book reading event (after the story has finished) may be particularly fruitful for talk about mental states. The data clearly revealed a recurring structure in all SSR events, as well as strong evidence of verbal conversations between participants. The transcripts were coded to include the structural categories identified. These assisted further analysis and are included in the presentation of transcript excerpts throughout the study, with the advantage of providing the reader with an indication of where in the SSR event the conversation occurred. The structure of SSR events and recurring patterns are discussed in depth in the following sections.

Structure of the SSR events

As previously discussed, SSR in the site occurred as either a stimulus or routine activity. Regardless of the purpose of the activity, analysis of the transcripts revealed that all of the SSR events recorded consisted of an identifiable format in the way the
event was structured. This structure consisted of three parts; an orientation, body of text and review.

Orientation
The orientation in SSR was defined as the interactive utterances or actions made by both teacher and children that immediately preceded the reading of the text (once the children were settled into their sitting position on the floor), and finished when the teacher started to read the words of the storybook text. During orientation the teachers were observed to engage a number of interactions with children and these would vary from one SSR event to another. These interactions are described as;

**Engaging:** This involved teachers involving children in a rhyme or song connected to the book content in some way, or one that is part of the group’s current repertoire. This could occur as a way of settling children from talking or moving around at the start of the activity and draw group attention.

**Introducing:** This involved introducing the book to the group, and included providing information about the book type/genre, title, author or illustrator.

**Rationale:** This included telling children about storybook choice: why the book was chosen for reading that day.

**Providing information:** Teachers provided children with information about the book content or subject matter. These interactions also included teachers asking children questions that seek children’s thoughts on what the story might be about by looking at the book cover illustration or title.

**Sharing a personal response:** Teachers sometimes gave a personal response related to the book e.g. what they like about the story, or where they have heard it before.
The children were also observed to be active contributors to the orientation process in ways other than answering teacher questions. These interactions included;

**Sharing a personal response:** Children would often provide a spontaneous reaction to the book when it was displayed to them. These included a response to the book cover illustration, or reaction from children who had seen the book before, or who remembered the book from a prior reading with parent or on television show.

**Negotiating SSR timing:** Sometimes during orientation, children would negotiate with teachers over which storybook would be read first, or plan for other SSR events later in the day or week.

**Seeking information:** Children would ask the teacher questions about the book being presented.

**Body of text**
In the transcripts the boundary of body of text was defined as beginning from when the first line of the book text is read aloud by the teacher, until the final line of the story text is read, and includes all the verbal interactions connected to the storybook reading that occur during this time.

**Review**
The review of SSR events was defined as all the verbal interactions that occur between teacher and children after the storybook text reading has finished, until the transition to or start of a new activity. Analysis and interpretation of the verbal interactions that occurred during this section are presented later.

After the transcripts were coded using the structural categories above, all of the utterances made by participants during each part of the SSR event were counted to show the number of utterances that occurred. This allowed comparison across all of the SSR events. To view the complete utterance count for all the SSR events see Appendix B.
Conversations during SSR

The utterance count for the orientation part of SSR events varied considerably over the recorded samples. In some SSR events the orientation consisted of only a few verbal interactions and in others the orientation process was lengthier often as a result of questions made by teacher or children arising from the initial presentation of the book. The body of text returned the highest utterance counts with the maximum for one story being 355 separate utterances including the storybook text. Review, on the whole, returned more utterance count than orientation, but as with orientation, this varied significantly over the recorded samples. One factor that may have impacted on the utterances during orientation and review sections was that some of the SSR events consisted of reading two storybooks in the one sitting. This appeared to have an effect on how much orientation or review time was spent on each single book.

In the body of text section there was also a separate count made for those teacher utterances made as part of reading the words of the storybook text (see Appendix B). Analysis of raw data showed that the reading of the storybook text words accounted for only a small proportion of the total utterances during the SSR, with an average of only 19 utterances. In comparison, an average of 127 utterances occurred separately to the read storybook. This clearly indicates a substantially large proportion of verbal utterances occur during the SSR events outside of the actual reading of the book.

This initial evidence shows that in this setting, participants talk extensively during SSR independent of reading the storybook text. This supports findings of previous related studies that show SSR stimulates verbal interaction and conversation between parent and child. However more attention to the data was needed to determine which of the participants were talking, and what they were talking about.

Evidence of bi-directional conversation during SSR

The recorded SSR events returned a total of 4227 utterances made by participants. The utterance counts were then categorised into those utterances made by the teachers and those made by the children. Utterances by children were divided into sub-categories of individual child, child and group. Separate counts were made for group responses where more than 5 children gave the same response to the teacher through answering a teacher’s question. Some responses were not clearly attributable to one child; these were denoted by the term ‘Child’. Sometimes, the teacher and children
responded together at the same time with the same utterance and these were counted under the term of ‘Simultaneous’. Total utterance counts are displayed in Table 1.

Table 1. Total of participant utterances during SSR

<table>
<thead>
<tr>
<th>Participants</th>
<th>Utterances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>2180</td>
</tr>
<tr>
<td>Individual children</td>
<td>1810</td>
</tr>
<tr>
<td>Child</td>
<td>28</td>
</tr>
<tr>
<td>Group</td>
<td>190</td>
</tr>
<tr>
<td>Simultaneous</td>
<td>19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4227</strong></td>
</tr>
</tbody>
</table>

Analysis of the utterance counts revealed a high level of bi-directional verbal interactions (conversations) between participants during SSR events, whereby the children made almost as many verbal utterances as the teacher.

Comparative analysis of these conversations indicated that the exchanges consisted of both teacher and child initiated interactions, and these are summarised below.

**Teacher initiated:**

The teacher would initiate questions by asking questions of the group or individual children, and receive a response from children. Many of these exchanges became extensive question-answer-comment conversations around a central theme. Teachers also shared personal responses or comments connected to the storybook content, to which children would respond in a conversation style.

**Child initiated:**

Children were shown to initiate conversations by asking questions of the teacher and receiving responses to their questions. Children also provided comments and personal responses connected to the storybook content which would extend into further conversation with the teacher and other members of the group.

The analysis shows that SSR events provided frequent inspiration for conversation between participants, and while conversations occurred throughout all parts of the SSR structure, they occurred with higher frequency during the body of text, with an average of 104 utterances (compared to an average of 15 utterances during orientation and 26
utterances during review). The teacher's reading of the storybook text during body of text did not account for this large difference as this average across all SSR events was 19 utterances.

Conversations were instigated and extended by both the teacher and the children in the group, which shows that SSR in this setting is not a 'child passive' activity, where children are expected to sit quietly as the storybook is being read. A majority of children’s questions and spontaneous comments were acknowledged and responded to during SSR.

It should be acknowledged however, that children varied in their tendency to respond verbally in a group situation. Analysis of transcripts suggested that some children were more verbose than others and displayed confidence speaking during a group situation, whereas other children were conceivably less confident in expressing themselves in a verbal way during this event. Despite this, the bi-directional nature of the conversations between children and teachers was high.

Patterns in SSR conversations

Having established that conversations occurred frequently throughout SSR and having identified who was doing the talking, it was important to analyse what the teachers and children talked about in their SSR conversations.

The analysis of the structure of SSR events and participant utterances revealed patterns in the conversations that occurred during SSR and are categorised as the following themes; *Relating of home experiences, Emergent literacy, Relationships with storybooks* and *Making sense of the world*. While these themes may not initially appear to be directly related to theory of mind topics, they are included with a brief interpretation because they make important contributions by providing a clear picture of what occurred during SSR events, and by shedding light on how the social practice of SSR in this setting might facilitate children's entering into the group 'community of minds' (Nelson et al. 2003) through the topics they talk about.

Before proceeding it is important to note that although each of the themes is described separately, each category could be intertwined with others during conversations. For example, during a conversation the teacher may assist children to *make sense of their*
world at the same time they were relating home experience. Or, aspects of emergent literacy conventions may be discussed in conversations that related to relationships with storybooks. There was evidence that these themes occurred throughout each section in the structure of SSR events (as part of orientation, body of text or review) and this is displayed visually in the following diagram.

Figure 1. Conversation themes during Shared Storybook Reading (SSR) events.

Relating of home experiences
During conversations inspired by the storybook text, the teachers often provided children in the group with an opportunity to share experiences from their home life that were connected in some way to the storybook content. This opportunity for the children to share their personal experience and exchange information with others was at times limited to responses from just a few selected children, other sharing exchanges were extensive and there were times when all children who wanted to share something were given the opportunity to speak. Not all conversations were instigated by the teacher, sometimes children would spontaneously provide a comment or response to the storybook content that related to their home experience as shown in the following excerpt.
From: 'Gordon's got a snookie' (Shanahan & Harris, 2004) (review).
Teacher: (Reading text) "From that day on, Gordon was never lonely again. And neither were any of the other animals, for whenever they felt lonely or scared, or missed their mummies, they each hugged tight of their very own snookie".
[children are giggling and repeating ‘snookie’ over and over]
Teacher: How come they've all got snookies now?
11715: Cos, they like them heh!
Teacher: Why?
11705: Cos they can use...((?)) save the----save them//
11715: So they can snug them when they go to sleep.
Teacher: So they feel better
11715: [nods head] So they can go to sleep better.
Teacher: Oh, it helps you to sleep does it?
[Children laughing, T along with them]
11705: Sometime I sleep with my brother’s hanky
Teacher: You sleep with your brother’s hanky, does that make you feel better?
11705: [nods head]
Teacher: That’s good isn’t it!
11714: and I sleep with my cars, you know that?
Teacher: Does that make you feel better?
11714: Yeah

Emergent literacy
As previously mentioned, children of preschool age display emerging literacy skills, and most will have knowledge about language, texts, and the ways that texts are constructed and convey meaning. During conversations in SSR, children were observed to show interest in storybook content and would seek information about the book from the teacher through questioning, e.g. “What does that say?” Children’s comments also displayed their existing knowledge about how texts work, the meaning of words and how print conveys meaning. Teachers responded to children’s questions and provided explanations about unusual lexicon or literacy conventions during conversation. The following extract shows an example of such conversations instigated by a child’s interest.
From: "The Games are Grouse!" (Philp-Wright & Bagley, 1997) (body of text).

