Theory of Mind Dynamics in Children's Play:
A Qualitative Inquiry in a Preschool Classroom

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(ABSTRACT)

The purpose of the study was to explore children's understanding of mind shown in children's play in a preschool classroom. Previous research on children's theory of mind has relied on empirical studies utilizing several tasks, such as false belief tasks. Since children's emerging understanding of self and others is a complex process of entering a community of theories of mind (Nelson, Henseler, & Plesa, 2000), it is important to expand our understanding of children's theories of mind through qualitative inquiry with contextually-relevant methods. This study was guided by the following questions: How is children's theory of mind manifested in play and social interactions with other children in a preschool classroom? How do children negotiate differences between their own and others' theory of mind in their interactions? How are children's relationships extended through their understanding of each other's theories of mind?

The main tool for exploration of the study was an interpretive analysis based on data collected through participant observation, along with dialogic interviews, audio and video taping, my reflections, and review of the literature. This study of one preschool classroom presents that theory of mind is not made up of isolated constructs but richly integrated states of mind. It appeared that interplay between social and cognitive factors was more evident in social contexts. Diverse aspects of children's theory of mind were discussed through detailed descriptions and interpretations of play episodes. A new way of looking at children's theory of mind should be more qualitative, contextual, and holistic.

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CHAPTER ONE

Introduction

"Children are active participants in understanding their world, building on both genetic and sociocultural constraints and resources."

(Rogoff, 1990, p. 37)

How do children develop a conception of what the mind is and how it works? Are they able to understand the mental separation of self and others? How do they apply their understanding of the mind to social interactions with others? These are the questions that have attracted many researchers in the area of cognitive development, particularly in the last two decades (Astingon, 1993; Lewis & Mitchell, 1994; Wellman, 1990).

As social beings, one of the most important tasks for us is to develop social and communicative skills in order to interact with other people. Almost always, in social worlds, unconsciously as well as consciously, we take into account and try to understand other people's feelings, desires, beliefs, intentions, and motivations based on our own "theory of mind" (Flavell & Miller, 1998). Theory of mind enables us to *explain* and *predict* other people's behaviors and appropriately respond to them in relationships.

Theory of mind is defined as an understanding that people have mental states including thoughts, beliefs, and desires (Wellman, 1990). In other words, theory of mind is the attribution of thoughts and beliefs to both oneself and others, and the description of relations between mental states and actions. Developing a theory of mind is important because it enables children to interact appropriately with others. Effects of the child's theory of mind spread across cognitive, language, and social emotional development (Frye & Moore, 1991).

Previous research on theory of mind has focused on the age at which children develop a theory of mind, normative development, group means, and conditions under which children's theory of mind are displayed. It is now widely accepted that by four years of age most children have acquired an understanding of mind (Astington, 1993). That is, children around age four are able to understand a person's actions in terms of that person's desires, thoughts, beliefs, and emotions.

Although the group means research has resulted in a fairly clear understanding of what

constitutes the *normal development* of social cognition, some areas within the field still remain neglected (Cutting & Dunn, 1999). In particular, there have been few studies on individual differences and the effects of social experiences on the development of theory of mind understanding. Consequently, in recent years researchers have begun to focus on broader issues. For example, a great deal of research has recently been conducted on children's early social understanding (Case, 1998), individual differences (Cutting & Dunn, 1999), and various factors including family background and social development in children's theory of mind (Dunn, 1991).

Efforts to examine social influences on children's development of theory of mind, have mainly been experimental studies with few qualitative inquiries in social contexts. In other words, there has been little effort to conduct qualitative studies to explore how children develop their theories of mind and to what extent children use this understanding as a tool in daily communications and interactions. After almost two decades of experimental research, it is time to adopt an alternative approach to delve into the process of theory of mind development since children are not isolated from others, but actively engaged in social relationships.