11708: ‘Scuse me, what is on that little one down there? [Points towards the bottom of page]
Teacher: This one’s a ferry
11719: A ferry boat
11708: No, that little bit of words down there
Teacher: Well, I can’t see it; I might not be reading it---- which one?
[11708 stands and moves towards the front of group, however 11712 reaches up quickly and points to the bottom of page first]
Teacher: Page three?
11708: Page three [gives a satisfied smile and sits back down in original position]
Teacher: Yes, that’s what it says, page three. Ok//
11708: What about page one?
Teacher: That was back here [demonstrates, turns pages back, all of group is silent and appear attentive] that’s page one.
11715: Why didn’t we read that?
Teacher: Uh, (reading text) "The games are grouse!" [T turns to next inner page which has the same heading repeated]
11715: That words//
Teacher: Guess what? It’s the same page as that! That’s called a cover, that’s called the first page
11715: [pointing] Do that
Teacher: This side? On this side it says, (reading text) "Copyright Maxine Philip-Wright, National library of Australia," Umm, "Other good books written by the author, Emmit the Emu who thought he was a turkey"- that sounds interesting. "Leo and Lisa on the Mari----On the Mari? Nar-a-mar-a-con and George James, Will Taro ride in the cup and Crocadoo goes to hospital."
Teacher: Ok? So that’s what it says on that side. Ok. We’ve read this page, right, now I didn’t finish off this page.

Relationships with books
Conversations often occurred during SSR which centred on the groups ongoing relationship with the storybooks that they read. These conversations suggest that there was a sense of continuity about SSR events, possibly because shared storybook reading was a daily and ongoing event in the routine of the groups. Storybooks that were shared on previous days were referred to, remembered or revisited. Children
were observed to negotiate with the teacher the order that books are to be read (if there was more than one book to be read during the group event) or what time or day books were to be read. The following excerpt shows an example of one such exchange.

*From: ‘Clive, Tessa, Rosie and Frank’ (Lester, 1997b) (orientation).*

Teacher: We are going to do something different. This book is a collection of four stories in one, there’s the first one [flicks through the first story] and then, [looking for the end of the first story] let me find the end---it’s coming, uh! There’s the end of that one, and there’s a new story starts. So over this week on Monday and Tuesday and Wednesday we’re going to do one story out of this book every day!

11714: Excuse me, can we please do that book?
Teacher: We are, we’re going to do this book and that book
11707: Can we do that book first?
Teacher: This one’s called/
11706: This one was on play school!
Teacher: Was it? How dare they get my books and take them on play school!
[Children giggle]

In their conversations, the teachers and children made connections between storybook content to other parts of their group community experience, or to their current areas of interest in their daily program. For example, this was evident in the current interest surrounding the Olympic Games. The Olympic Games in Beijing corresponded with the week leading up to and beginning of data collection and children and teachers had been talking on a daily basis about this sociocultural event. Activities inspired by the Olympics theme had been occurring throughout the preschool, and teachers and children had recently viewed footage of events and ceremonies together. As part of this interest, teachers and children were shown to make connections to parts of storybooks that in some way had a connection to the Olympic theme and one child from a group brought in a storybook from home about the Olympic Games that were held in Sydney in 2000.

Children in the groups would regularly bring books from home to share at group time, suggesting that SSR reading is an expected part of their preschool experience that they are able to contribute to.
Also evident in conversations, were examples of inter-textuality (where the content from one storybook applies to or informs the content of another storybook) and the children’s responses showed that they would make often make connections between one storybook and another, even books that had been read a number of weeks previously.

Making sense of the world
At times, the storybook content presented the group with unusual words or events. The teachers often attempted to connect or extend children’s knowledge of the wider world with their existing knowledge, this occurred in conversation through explanation and questioning. An example is presented here where the dual meaning of the word 'spider' as both an animal and a drink is introduced to children in a storybook.

*From: ‘Rosie sips spiders’ (Lester, 1997c) (body of text).*

Teacher: (reading text) "But Rosie, sips spiders!"
Teacher: It’s a tricky word, because we know that spiders mean black hairy things, insects, *but*...
11712: They’re lolly ones!
Teacher: There’s another thing called a spider, and what you do is, you fill up a cup, all with soft drink, fizzy drink – you have to put fizzy drink in it first, and then you get a big scoop of..
Children: *Spider!*
Teacher: [amused tone] *Ice cream,* and you plop it in the top and it fizzes on the top, it goes fizz fizz fizz where the ice cream and the soft drink get together, and *that’s* called a spider! I don’t know why it’s called a spider though.
11706: Once I had one of them
11704: A spider drink!
Teacher: A spider drink, that’s what it’s called. And it works the best if you have creaming soda. And she drinks it with a straw cos it’s all fuzzy at the top.

Summary of how SSR occurs in the site
As previous studies have focussed on SSR between parents and children, it was an important initial consideration in this study to identify the features of SSR interactions in this site, where SSR occurred as part of a relatively large group situation being led by a
teacher. In particular, it was important to identify if SSR in this situation was a source of inspiration for conversations between the participants. Data clearly showed that in this site, SSR between teachers and groups of children was adopted as an accepted social practice that occurred regularly as part of the daily routine. Conversations occurred frequently throughout the SSR events with both children and teachers active instigators and contributors to the conversations. It was clear that SSR events in this setting were not a child-passive activity where the teacher primarily was in control of the talking, with the children responding only to teacher questions. Children demonstrated agency by expressing ideas about the activity, choice of the books, times they were to be read and by providing spontaneous responses to book content.

The SSR events consisted of an observable structure that remained consistent over all the recorded samples and analysis of utterances showed that children and teachers engaged in conversation frequently throughout all sections of the event structure. The conversations between participants show they had developed relationships with storybooks as a part of the ongoing nature of SSR in their preschool experience, and central themes in their talk were apparent, including making reference to their home experiences, references related to the children’s developing literacy knowledge, and using book knowledge as a basis for making sense of the wider world.

Having now established that SSR is a consistent activity that promotes conversations between participants, analysis moves to identifying if teachers and children talk specifically about the mental states of either themselves or others during their SSR conversations.

Do teachers and children talk about mental states during shared storybook reading?

The second research question was to identify whether teachers and children (using books they have chosen themselves) made reference to mental states in their conversations during SSR. As described previously, keyword searches and mental state coding categories were applied to the transcripts and the results are presented in the following tables.

Word frequency was counted separately for those words used by the teacher and those words used by children. In addition, words that appeared in transcripts as part of
The read words of the storybook text were counted separately to show words that appeared as part of the SSR event, but were not generated by talk between the teacher and children. Data for all keywords is provided in Appendix A. The most frequently occurring keywords, arranged in descending order are presented in Table 2.

Table 2. Most frequent keywords spoken by participants

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Teacher</th>
<th>Children</th>
<th>Storybook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think</td>
<td>164</td>
<td>Know</td>
<td>26</td>
</tr>
<tr>
<td>Know</td>
<td>95</td>
<td>Want</td>
<td>19</td>
</tr>
<tr>
<td>Feel</td>
<td>36</td>
<td>Think</td>
<td>18</td>
</tr>
<tr>
<td>Like (Reference to person)</td>
<td>35</td>
<td>Scared</td>
<td>18</td>
</tr>
<tr>
<td>Like (Reference to object)</td>
<td>32</td>
<td>Like</td>
<td>15</td>
</tr>
<tr>
<td>Want</td>
<td>27</td>
<td>Like</td>
<td>14</td>
</tr>
<tr>
<td>Happy</td>
<td>25</td>
<td>Happy</td>
<td>14</td>
</tr>
<tr>
<td>Remember</td>
<td>24</td>
<td>Guess</td>
<td>10</td>
</tr>
<tr>
<td>Means</td>
<td>23</td>
<td>Fun</td>
<td>8</td>
</tr>
<tr>
<td>Sad</td>
<td>16</td>
<td>Dream</td>
<td>7</td>
</tr>
<tr>
<td>Scared</td>
<td>14</td>
<td>Sad</td>
<td>7</td>
</tr>
<tr>
<td>Fun</td>
<td>13</td>
<td>Imagine</td>
<td>6</td>
</tr>
<tr>
<td>Thought</td>
<td>12</td>
<td>Nice</td>
<td>5</td>
</tr>
<tr>
<td>Wonder</td>
<td>12</td>
<td>Angry</td>
<td>4</td>
</tr>
<tr>
<td>Proud</td>
<td>9</td>
<td>Cry</td>
<td>4</td>
</tr>
</tbody>
</table>
In addition to a keyword bank search, the mental state coding categories adapted from Symons et al. (2005) were applied to the transcripts. The frequency of utterances within each category is presented in two ways; Table 3. Shows the number of utterances that occurred in transcripts as coded by the mental state categories and these shall be termed mental state references as they show when participants are referring directly to mental states. Figure 2. Shows how often mental state references occurred as part of the total of utterances recorded.

Table 3. Utterances coded by mental state categories (mental state references).

<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Affect</th>
<th>Affect/Desire</th>
<th>Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>304</td>
<td>293</td>
<td>86</td>
<td>73</td>
</tr>
</tbody>
</table>

Figure 2. Proportion of mental state references during all SSR events

The keyword searches and proportion of mental state references provided clear evidence that teachers and children made references to mental states during SSR and that these references made a sizeable contribution to the total of their conversations during SSR events. In particular, contributions were most frequent in teacher use of cognitive state language, children’s use of mental state terms and causal questioning and explanation by teachers and children.
Teacher use of cognitive state language

Cognitive states were the most frequent category coded, which included references to the cognitive states of thinking, knowing, dreaming, imagining and remembering. Key word searches showed that the most frequent words used by teachers and children were the words ‘think’ and ‘know’. Teachers used ‘think’ more than any other word (164 instances) and this occurred with nearly double the frequency of the second most frequently occurring word, ‘know’ (95 instances).

Overall, teachers used cognitive state language more often than other mental state categories. This corresponds to studies that show mothers refer to cognitive states more frequently than other mental state terms when discussing pictures or sharing storybooks with children (Adrian, et al., 2005; Ruffman, et al., 2002).

Further attention to the use of these words within transcripts showed that often these terms were being used in the context of teaching and learning communication between participants and did not necessarily correspond to attributing these mental states to others. Teachers especially used the word ‘think’ frequently during conversation as a way of questioning children’s knowledge of storybook related content. For example, during the orientation section of a storybook reading “What do you think this story might be about?” was a common question. “I think you’re right” appeared as teacher statement as a way of confirming of children’s responses to questions. “Do you know what ___ means?” appears repeatedly in transcripts as part of teacher questioning of children, and the use of the mental term ‘wonder’ was also used by teachers in a similar questioning style “I wonder what the story could be about?” “I wonder what a ___ is?”

These questioning styles show teacher’s repeated attention to solicit information from children during SSR as a way of gauging their understanding of the storybook content and perhaps as a basis for attempting to extend children’s knowledge through further explanation or questioning.

Children’s use of mental state terms

Among the most frequent mental state terms used by children during the SSR events were affect (emotion) and desire terms, identified by keyword search as including scared, happy, angry, and the state of wanting or liking objects or people. Closer
examination of transcripts using mental state coding categories revealed that children attributed and applied these states to themselves as well as to storybook characters. This finding corresponds with those of previous studies that show preschool children display competence in attributing basic emotion and desire states to themselves and others, for example;

11705: I'm scared of thunder
11703: She has a happy face; she looks like she’s a happy face
11711: And that giraffe’s angry!

Children also attributed the cognitive states of dreaming and imagining to themselves and others, for example;

11706: I imagined that too!
11712: It was just in his dream [referring to another member of the group]
11712: I like to dream

Desire states were also mentioned repeatedly by children during the SSR events. The word ‘want’ is identified in keyword searches as a desire term, and in transcripts it appeared as the second most frequent mental state term used by children. Examining relevant utterances showed that children repeatedly attributed desire states to others, observable in statements where they reasoned about desires of storybook characters. For example;

11708: All the friends want to see his pet bird
11722: Because they wanted to eat him
11706: But he wanted to get the gold medal
11712: Cos he doesn’t want to draw a picture

Children’s use of cognitive mental state terms however, differed somewhat from that of affect and desire terms. While the word ‘think’ was used repeatedly by children, examination of transcripts showed that while children may be reasoning about the storybook content, they were most often referring to themselves rather than to others when using this term. For example;

11712: I think there’s a big giant
11715: I think they live next to each other
11709: I think he has a crocodile blanket
This is not to suggest that children did not attribute cognitive states to others, but their use of the word 'think' to talk about these states was limited to a few examples. Children also use the word 'think' in answer to teacher’s questions, such as "What do you think will happen?"

Data clearly showed that children did attribute mental states to others, with the most revealing evidence of teachers and children referring to mental states during SSR occurring as part of causal questioning and explanation.

Causal questioning and explanation by teachers and children

Research literature has shown that preschool age children demonstrate competence in providing psychological explanations i.e. explaining people’s actions and emotions as a result of their mental states, and that causal language (the seeking of information about and explanation of other people’s behaviour) begins early (Bretherton & Beeghly, 1982; Wellman & Lagattuta, 2004). In instances where children’s psychological explanations may be incomplete, researchers have suggested that this could be a result of challenges in verbal articulation, as scaffolded questioning and prompts by adults tend to reveal that children understand more than their initial verbal explanations suggest (Wellman & Lagattuta, 2004).

In the present study, conversations identified as containing mental state references showed frequent use of causal language, often identified by the use of words such as 'why', 'what' and 'because'. Causal language was not limited to these keywords however, as numerous examples of causal language occurred in conversation utterances that do not contain these particular words. For example “She’s tricking” provides a brief explanation for a character’s behaviour without using causal language employed by word searches.

The word ‘Cos (because) is also used colloquially by children and may be missed in keyword searching. To make the searches for causal language more inclusive, utterances identified as containing mental state references were individually searched for relevance to causal explanations and the interpretation is outlined below.
Causal questioning about characters mental states was used frequently by teachers during SSR as a way of asking children to reason about emotion and desire states. Asking children to draw on book knowledge to explain the emotions or desires of characters was a frequent practice of teachers, and at times teachers would also ask children to predict or hypothesise what they think might happen next. On the whole, children would provide appropriate responses to the teacher's questioning, though at times, teachers would assist children to extend their explanations or show their thinking more clearly through the use of further questioning and prompts.

The following extracts show examples of teachers seeking children's explanations for storybook character's affect and desire states. In the first, children use the storybook illustrations to aid their explanations and in the second, the teacher encourages children to hypothesise what might be wrong with storybook character.

*From: 'Alexander and the terrible, horrible, no good, very bad day' (Viorst & Cruz, 1986)*

Teacher: Then, we went home for dinner. We had beans. I.. [pauses, waiting for children to respond]

11712: Hates them
Teacher: Do you think he loves beans or hates beans?
Children: Hates beans
Teacher: [Laughing] Why do you think it's going to be he hates beans?
11715: Because he doesn't like beans
Teacher: How do you know that that's what it's going to say?
11709: Because he doesn't eat them
Teacher: Ohh, you’re looking at the picture 11709. What does the picture tell us?
11709: He looks cranky
Teacher: And is he doing any eating with his spoon?
Children: No
Teacher: You’re right; it says 'I hate beans'

*From: 'Hokey Pokey - another prickly love story' (Wheeler & Bynum, 2006)*

Teacher: (reading text) "Cushion was a porcupine with a problem. He really loved Barb, and Barb really loved to dance, and that was the problem."
Teacher: Ah, I don't understand, why a problem?
Because he doesn’t like his um—the music
Teacher: Oh he doesn’t like the music, any other problem? Yes! 11720 put her hand up I’m so proud!

[speaking very quietly] doesn’t want to watch
Teacher: He doesn’t want to, ah, watch him dance, good. What other problems could there be 11706? [Indicating child with raised hand]

Maybe, um, he doesn’t like, the thing he’s got in his hand [points to book illustration]
Teacher: Oh that scarf thing, maybe he might not like that, any other problems? Yes 11715? [Indicating child with raised hand]

Umm, he might not like the moves of it
Teacher: Oh the moves, the dance moves. 11705? [Indicating child with raised hand]

He might not like to dance
Teacher: He might not like to dance, they’re good reasons. Let’s see what the problem is, we’re just thinking what it could be.

(reading text) "Cushion’s rumba was rumbled and his waltz always wobbled! and his tango was totally tangled. One step, two step, three step four! [Rhythmically] Pick-my-tail-up-off-the-floor. But since Barb loved to dance and Cushion loved Barb he went poking around the petting zoo, hoping to learn how to dance."

Teacher: So what was his problem?

He couldn’t dance
Teacher: He couldn’t dance, oh dear!

Maybe he doesn’t know how to do it.
Teacher: That’s right, I think you’re right

Causal questioning about false belief
In addition to affect and desire states, teachers also questioned children to reason and make predictions about characters cognitive states including reasoning about false belief (as evidenced in tricking), although these conversations occurred less frequently than those related to affect or desire states and appeared to be inspired by storybook content containing false belief material.

The following extract shows an extended conversation directly related to the storybook text. Children in the group present mixed responses; some assert immediately that the character is tricking but the verbal explanation of the motivation behind the
protagonist’s behaviour appears to remain challenging. One child’s responses suggest that they perhaps do not follow the notion that the protagonist monkey is trying to trick the crocodile, which may indicate variance among children’s individual ability to attribute false belief knowledge to this storybook content. In this example, repeated questioning by the teacher does not appear to scaffold children’s explanation as no new prompts or suggestions are given by the teacher—however, returning to the text reading and requestioning at a later point produces an answer from a child that reflects a more developed understanding of the book content.

*From: 'Monkey's clever tale' (Fusek Peters & Montgomery-Higham, 2003) (body of text).*

Teacher: (reading text) “That's easy”, said the crocodile. Everybody knows that crocodiles love monkey tails! "Yes, monkey tail soup!" he answered and he licked his lips, and he looked closely at Amira, “But, monkey, where's your tail!” “Now let me see, but of course, it’s Sunday!” said Amira, “Every Saturday I wash my tail and I leave it hanging up on the clothes line. But if you carry me over the river I will go and fetch it for you, and you can have my brothers' and my sisters' and my mother's and the father's and everybody's tails too!”

Teacher: Is that right?
Children: No
11709: She’s tricking
11719: No, he’s cheeky
Teacher: Is he?
11719: Yes [other children also answer yes]
Teacher: How, don’t monkeys take their tails off and hang ‘em on the clothes line?
Children: No!
11705: Is just tricking him!
Teacher: Why?!
11715: Cos
11705: Because
11706: And if they put it on the clothes line, they can’t get it back on
11709: He doesn’t really want to eat his tail
Teacher: Oh. So why is she saying that?
11712: Just to trick it
11706: Maybe cos they’re just dirty
Teacher: The tails are dirty? Mmm, she’s tricking him, why does she want to trick him 1712?
11712: Um, so they don’t get eaten
Teacher: Uhh, let’s see what happens.
Teacher: (reading text) "Crocodile was excited at the idea of all those monkey tails, but just as Amira monkey thought that her trick was beginning to work; crocodile waddled closer to Amira and peered closely at her tail. “What’s that around your waist?” Amira monkey jumped back in fright and spluttered, “It’s a belt! Haven’t you seen a belt before dear crocodile?” Crocodile shook his head. “I bought it at the markets the other day, isn’t it neat?” Amira paraded around the crocodile showing off her new belt. Crocodile was very impressed. “Well monkey, what a lovely promise. I shall indeed take you across the river” he said."
Teacher: Is it really a belt?
Children: No
11715: It’s her tail
11712: He just wants to get---- go over to the other side.

Other examples of causal questioning
The teachers and children also talked about the behaviour of storybook characters that involved reasoning about other people’s intentionality. They made statements about people’s behaviour as well as seeking explanations about character’s behaviour from each other. Children asked questions of teachers, seeking explanations of book content related to the mental states of characters, i.e. sought causal explanations from teachers. These observations are illustrated in the following examples;

11728: Why didn’t they want any caps?
11703: Why the bird thinks it’s a creature with uh, two hands?
11708: Why, why that girl doesn’t like clothes? Is being a nude- go out everywhere?

Teacher: Do you think the monkeys meant to do that to give them back to him or...?
11737: No No!
Teacher: Well, you tell me, what d’you think.
Teacher: 11735? [Indicating child with raised hand]
11735: Umm, he threwed his hat down because, so the monkeys would give all the
other caps back
Teacher: Is that because they were copying him doing those other things? [11735 nods]
Teacher: 11737? What do you think?
11737: Because the monkeys were being funny

Children also provided some causal explanation and responses to storybooks that showed that they connect storybook content with their held perceptions of reality; this reasoning is then used to make judgments related to mental reasoning. For example;

From: 'If ' (Perry, 1995) (body of text).
Teacher: (reading text) "If ants could count"
11719: No way!
Teacher: How do we know that ants can't count now?
11712: Because
11715: Because they can’t
11707: They can’t talk
11715: They don’t, they can’t talk, and they don’t know what number to do

Summary
Data clearly revealed that when teachers and children talked during shared reading, using books that they chose themselves, they frequently engaged in talk about mental states. These conversations involved talk about themselves, others and especially storybook characters, and such talk comprised 18% of their total utterances. This evidence supports previous findings that shared reading of children’s literature provides a rich context for conversation and specifically conversation about mental states. There was also a rich array in the way participants referred to mental states. Children attributed feelings and desires to themselves and storybook characters most often, but could also explain thinking and intentionality of others and this could be extended when prompted by teachers.

Teachers employed the use of frequent cognitive terms and questioning during the reading events. They encouraged children to show their knowledge and reasoning by seeking causal explanations about story characters’ feelings, desire, intentions and thoughts from children. The children responded most often with appropriate answers and provided predictions about storybook content. Children were shown to actively
seek explanations of mental state reasoning in characters from their teachers, and made spontaneous comments about storybook content related to mental states. The analysis provides clear evidence that reference to mental states makes a substantial contribution to the conversations of teachers and children during shared storybook reading in this site.

The analysis now moves to identifying which features of the shared storybook reading event and the conversations that occur within it, might contribute towards children’s ongoing construction of theory of mind knowledge.

How might SSR in the preschool setting contribute to children’s developing theory of mind understanding?

In the previous sections, the interactional features of SSR was described and it was determined that teachers and children talk frequently about the mental states of themselves and others during shared storybook reading. The final question is ‘How might SSR events in the preschool setting contribute to children’s developing theory of mind understanding?’

Data analysis revealed a number of areas that show potential for children to increase their theory of mind understanding. These were identified as SSR as a social practice; Teacher questioning techniques and Features of storybook text.

SSR as a social practice

In this site SSR has been shown to be a regular feature of children's preschool experience that both the teachers and the children appear to enjoy and look forward to. It represents a time where the children all come together to share in the joint reading experience with their teacher as a guide, and, not only do they hear the story being read, they are able share their thoughts and feelings about the book content and how it might connect to their home life or understanding of the world.

As Nelson et al. (2003) have emphasised, an essential factor in children's successful entry into the community of minds is the opportunity to practice interpretation of social actions and the use of language to represent the mental world. While it is
acknowledged that some children spoke more than others during SSR and indeed some children spoke rarely, the data suggests that as a social practice, SSR represents just such an opportunity. SSR provides children with a focussed and multi-layered opportunity to enhance their theory of mind understanding, whether they may be contributing to the verbal conversations at the time or not.

As a member of the SSR group, children are exposed to the storybook reading, the teacher's questioning techniques and the verbal interactions of those around them. More generally, in a social group situation such as this, children must come to consider those around them, and this will often involve drawing on an awareness of other people's mental states.

The first aspect of SSR as a social practice considered in analysis, were instances of group sharing of personal responses that involved cognitive and affective states. During these, children were exposed to conversational interactions that involve mental states and had an opportunity to listen to and be heard by others.

A second consideration was that SSR events involved forms of socialisation whereby children were gradually coached by the teacher to regulate aspects of their behaviour to take into consideration other people around them or to encourage them to adopt social conventions that are deemed acceptable in a group situation. This included encouraging children to raise their hands before speaking and not call out features of the storyline if they had seen or heard the book read before.

Group sharing of personal responses involving mental states.
During the SSR events, children and teachers were observed to share personal responses that may or may not be directly connected to the storybook content. They shared information about their internal mental states: what they think, feel, imagine and reason about. Children would attribute mental states to themselves as well as others during group sharing and in addition, children's spontaneous comments, questions, and responses to the teacher's questions demonstrated that many were aware of mental states in storybook characters. Some of the conversational exchanges were inspired by children proposing their own thoughts to the group without being questioned by the teacher; others were prompted by teacher's questions.
In the following extract, the storybook text describes what the characters are afraid of; this inspires the teacher to stop reading and ask children about what people might generally be afraid of.

*From: 'Tessa snaps snakes' (Lester, 1997d) (body of text).*

**Teacher:** (reading text) "Rosie gets frightened crossing the bridge, Ernie is afraid of the dark, Nikki is afraid of spiders, but Tessa is afraid of the vacuum cleaner!"

**Teacher:** What are people afraid of?

11715: Sometimes I’m scared of dogs when they’re cranky and they bite

**Teacher:** [T addresses 11701]. You’ve got a big dog at home, are you scared of big dogs?

11719: I got a big dog

11705: I’m scared of thunder

11701: No

**Teacher** [to 11705]. You don’t like thunder? [11705 shakes head]

11706: I got a big dog

11708: I like thunder and lightning

**Teacher:** You *like* thunder and lightning?

11706: Me too!

**Teacher:** Ok! Yes, 11715’s got her hand up

11719: [hand up, but calling out] but I’m uh/

**Teacher:** Yes? 11715’s talking

11715: My puppy Missy, she’s afraid of thunder

**Teacher:** Your dogs’ afraid of thunder! What about you 11719?

11719: My dog is afraid of um, the rain, but I’m, I like the rain because it makes me go to sleep

**Teacher:** I like the rain cos it makes me go to sleep too; you feel snuggly in your bed when it’s raining don’t you? I like to snuggle down. 11720?

11720: I like thunder when you go to bed

**Teacher:** You do like it, what about you 11705?

11705: I’m scared of big dogs

**Teacher:** Big dogs, they’re a bit scary. 11703?

11703: I have a big dog and I’m not scared of him

**Teacher:** Ok, 11709? Anything?

11709: I have a big dog and he’s ten
Teacher: Oh, ten! That's big, 11713? Anything you're scared of?
11713: I'm, I'm not scared of the rain, or not the thunder

In this example of group sharing, children respond to the teacher's question by sharing what frightens them and also expressing what they like or are not afraid of. Almost half of the group share information about affective states which creates a conversational context where multiple perspectives are being shared around a common theme. Being exposed to multiple perspectives during conversation may enhance children's understanding that others may think or feel differently to themselves about the same object or phenomenon (like big dogs or thunder).

The following example occurs during the reading of the storybook “If” (Perry, 1995). The storybook’s simple lines of text ask the reader to consider two juxtaposed ideas e.g. if caterpillars were toothpaste. After reading the line “If clouds were spirits” the teacher questions children as to what spirits might be. During the children's attempts at answering the teacher's question, the following exchange occurred, which was prompted by a child’s spontaneous comment.

From: 'If' (Perry, 1995) (body of text).
11702: Mrs A? [Teacher’s name]
Teacher: Yes
11702: I was imagining last night, I could fly down the stairs
Teacher: Did you imagine you could fly down the stairs!??
11702: Yeah
Teacher: Wow! That would have been exciting! [to group] Did you hear what 11702 just said? She was imagining she was flying down the stairs! [Group erupts into laughter, and most children are looking around at each other]
11706: I imagined that too!
[Later in the SSR event the topic of imagining returns]
11706: 11702 Imagined flying down the stairs, and I imagined that too!
Teacher: That's a good idea, it'd be nice.
Teacher: Yes, 11709’s turn, she's had her hand up
11709: Last night I imagined I was a book
Teacher: A book, what kind of story do you think you’d be?
11712: Bananas in pyjamas?
Teacher: Winnie the Pooh, Pooh bear! Did you hear that? 11720’s got her hand up.

Teacher: I think I was going to fly down the stairs last night.

Teacher: Too? Everybody wants to fly! Imagine if we had //

Teacher: [interrupts loudly] You know those dreams where you jump down the stairs and you don’t walk down any?

Teacher: Sometimes you have a dream and you wake up and you go [sharp intake of breath] Uh! Like that? Cos you think that you’re doing something but you’re not really, you’re only dreaming that you’re doing it. Do you have those dreams?

Teacher: Sometimes they wake me up and they go----and I have to go Oh! Oh, I’m in bed, Oh I have to go back to sleep. [Children laugh]

[At the end of the SSR event as part of the review section, the topic of dreams returns again.]

Teacher: Mrs A? [Name]

Teacher: Yes darling.

Teacher: I sometimes I have scary dreams, and I said OH! What was that!

Teacher: Oh, and it wasn’t anything it was just a dream?

Teacher: Yeah, when I have really scary dreams, I get frightened.

Teacher: And then you snuggle back into bed, and remember you’re in bed. 11718’s turn

Teacher: When I’m feel my mum’s house and I’m frightened she’s ‘I love you’

Teacher: Oh, she says she loves you and gives you a big cuddle, does that make you feel better? [11718 nods]

A feature of this group sharing example is that occurs in extended form as a conversation ‘thread’ where the connected topic is returned to throughout the SSR event. This exchange shows that children in the group are able to express ideas about the cognitive states of imagining and dreaming and also show awareness that mental states are able to suspend reality. Understanding that mental states are able to transcend what is possible in real life or waking reality relates to the conceptual awareness of false belief i.e. that thoughts held in the mind may not be true. Children also show awareness that cognitive states such as dreaming may produce an affective response “...When I have scary dreams I get frightened”. Communicating such
understanding to others, and hearing that others have similar experiences, is likely to enhance and consolidate knowledge. The teacher also draws group attention to what is being said “Did you hear that?” which supports attention to shared group experience.

*From: Tessa snaps snakes (Lester, 1997d) (body of text).*

Teacher: (reading text) "Frank locks his diary. So he writes down his special secrets in a book, then he locks it. Rosie visits her pony at night-time."

11715: That’s a secret

Teacher: (reading text) "And Clive has a hidden treasure!"

11706: Oooh err

11704: So he, so he doesn’t tell anyone?

Teacher: He doesn’t tell anyone

The understanding of secrets is an important aspect of theory of mind knowledge as children need to understand that others do not know what they themselves know – therefore in certain situations if they do not tell information to anyone else then it remains secret and inaccessible to others thinking and reasoning. In this example children show the ability to attribute the state of keeping secrets to storybook characters.

Social conventions during SSR

Teachers were observed to encourage, but did not insist upon or enforce the social convention that children should raise their hand before speaking in a group situation and wait until the teacher asks them to speak. This is illustrated in the following excerpt.

*From: ‘Hokey Pokey - another prickly love story’ (Wheeler & Bynum, 2006) (body of text).*

Teacher: Ok! Looking this way! We have, A year on our farm [holds up book] and [holds up second book] ... this is a book that’s come in from 11703 called Hokey Pokey, another prickly love story--- Wow, I don’t know what that means, A *prickly* love story. What do you think this book might be about?

[a number of children begin to answer at once]

Teacher: Ah, remember we put our hands up so that we can hear what everybody says, then we know what we’ll all know [a couple of children continue to talk] 11701 is
talking over the top of me and I can't hear what he says. If he puts his hand up I'll be able to hear what he says.

In this example, the teacher reminds children that if they all can hear what is being said, then they will all be able to share in the knowledge. Apart from the functional aspect that turn taking will assist with the flow of their conversational interaction, hearing what each other says is an important consideration for each member of the group to engage in their ‘community of minds’ and create the shared subjectivity that is essential to sharing a storybook.

Being part of a group for SSR also meant that children were sitting in close proximity to one another and would at times need to be prompted by the teacher to consider others. For example;
Teacher:  “...11702 wants to tell us something [indicating child with hand up] and it’s her turn. 11714, could you sit on your bottom please so 11708 can see and it makes him happy, cos he’s sad cos he can’t see the pages.”

Here, the teacher prompts conversational turn taking and considering others, by asking a child to adjust sitting position for the comfort of another and attributing affective states as a reason “He’s sad cos he can’t see” which is suggestive to children that their actions may produce affective states in others.

Another social convention referred to by teachers was don’t ‘give away’ the storyline. In these repeated examples, the teacher prompted children who may have heard the storybook before or seen it elsewhere (perhaps at home or on television) to consider that other children in the group may not have heard the story. Calling out ‘what happens next’ was not an encouraged social convention by the teachers, possibly because it was seen as reducing the entertainment pleasure for those that have not seen the storybook before, or does not give those who are seeing it for the first time a chance to construct their own knowledge or make their own assumptions or predictions about the storyline. The following excerpts illustrate this further.

From: 'The cherry dress' (Honey, 1993) (orientation).
11706:  She got it for her birthday!
Teacher:  Ok, now, remember; let’s keep it all a surprise for all the people that haven’t read ‘The Cherry Dress'.
From: 'Five minutes peace' (Murphy, 1988) (orientation).

11708: Um Excuse me, this one’s got already read
Teacher: Well maybe some people didn't hear it because 11705 said he hasn't heard it,
11708: Oh

From: 'Mr Nick's knitting' (Wild & Huxley, 1988) (body of text).

Teacher: (reading text) "Mr Nick helped her untangle her yarn and gave her a big hug and then he went home to think up a way to cheer up Mrs Jolly."
Teacher: Cos he’s a good friend isn’t he?
11712: He'll knit a blanket
Teacher: Ok, now 11712, if you know all the parts of this story can we just let everyone else have a little bit Ok?
11712: Ok
Teacher: Thank you

Prompting children to attend to this social convention relates to theory of mind knowledge in that children are asked to consider the possibility that even though they may know the book content, others around them may not, and according to accepted convention, children are encouraged to regulate their behaviour in the group SSR situation.

Teacher questioning techniques

Analysis of transcript samples identified as containing mental state references revealed that the questioning techniques used by teachers during SSR held strong potential for enhancing children theory of mind knowledge. These techniques were identified as scaffolding, questions seeking explanation and review questions.

Scaffolding technique

The practice of scaffolding was evident in all the questioning techniques. When scaffolding, teachers asked a comprehension question to begin the conversational interaction and gauge children’s understanding of the topic. The children’s response then guided the next level of teacher questioning. Subsequent questioning attempted to raise the level of abstract ideas, or seek children’s reasoning for their ideas, resulting in
the conversation reaching a deeper level of meaning. If the children’s responses were not clear or could be elaborated on, the teachers often repeated questions, as a way of suggesting that more information could be given and to present children with another opportunity to respond. Scaffolding appeared during most questioning exchanges. In some instances, exchanges were brief, perhaps in an effort to consolidate children’s understanding of book content; other instances of scaffolding were extensive as more abstract ideas were explored.

The following extracts provide examples of a brief scaffolding exchange and a more extended exchange; both related to the affective states of storybook characters

*From: 'Alexander and the terrible, horrible, no good, very bad day' (Viorst & Cruz, 1986) (body of text).*

Teacher: Oh dear, look at his face! How do you think he feels?
11716: Angry
Teacher: Angry? Why do you think he’s angry?
11716: Umm, cos he had chewing gum in his mouth and it’s in his hair
Teacher: Good remembering, he had the chewing gum in his mouth and it went in his hair

*From: 'Hairy Maclary' (Dodd, 1999) (review).*

Teacher: There he is back home in his bed. How do you think he feels?
Children: Scared!
Teacher: Why would you think he was scared?
11709: Cos cats chase dogs
Teacher: Cats chase dogs? Are you sure? Why is he hiding?
11705: He’s scared of the cat
Teacher: Why would he be scared of the cat? What is it about the cat that he would be scared of?
11715: His claws
Teacher: Claws, yes, what else?
11707: Teeth
Teacher: His sharp teeth, yes, anything else? What about sound?
[A number of children begin loud meowing and hissing like the cat character in the book]
Teacher: Would you be scared?
Children: Yes
Teacher: What else does a cat do? What about his hair?
11708: He sticks up his hair
Teacher: Yes, that's right; he makes his hair stand on end to make him look bigger.
But why would he be scared? He's bigger than the cat
11706: You can be big but still be scared
Teacher: Yes, just because you're big doesn't mean you can't be scared

In this example, the teacher scaffolds children's exploration of ideas by repeated questioning and by using suggestions to further extend the conversation. The teacher asks the children to identify the dog's affective state and then rationalise why the dog is scared of the cat even though he is larger. The repeated questioning leads finally to a child's response “You can be big but still be scared” which shows a developed sense of attributing affective states to others despite physical size.

Questions seeking explanation

A key feature of teacher's scaffolding questioning style throughout the SSR events was the propensity to seek explanations from children. During SSR events, teachers frequently asked children to explain what they understood about the storybook content and asked them to identify affective and cognitive states in storybook characters. Also important for children's developing theory of mind knowledge, were the repeated examples of teachers asking children to explain why a storybook character might think or act the way they do. This requires children to provide a psychological explanation for their reasoning, and this has been identified in the literature as being particularly powerful for developing theory of mind understanding. In addition, teachers also questioned children about complex or conflicting affect (emotion) states in storybook characters. The children's responses suggest that children in the groups found verbally explaining conflicting emotional states challenging. Examples of these exchanges follow.

Questions involving identification and explanation of mental states in storybook characters.

In these examples, the first level of explanation questions that were asked by teachers during SSR involved asking children to identify possible mental states in characters (either from the storybook illustration or from the storyline). The second level asks
children to explain the reasoning behind their thinking. These questions probed children’s ability to understand and explain not only the affective or desire states of characters, but also cognitive states including the advanced reasoning of false belief evident in storybook characters.

Some of questioning exchanges were quite brief and appeared to be part of a method for teachers to assess children’s ‘up to the moment’ understanding of the storybook as the SSR progressed. Other exchanges were more extensive and appeared as teaching moments where the teacher would attempt to deepen children’s awareness or understanding through the use of questioning that required children to produce psychological explanations.

*From: ‘Five minutes peace’ (Murphy, 1988) (orientation).*
Teacher: Oh. Now what does her face look like 11703, does she look [animated] happy, sad, mad, cranky, surprised? [pause] proud?
11703: Umm, happy
Teacher: Happy, she does.
Teacher: How can we tell that she feels happy?
11703: Because she’s umm [indicates with finger towards his mouth] because she’s mouth
Teacher: Her mouth is..?
Children: [some mumbled responses, no one clear response.]
Teacher: What is it?
11715: Smiling
Teacher: Smiling! That’s how you tell if people are happy? [some children nod] Oh good, let’s see if that’s true.

Teacher: What do you think the crocodile’s thinking?
11712: There’s no opposite bank
Teacher: [amused tone] There’s no opposite bank! Yes. What else do you think he’s thinking?
11706: He wants to eat the tails
Teacher: Is he going to have the tails now?
Children: No! [11706 nods head -yes]
From: ‘Gordon’s got a snookie’ (Shanahan & Harris, 2004) (body of text).

Teacher: Why were they all laughing?
11720: Because/
11708: He got a snookie!
11720: He’s got a snookie
Teacher: What’s wrong with a snookie?
11715: Cos they like it
Teacher: Because they don’t like it?
11715: No
Teacher: You didn’t think they liked it
[Story reading continues a few lines, and the protagonist is rejected by the other gorillas in the zoo for having a baby blanket—a ‘snookie’].

Teacher: Oh dear
11703: No-one likes him
Teacher: Don’t they?
11720: Yes
[11703 is shaking head]
Teacher: Why don’t they like him?
11703: Because he has a snoo--- a snookie [pronounces ‘oo’ elongated]
11712: Snookie! [correcting 11703]
Teacher: Oh. What’s wrong with that though?
11712: I don’t know
11719: They don’t like it
Teacher: They don’t like it, why?
11705: They fink he’s a baby
Teacher: Oh, they think he’s a baby
11706: Like the other four babies
Teacher: Like the other babies..
11706: He’s very big
Teacher: Who’s big? [11706 points to the page with Gordon]
Teacher: Gordon’s big? [11706 nods head confidently]
Teacher: So isn’t he allowed to have a snookie? [11706 shakes head strongly]
11720: &11715: No
11715: Cos it’s a baby snookie
The previous examples are representative of numerous exchanges, during which the teacher uses questioning to elicit explanations about mental states in storybook characters. The children's responses show that they hold knowledge about the target question, although at times verbal explanation appears to be challenging. The teacher’s questioning repeatedly attempts to extend children’s explanations of their thinking – a technique that is thought to extend the processing ability in theory of mind knowledge as children must analyse their own reasoning in order to explain it to another.

In the following example, the teacher asks children to explain the motivation of a storybook character, which involves an element of false belief knowledge.

From: ‘Alexander and the terrible, horrible, no good, very bad day’ (Viorst & Cruz, 1986) (body of text).

Teacher: (reading text) "At school, Mrs Dickens liked Paul's picture of a sailboat better than my invisible picture of a castle."
Teacher: Can you see an invisible picture of a castle?
Children: No
Teacher: No, [whispers] do you think he's tricking the teacher?
11712: Yes
Teacher: Why would he do that?
11712: Cos he doesn't want to draw a picture
Teacher: Ahh! I think you might be right! He doesn't want to draw a picture

Asking children to explain why a character might think or behave in certain ways requires to children to reason about the mental state of an abstract third party. During the SSR events, children's responses show that they are able to attribute affective, desire and cognitive states to storybook characters, which support research findings of Nicolopoulou & Richner (2007) that show young children prior to school age, are able to view storybook characters as mental agents.

Questions involving complex affective states
Research evidence suggests that all children in the group are of an age where they would have achieved competence in attributing basic affective states to others, and that most would have a working knowledge of false belief. While the data of SSR events generally supports these findings, there is also evidence that children’s ability to
identify and attribute more complex affective states is an area where knowledge continues to undergo important construction.

An excerpt from 'The Games are Grouse' (Philp-Wright & Bagley, 1997) illustrates this construction. During the storyline, conflicting emotions are brought into focus during conversation. The teacher’s scaffolded questioning and suggestions hold potential for children to construct enhanced knowledge about affective states. At the start of this example, Wally the Kangaroo has just broken a world record and is receiving his gold medal.

Teacher: He feels?
Children: Happy!
Teacher: Very happy,
11707: And he’s showing the gold medal to us
Teacher: He is showing his gold----how do you think he would be feeling?
Children: Happy!
Teacher: What else though?
11707: Sad
Teacher: Why?
11707: Cos he won it
Teacher: Why would you be sad though?
11707: Cos he tried really hard
T2: Maybe exhausted!
Teacher: Yeah, tired. Would he be proud?
11715: Yes
11708: When you uh, don’t win, sometimes you cry
Teacher: When you, when you don’t win sometimes you cry, Why?
11708: Cos, um,
11715: Cos you didn’t get a medal
Teacher: Ahh
[Later in the book reading the conversation about winning returns]
11718: You’d get very proud
Teacher: Very proud! Why would he be very proud?
11718: Because he’s the winner
Teacher: He’s very proud of all the trying hard? And do you know what I see, when they see the mummies and the daddies or their brothers and sisters then
what do they do?

11719: [very quietly] They cry
Teacher: What do they do 11719?
11719: Cry
Teacher: They do cry don’t they! [Dramatic voice] Cos they’re so overwhelmed, they go Oh ho! And give them a big cuddle don’t they!
[Children smiling and nodding, T laughs]
[Near the end of the story, conversation occurs again]
Teacher: (reading text) "The closing ceremony is over, the games will be held in four years time in Greece and, in another four years time, in Beijing! The country----the competitors take the ferry across to Manly for a [amused tone] barbeque. Everyone was happy and sad at the same time."
Teacher: I wonder why they were happy and sad?
11715: Because they’re sad because they had a medal and sad means that you’re happy
Teacher: Oh, sad means you’re happy? I was thinking maybe they were sad because it was all over, but happy because they did do it.
[No clear response from group, 11715 nods a little]
Teacher: No?
11708: Yes
11712: No, because they missed their mum and dad
Teacher: Oh, that’s what it was; they missed their mum and dad.

Conversation during the reading of ‘The Games are Grouse’ shows that the children are challenged in identifying and explaining conflicting emotions that are depicted in the story. The teacher scaffolds questions to children to encourage them to show their thinking through explanation, however, the teacher also makes a lexical suggestion “Would he be proud?” perhaps in an effort to extend affective vocabulary use. Later in conversation during this book reading, a child makes a spontaneous comment using this word.
11718: "You'd get very proud."
The teacher also suggests a possible reason for the conflicting emotion “I was thinking, maybe they were sad because it is all over, but happy because they did do it” This idea does not appear to be readily taken up by children, with a child providing other reasoning for the sad/happy state “They missed their mum and dad".
This conversation shows an example of the teacher attempting to scaffold children to a deeper level of meaning. Even though the children do not appear to agree or perhaps understand the teacher’s perspective, the potential exists for children to think about and construct their own ideas. In this example the teacher is content to let children hold their own perspective on the reasons for the affective states.

Review questions

In the analysis of SSR structure, the review is defined as comprising those utterances that occur after the storybook reading has finished. Further analysis of the review section is discussed here, as a previous study of SSR between children and parents suggests that review conversation may be particularly fruitful for possible extension of theory of mind knowledge as participants discuss the storyline (Symons, et al., 2005). The present data shows that during SSR in this group situation, review conversation and questioning held some limited potential for contributing to children’s construction of theory of mind knowledge; however, the conversations are not as complex as those that occur during the body of the story reading itself. There are several possible explanations for this difference.

In the recorded SSR events, two storybooks were often shared as part of the one SSR event. This meant that the end of one story was sometimes followed quickly with the start of the next story and as a result, review conversation was limited with little discussion or review of the storybook content. At other times, the review conversation led by teacher questioning focussed on remembering aspects of the story rather than an analysis or discussion of storyline. For example, teachers asked children to remember all the ingredients that went into the making of the mixture in the 'Gingerbread man' and in another example, to remember the sequence of people who owned the 'Cherry dress'.

Some review conversations consisted of group sharing where children related a story idea to their home experience. For example, children shared information about when they have a bath at home inspired by 'Five minutes peace' (Murphy, 1988) and discussed pets after 'Let’s get a pup' (Graham, 2001). In the present data, examples of discussing character's motivations or behaviours as part of review conversation was infrequent, and in those examples where the storyline is discussed, the exchanges were generally brief and in the form of recapping statements rather than scaffolding
questioning and exploration. A final explanation may be that the children in the Symons et al (2005) study were of an older age sample (5-7 years) and this is likely to have an impact on the quality of conversations.

The following extracts are review conversations most related to theory of mind knowledge. The first involves a brief recap of a main theme in the storybook 'Wombat Stew' where children show some awareness of false belief as they understand that the protagonist was tricked, although it is the teacher who provides the explanation.

*From: 'Wombat Stew' (Vaughan & Lofts, 1987) (review).*

Teacher: Who was clever in this story do you think? Who was cleverest?
11731: The Dingo
Teacher: The Dingo? Or all the other animals?
11733: All the other animals
11722: The other animals
Teacher: The Dingo thought he was clever----all the animals/
11721: But he wasn't
Teacher: No, cos they were tricking him
11731: Yeah, they were tricking him
Teacher: With all those other ingredients

*From: 'Gordon's got a snookie' (Shanahan & Harris, 2004) (review).*

Teacher: So what about the animals in the zoo that were laughing at him first off? Why did they change their mind? [No response from group]
Teacher: Why did they change their mind 11708?
[11708 does not answer]
Child: Cos they had a snookie
11707: Cos the gorilla laughed
11720: Cos the snookie was---when the, when the gorilla had one, everyone else had it.
Teacher: Why did everyone else get one though?
11720: Because, they wanted to have the same
Teacher: They wanted to have the same as the big, strong gorilla? [11720 is nodding]
Teacher: But I thought, everybody thought snookies weren't good?
11720: But they were!
Teacher: They are good
11705: They thought they wasn’t and now they are, cos they wanted to save the one that fell in the water
Teacher: Ohh, it helps to save people, oh, that’s lucky they changed their mind!

This exchange shows that at the end of the story, children are challenged when asked to explain their understanding of the book content and meaning. This is not to suggest that children do not understand the book meaning, rather, that explaining this understanding verbally remains difficult. As a review conversation, this exchange may deepen the understanding of children in the group who had not made assumptions about the story meaning and reasoned about the characters motivations for eventually accepting Gordon and his ‘snookie’.

Features of the storybook text

During the recorded SSR events, teachers and children engaged in joint attention centred on storybooks written for children. While a direct analysis of all the storybook content read in the recorded events was not undertaken in the present study, it was evident from transcripts that the literature chosen by teachers and children to share contained a range of subject matter of interest to the participants. Storybooks depicted subject content that included (but were not limited to) fantasy states, personified animals, and familiar and unusual content themes that held the potential to inspire curiosity.

The final area identified that may contribute to children’s developing theory of mind understanding, is aspects concerning the features of the storybooks. Throughout the transcripts, repeated examples occurred where the storybook text directly inspired the participants to refer to mental states of themselves or others by virtue of presented happenings, words or pictures that were unusual or new to the group members. These features aroused spontaneous responses from participants and directly inspired conversations about objects or subjects that may not have occurred as readily during other conversations throughout the day. Some of these conversations held the potential to enhance children’s theory of mind knowledge, especially when the teachers scaffolded information for children through explanation.
Additionally, the storybook text and illustrations depict characters as being mental agents. This presents children with an individual opportunity to construct theory of mind knowledge as they listen to and process the storybook text, particularly if they are interested in and engaged with the storyline.

The following extracts show examples of storybook features that generated conversation relating to theory of mind knowledge. While reading 'Monkey’s clever tale' (Fusek Peters & Montgomery-Higham, 2003) the storybook illustration shows a character ‘thinking’ about things he would like, denoted by the use of ‘thought bubbles’. In the story the main protagonist (a monkey) is trying to trick a crocodile into transporting her to the other side of the river.

Teacher: (reading text) "Crocodile wondered what the opposite bank looked like!"
Teacher: [Whispers and points to illustration] I think this is what he’s thinking; [a little louder] that’s what the opposite bank looks like, with lots and lots of?
11720: Cheeky monkey
Teacher: Oh, what’s this in here though?
11715: Money!
Teacher: I didn’t know animals had money [11712 Laughs]
11720: They don’t
11712: It’s just the story
Teacher: Oh it’s just a story
11719: Its leaves
Teacher: It’s what? Leaves
11719: Leaf money
Teacher: Leaf money? Could be. He doesn’t know about the bank, but the monkey’s telling the story isn’t she?
11712: Yes
Teacher: Do you think she’s telling... do you think there really is a bank?
Children: No
11715: I think it’s just a workshop
Teacher: [amused tone] It’s just a workshop.  
Teacher: (reading text) “Anyway” continued Amira, “I will fetch the tails and give you some money when we reach the other side.” Crocodile wondered what he would spend his money on."
Teacher: What would these be?
In this example children show awareness that storybook content can suspend reality e.g. “It’s just the story” and by answering ‘No’ to the teacher’s question “Do you think there really is a bank?” Some children are showing awareness that the protagonist is lying to the crocodile in an effort to trick him. This awareness is directly related to false belief knowledge and shows that children are applying theory of mind knowledge to the storybook content.

In terms of features of the text relating to theory of mind knowledge, a child stating what they saw in the illustration prompts the teacher to explain the text/illustration convention of using thought bubbles to show character thinking states in illustrations. This explanation may assist children to understand storybook pictures in an enhanced way that relates directly to knowledge about mental states as they appear in symbolic form. In the following example, the unusual word “taxidermist” inspires a conversation that the children relate to affective states.

*From: ‘Clive eats alligators’ (Lester, 1997a) (body of text).*

Teacher: (reading text) "But Ernie likes to visit the taxidermist"

11708: What is that?

11706: The bear shop

Teacher: Well, it’s a good try, ok, so now what happens/

11719: Pretend things
Teacher: if, um if an animal dies and the skin is still good, you can take it to this person called a taxidermist, and they can make it back into the shape of the animal, and fill it up, and then you could take it home and put it on a shelf.

[The whole group is silent and attentive, 11720 says ‘Oh’ softly and nods head]

Teacher: Would you like to do that?

11720: [the loudest voice, but other children respond also] No!

11712: I went to um, [pauses, thinking] this, a place, and I saw umm, the reindeers head

Teacher: A reindeers head? That’s what a taxidermist does, they put the animals that have died back, they put them back into the right shape so that you can look at them. Some people like it and some people don’t like it

11720: I don’t like it

11712: Some peoples get scared of them

11719: [Shouts loudly] I like it!

Teacher: Why do they get scared? [children begin calling out excitedly]

Teacher: 11712 is talking! 11712 is talking [group quietens]

11712: Because there’s scary ones too

Teacher: There’s scary, stuffed animals too is there?

In this exchange the new word ‘taxidermist’ inspires teacher and children to consider the problematic idea that taxidermy is something that people may or may not like. Children respond with both positive and negative responses to the idea, and one child relates the word to an experience of seeing a taxidermy deer and suggests that other people may be frightened of such objects. This exchange occurs as a direct result of reading an unusual word in the storybook text and the subsequent explanation of this word inspires a conversation that presents children with an opportunity to enhance their theory of mind knowledge. Firstly, the new word and idea of taxidermy is introduced and then this knowledge is immediately related to affective states. Secondly, children are exposed to the idea that people will hold multiple perspectives and feelings about this new idea/external object.

This completes the presentation of data analysis and interpretation. The following chapter provides a final discussion of the study.
CHAPTER 4
DISCUSSION

This case study investigated the question of how shared storybook reading in the preschool setting might contribute to children’s developing theory of mind. This was explored primarily through the analysis of conversations that occurred between children and teachers during shared reading, but also included additional information about how shared storybook reading occurred in the preschool setting.

In this chapter, conversation, mental state reference and questioning during SSR are discussed. In addition, a discussion of SSR as a social practice and teacher’s interaction styles follows, as these were deemed to be influential in this setting. Finally, possible implications for early childhood practice and research directions are identified and the limitations of the study are acknowledged.

Conversation and mental state reference during SSR

The data showed that the social event of shared storybook reading did indeed inspire frequent conversations between the children and their teachers, which confirms research findings that identify it as a rich context for focussed interactions between participants.

A feature of shared storybook reading conversation in this setting was a high level of bi-directional conversation between the children and teachers, with children engaging in almost the same frequency of talk during conversations as the teachers. The conversations consisted of both children and adults sharing personal responses and making comments (both connected and unconnected to the storybook content), as well as posing and answering questions of each other.

The participants’ conversations included frequent references to the mental states of other people and storybook characters. Nearly one fifth of their conversations involved such talk. While most of this talk occurred as a direct reference to storybook content that portrayed specific accounts of false belief or explicit emotion in characters (either
through narrative text and/or illustrations) this was not the only source of inspiration for conversations involving mental states.

Conversations involving mental states also occurred during the reading of books or book sections that did not directly portray mental state aspects related to characters or content. The storybook 'If' (Perry, 1995) was a good example of this. The simply stated storybook text asks the reader to consider unusual ideas e.g. “If worms had wheels”. During the shared reading of this text, the question “If clouds were spirits” inspired extended conversation (initiated by children) and involved mental states such as imagining and dreaming. However, since this study did not involve analysis of the specific storybooks and how their narrative structure or literary features might impact on conversation qualities, this aspect would need to be examined with further inquiry and be informed by research involving children's understanding of narrative.

The frequency of participants’ reference to mental states during conversation is an interesting finding. As mentioned previously, experimental studies using shared storybook reading in methodology often specifically design or edit storybooks to purposely promote mental state talk between participants. In this study, the participants shared books of their own choice, unedited in any way, and still engaged in frequent mental states reference. This confirms findings of previous research that shows usual children’s storybooks to be a rich source of mentalistic content that inspires participants to talk about and discuss the mental states of others (Adrian et al., 2005; Danis et al., 2000; Dyer et al., 2000).

The regular and frequent nature of shared storybook reading in this setting may on its own make a contribution towards children’s burgeoning theory of mind knowledge as Adrian et al. (2005) showed the frequency of shared storybook reading between children and parents has a correlation to children’s positive performance on theory of mind tasks.

Questioning during SSR

The data showed that cognitive terms (such as think, know and remember) were the most frequent mental states terms used by teachers in their conversations with children during shared storybook reading. This mirrors the findings of Adrian et al. (2007) that cognitive terms were among the most frequent terms used by mothers during shared
reading with their children, and this is thought to play a role in children’s theory of mind development. However, while cognitive terms were frequently used by the teachers, this was most often connected with what could be described as ‘teaching and learning’ questioning i.e. their pedagogical practice. For example, “What do you think this story might be about?” “Do you know what a ___ is?” Caution is therefore needed when attributing a causal link between the teacher’s use of cognitive terms and contribution to theory of mind knowledge, as the teacher’s cognitive term use is not necessarily indicative of mental state conversation that might be more effective in enhancing children’s understanding of other’s minds.

An important consideration regarding teacher’s interactions is the frequency with which teachers used causal questioning with the children in the group. The teachers in this study often paused during the text reading to ask children questions about their understanding of the book content or illustrations and asked children in the group to ascribe mental states to the characters depicted e.g. “How do you think he feels?” This initial questioning strategy encouraged children to identify mental states in others (in this case storybook characters) and is a crucial aspect of theory of mind ability.

More importantly though, the teachers expanded questioning beyond asking children to ascribe mental states by engaging in causal questioning about the character’s mental states e.g. “Why do you think he thought that” “Why is she sad?” which encouraged children to verbally explain their reasoning about why they make those attributions. This kind of questioning is thought to directly contribute to children’s theory of mind development as it requires children to not only attribute mental states to others, but display what they understand and how they came about that understanding by explaining it to another person (Wellman & Lagattuta, 2004). This approach to questioning style by teachers may therefore hold an important role during shared storybook reading by encouraging children to engage in theory of mind reasoning, while at the same time providing teachers with the opportunity to scaffold or support children’s knowledge and verbal explanations.

Analysis of conversations showed that children were not just passive recipients of teacher questioning. During shared storybook reading, children would ask their own questions of the teachers about the mental states or behaviours of characters e.g. “Why did they do that?” This supports previous research findings that show children are naturally curious about why others think and behave the way they do, and will ask more
knowledgeable others to help them understand their social world. This supports theories that assert that children actively seek their own understandings about their surrounding community of minds, and cultural tools (such as storybooks) assist and inspire their quest (Bretherton & Beeghly, 1982; Jenkins, et al., 2003; LaBounty, et al., 2008; Lagattuta & Wellman, 2002; Nelson, 2005; Symons, et al., 2005; Wellman & Lagattuta, 2004).

Because shared storybook reading occurred in a group situation, this meant that children witnessed explanations by teachers to questions asked by other children, as opposed to solely adult directed explanation. Such questions may mirror their own, or involve aspects they have not yet considered – and the accompanying explanations have the potential to further support their understanding or consolidate their own thinking.

The children’s responses to teacher questioning showed that they were frequently able to identify and attribute basic feelings, desires and cognitive processes to storybook content and characters. This supports the findings of (Nicolopoulou & Richner, 2007) that young preschool children are able to identify and apply mental states to storybook characters almost as readily as they are able to apply them to people in real life. Children’s verbal responses generally involved attributing basic emotion and desire states (happy, sad, angry, scared, want). More developed emotional vocabulary involving mental states such as frustration, loneliness or embarrassment for example, were not evident in this study. Similarly, complex emotions, or where emotion states were in conflict e.g. (feeling happy and sad at the same time) appeared to be difficult for the children to verbally explain. This is not to suggest that the children are not able to understand these more complex states, rather that verbally explaining their understanding was challenging and not evident in the current data.

The ability to ascribe false belief knowledge to storybook characters was observed in only a few of the children’s verbal responses; and this ability appeared to be uneven across children in the groups. This could be for a number of reasons. As previously discussed, false belief awareness is one of the most developed theory of mind abilities and while research suggests that by age of four most children will have developed a general awareness, the ability to apply it to storybook book content may still be emerging in children of this age range. Alternatively, the content of the storybooks used in these events may have been ambiguous, presented concepts that were too
advanced for this age group, or not sufficiently able to support children’s existing knowledge which would assist them to apply their theory of mind knowledge in a new context.

Shared Storybook Reading as a social practice

From the early stages of data collection it became apparent that shared storybook reading in this preschool was a frequent and valued social practice within their program of activities. The fact that shared reading occurred so regularly contributed to a sense of its continuity in the preschool program. Shared reading appeared to be a time that both teachers and children enjoyed.

The teachers in this setting had multiple approaches as to how shared storybook reading occurred with their groups (from a daily set time, to less routine approach where shared reading occurred at differing times). The children in the groups would also request shared storybook reading experiences, especially at midday when it was time for rest. Nevertheless, both groups frequently engaged in the social practice, with shared reading occurring as a whole group event.

This feature in itself may have a relationship to the children’s theory of mind knowledge as the mechanics of sitting in a group for the experience involves being reminded that others around them have needs and considerations in regards to viewing, hearing and participating. Knowing how to act when involved in a group experience draws specifically on social understanding and the teachers scaffolded children in this regard: for example, not ‘giving away’ the storyline.

In the shared storybook reading events in this study, the teacher holds the position of one who knows and children frequently seek information from them. For many of the young children in the groups, these shared storybook reading events are among some of the first experiences they have had with group learning experiences led by a teacher. This could impact on how salient these experiences are to young children – though this aspect would need to be investigated by further research.

Children in the groups had an active influence on shared storybook reading events, and were observed to make important contributions to how it played out as a social practice. They negotiated times for shared reading, requesting books that could be
read at later points in the day or to be read later in the week. Children made choices about book titles, and the order that books were to be read if more than one title was going to be shared. The children would often bring books from home to be shared with the group and regularly instigated topics for conversation during the shared reading event itself. This shows that the children were active agents in their participation and learning during preschool shared storybook reading experience. It also highlights that shared reading in this setting was not a solely teacher directed activity. The children appeared to be aware that the shared storybook reading activity was something that they could actively contribute to.

The level of children’s active influence on the shared storybook reading routine (and therefore the opportunity to extend their theory of mind knowledge) is worthy of further consideration, especially as many studies that investigate children’s theory of mind development (using shared reading as a research paradigm) involve contrived settings and do not investigate children’s influence on their learning environment. Looking more closely at the social practice of shared storybook reading in various preschool and educational settings might also contribute to understanding in this area.

The shared storybook reading events had an observable, established ‘book reading routine’ not only in terms of regular structure, but as an event where discussion, reflection and the posing and answering of questions was not only acceptable, but a dominant feature. Shared storybook reading in this site is an experience of enculturation where children are introduced to a social activity that may be quite different from how they experience shared book reading otherwise. Presumably, some children will see examples of shared book reading as part of a children’s program on television where a presenter reads to audience – and no questioning or aside conversation is possible. Shared book reading in the home may differ also, as it may occur as a one-on-one situation or with siblings. Additionally, personal and cultural factors have been shown to impact on parents’ and caregivers’ choices about children’s literature and their styles of interacting with children while reading (Brice-Heath, 1982). It is also possible that some children may have very little or no exposure to shared storybook reading outside of the preschool setting.

As a social practice, shared storybook reading events in this setting constitute a collective experience. Individuals become part of a group experience jointly attending, hearing, viewing, and actively responding to a story narrative: narratives that reflect
representations of their social and cultural world. This has important implications for individual learning, as well as for the construction of shared meaning between participants (Dockett & Perry, 1996; John-Steiner & Mahn, 1996; Nicolopoulou & Weintrabe, 1998).

Additionally, the developed book reading routines of the groups made shared discussion of those depictions an important part of the social practice. During shared storybook reading, children can construct their own meaning from the storybook narrative as well as from the social interactions that surround it. They have the opportunity to engage in exploration of knowledge about social situations and in particular other’s people’s minds, by responding to questions as well as seeking the answers to questions that might arise in their minds. Therefore children’s regular exposure to being part of such a group routine may enhance children’s knowledge of others and social situations more generally.

Teacher’s interaction style

During the reading events, an important feature of teacher’s interaction style was that they were very accommodating in allowing children to express spontaneous (unsolicited) comments. They would also frequently allow reading to be suspended while they and the children talked about a related topic or clarified something about the storybook content. The teachers did not appear to be overly concerned that the narrative thread or continuity of the story would be somehow lost or weakened as a result of allowing interjections or ‘aside’ conversations to occur during the main body of the story.

While teachers frequently prompted children to raise their hands before speaking in the group situation, they did not insist upon or enforce this social rule – which indicates the teachers acknowledge preschool children’s ability to engage in formal social rules during a group learning experience is emergent and developing. The teachers sensitively scaffolded children’s interactions during the group reading to encourage them to develop impulse control that is consistent with social group rules they will be expected to adhere to later in formal school learning situations. On the whole, teachers responded warmly to children’s spontaneous offerings including those that appeared to be unconnected and off topic.
The appeal of shared reading as it occurred in this setting was that children’s responses were encouraged, and the children appeared to be comfortable with expressing themselves during shared reading without a sense that their verbal contributions would be silenced or rejected. This is important as one of the main potentials for shared storybook reading to enhance children’s theory of mind understanding is the amount of conversation that occurs during it.

The flexibility and approach to interaction style displayed by the teachers meant that it is likely that a wider range of conversation options and topics were available to the group than those that would occur if the teachers insisted on a ‘no hand no talk’ rule or avoided suspending story reading to allow aside conversation to occur. Because of this, conversations sometimes took unexpected turns - at times steered by the children’s questions or comments, which resulted in the conversations venturing to topics or ideas that may not have otherwise been explored through the teachers questioning or comments alone.

One possible drawback with frequent pausing during shared reading is that within the group there may be children whose comprehension of the storybook narrative thread is compromised by interruption to the story flow. This however, may be more of a concern for the overall understanding of the narrative and related to other perceptual abilities, memory and emergent literacy skills rather than theory of mind understanding. Pausing the reading to talk about how characters think or feel has the potential to clarify meaning at the point of interest and may assist some children to deepen their individual connection with the story.

The shared experience of storybook reading in this setting involved children and teachers talking about their own personal responses or experiences from outside the classroom as well as topics focussed on the content of the book. This kind of communication introduces young children to the multiple perspectives of others. During shared storybook reading, children are exposed to others sharing their thoughts and feelings about topics that may fit, contrast, confirm or clash with their own – and this may raise awareness that others think and feel differently from themselves.

Through shared storybook reading children may be introduced to narrative topics, situations or literary features of books that involving the mental world that they have no prior knowledge of. This shared experience provides children with the opportunity to
construct their own understandings about storybooks and the events portrayed in them. Whether this comprehension is expressed verbally during the group experience or internally processed, shallow, incomplete or fully developed is not possible to gauge – however, what is evident is that the shared storybook reading event is a melting pot, where multiple children not only have the opportunity to join with others to share in a common experience, but at the same time be exposed to individual differences in perspective.

Considerations for early childhood practice

This case study highlights a number of aspects related to children’s theory of mind development and shared storybook reading with implications for early childhood pedagogical practice.

One initial consideration is the inclusion and regularity of shared storybook reading as part of the preschool program. In addition to the already established benefit of shared reading on children’s emerging literacy development, the frequency of storybook reading has been shown to have a positive influence on theory of mind development in home contexts (Adrian, et al., 2005) and the same is most likely to apply to preschool experience. The regularity of shared storybook reading events in this setting made it an expected activity. This contributed to a sense of continuity for children and assisted their active engagement with the social practice (such as choosing titles and bringing books from home to share with the group).

A second consideration is the provision of opportunities for shared storybook reading to occur in a discussion based format. For example, the same level of discussion observed in this case example may not be possible if storybook reading generally happens at ‘rest time’, where active talk about the book is not a key feature. In addition, the frequency of ‘aside’ conversation and children’s spontaneous talk accommodated by teachers during shared reading in this study was shown to have a positive impact on the bidirectional nature of conversations and the range of topics discussed.

The effectiveness of shared storybook reading events in enhancing children’s theory of mind understanding will be influenced by a number of factors. One important aspect may be the questioning styles of the teacher. While asking children to identify and
Ascribe mental states to characters in storybooks is an important technique, the use of causal questioning that seeks explanation of characters’ thoughts actions or feelings may be particularly useful. This kind of question moves children beyond identifying mental states to encourage inferential thinking involved in predicting the possible causes of them.

The children in this study described the mental states of themselves and others mostly by using basic emotion terms. As preschool children are rapidly developing their understanding in this area as well as their vocabulary, this highlights an opportunity for teachers to use, model and explain mental state vocabulary that extends beyond the basic. A teacher’s tendency to use varied and developed emotional and cognitive terms (e.g. irritable, frustrated or furious rather than just angry) may assist children to enhance their mental state vocabulary and their ability to ascribe these terms to themselves and others.

During the preschool years, children are at a point in their life span when their theory of mind abilities experience burgeoning development and there will undoubtedly be variance in individual ability among groups of children. In particular, verbal expression of false belief understanding was shown to be variable among children in this study. Therefore, this presents a case for the revisiting and repetition of literature titles used in shared storybook reading to allow children to build familiarity with book content and deepen their understanding of the events conveyed. This may be especially true for storybooks that contain conflicting emotions or false belief related content, as one reading session alone may not be enough for children to take in all essential aspects for story comprehension. Repeated readings may also assist children to build their confidence and competence in expressing themselves verbally in group situation as the content is more familiar.

Finally, teachers may wish to consider expanding opportunities to ‘de-contextualise’ storybook related material to situations outside the shared reading event, by referring to book related events during play or others activities e.g. “Remember when we read about Hairy MacLary and he was scared?” or “Remember how Gordon the gorilla felt when no-one would talk and play with him?” By doing this, children are encouraged to take their narrative knowledge and apply it to real world situations. This may help children to extend their theory of mind knowledge by providing them with repeated opportunity to apply it to current real world events. This ability to decontextualise
storybook narrative is also thought to have an ongoing impact on children’s ability to make affective responses to literature later in their literacy development (Brice-Heath, 1982).

Limitations of the study

As a case study, this investigation provides an account of shared storybook reading in one preschool setting only. However, it does include two groups of children and multiple teachers in data analysis as well as numerous events over a period of time. When applying findings of this study to other situations or contexts, it is important to consider that the teacher’s approach to the inclusion of shared storybook reading in their preschool program and the way they interact with children during shared reading reflects a pedagogical philosophy particular to them. It is possible that teachers in other preschool settings will have differing approaches and philosophies, therefore this must be acknowledged when generalising findings to other situations. Additionally, no distinction was made regarding the qualification levels of the staff members (whether they held diploma or degree level of training) or their years of experience. This could be an aspect to consider when making comparison to other preschool settings or staff.

The participants in this case study preschool were all of predominantly Anglo Celtic origin, and this should be taken into account when generalising findings to other cultural situations, particularly with groups containing participants of mixed or different ethnic backgrounds.

In order to encourage maximum participation in the study, no data was collected from families regarding family structure or socioeconomic information; therefore no interpretations are made in this area. It is likely that home practices such as the frequency of shared reading and the availability of books will have an influence on children’s experience and abilities.

The data collected was limited to a relatively small sample of what may occur over the course of the whole preschool year. More extensive or longitudinal observation may yield further considerations not observed within the shorter time frame.
Possible research directions

Further research involving more diverse ethnic and cultural groups would be useful to identify similarities or differences with this case study, and may provide information about variance in different groups of children. In addition, difference in ethnicity and cultural background is likely to have an effect on the types of texts chosen to read with children. Further research would also be useful to explore the approach to shared storybook reading as a social practice incorporated in preschool programs, the amount of conversation and the degree to which participants talk about mental states would be of interest, as well as the questioning styles of the teaching staff.

Another extension to research could include documenting the level of awareness of early childhood teaching staff about how theory of mind develops in early childhood and how their awareness contributes to their personal pedagogical philosophy and aspects of their programming and practice.

In regards to shared storybook reading and theory of mind development, an extension on previous research (and an aspect not explored here) would be to analyse the content of storybooks used in preschool shared reading. Storybook analysis may identify if there is a correspondence between the genres, style or topic of the storybook and the quality of conversations they inspire, especially conversations that involve theory of mind related aspects. This is an important consideration as narrative is thought to hold important connections with children’s understanding of the social world (Bokus, 2004; Nicolopoulou, 1997, 2008).

Research inquiry that provides information about how particular storybook content may inspire quality conversations or support children’s knowledge of other’s minds may be useful for early childhood educators to further inform their choices of literature titles to share with children. Furthermore, research that explores the interplay of children's gender and their experiences with narrative and shared storybook reading could provide insight in this area.

Additional research situated in preschool settings could also explore whether shared storybook groups of varying size have an impact on the conversational climate of the social practice e.g. smaller groups of children versus large whole class events. Similarly, as young children’s theory of mind abilities continue to mature for a number of years it would also be useful to explore how shared storybook reading practices
differ or change for children leaving the preschool setting and entering formal school classrooms.
Finally, additional research inquiry into the linguistic aspects of causal questioning and scaffolding techniques used by early childhood teachers with young children would be useful. This would further support existing research in this area and contribute towards confirming a link between this kind of questioning and children’s developing ability to understand the minds of others.
APPENDIX A

Keyword bank

Taken from LaBounty et al. (2008) (with minor adaption)

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<th>Made by children</th>
<th>Appears in storybook</th>
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<td>Appears in storybook</td>
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### APPENDIX B

**Shared storybook reading (SSR) event information**

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<th>Body of story</th>
<th>Review</th>
<th>Total of participant utterances for SSR event</th>
<th>Utterances that consist of reading the storybook text</th>
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