Feminists have also examined this topic and claimed that the developing knowledge of a network of beliefs, desires, feelings, and intentions among people contributes to a child's "theory of mind in society" (Miller, 2000; Nelson, Henseler, & Plesa; 2000). Qualitative approaches for further research on children's understanding of mind seem more appropriate in this sense because children's acquisition of social knowledge and accumulations of these understandings in order to build their own theoretical framework is a dynamic and dialogic process. This process is complex and cannot be adequately measured by traditional tasks. Nelson, Henseler, and Plesa (2000) argue that an interest in understanding how children build their knowledge of others out of their social experiences is consonant with feminists' interest in analyzing how knowledge is constructed within specific cultural and historical contexts, founded on particular structures of social and political relationships.

In agreement, current research has also turned to the question of individual differences and examination of potential correlates in the domain of social interaction (Watson, Nixon, Wilson, & Capage, 1999) and minds and mental states in terms of relationships in social contexts (Bruner, 1990; Flavell & Miller, 1998; Moore & Frye, 1991). Children appear to be aware of the dynamic, changing quality of interpersonal mental states, as, for example, when friendships develop and dissolve (Flavell & Miller, 1998). In addition, knowledge about the mental states of

significant other people, such as close friends and family members, may be more advanced because of a shared understanding and history (Dunn, 1994).

It can be assumed that a proper means of developing our theories of children is through observations and being with children in their social contexts. These settings are where children learn social knowledge and develop their fundamental theories about the world, both physical and mental. One of the most important contexts in which we can observe children's use of mental representations in social interactions is when they engage in play (Nicolopoulou, 1991). Children share socially constructed meanings and understandings in play and communication. Furthermore, children's theory of mind affects and is affected by social behaviors of others, during peer interaction, social play, and friendship (Flavell & Miller, 1998). Therefore, it is meaningful to connect children's theory of mind with their social relationships and interactions in everyday context.

Purpose of the Study

The primary purpose of the study was to explore children's understanding of mind in a preschool classroom. Previous research on children's theory of mind has relied almost exclusively on empirical studies utilizing several tasks where children were required to respond verbally to adult experimenters. Since various experimental situations may influence and/or limit young children's performances and responses, it is necessary to expand our understanding of children's theories of mind through contextually-relevant methods including naturally occurring observations.

In this study, therefore, I explored children's theory of mind dynamics in a preschool classroom. In particular, I observed children's relationships with other children and adults during play. It was my objective to add more understanding to the existing research on children's theory of mind by closely observing, analyzing, and interpreting children's play and relationship in context.

Justification and Rationale for the Study

As children grow, they have opportunities to experience various situations in home,

schools, stores, streets, and other aspects of society. In these settings, they interact with diverse people such as peers, neighbors, and teachers as well as their family. Young children gradually develop their understandings of self and others through such experiences as they participate in everyday routines. These understandings of people in terms of mental agents are fundamental in cognitive development, which enable us as human beings to interact with others in a cultural, social world.

Feminists claim that the young child's emerging understanding of self and others is not the acquisition of one theory of mind but a complex, developmental process of entering a community of theories of mind (Nelson, Henseler, & Plesa, 2000). Observing children as they interact with others in everyday situations is crucial to creating an ecologically valid description of development (Sperry & Sperry, 2000). Lillard (1998) also recognizes the importance of culture and context in studying theory of mind. However, although Lillard highlighted previously conducted ethnographic evidence through literature review in her writing, she has not actually conducted ethnographic research. Rather, she fashioned together literatures from varied methods and fields. As Gauvain (1998) critiqued, closer examination of how people come to understand the mind and use this knowledge in everyday activity will assist our understanding of variation in development of children's theories of mind, thus enabling us to understand children in more meaningful and powerful ways.

It is important to move beyond simplistic categorizations and comparisons from experimental results that currently dominate the literature and reveal new insights into the dynamics of children's theories of mind. Since the role of environmental and contextual influences on the development of a theory of mind remains largely unexplored (Dyanda, 1998), an exploration of children's understanding of others and minds in the contextualized paradigm may broaden our knowledge. As Flavell and Miller (1998) suggest, future directions for research in this field should include a theory of mind-in-relationships. A theory of mind surely includes an understanding that people form mental representations about people and relationships between people, in addition to representations about objects and events (Flavell & Miller, 1998). Therefore, the present study explored children's theories of mind embedded in their everyday interactions, play, and relationships. It is believed that this qualitative study adds an understanding and another dimension to the area of theory of mind research which in turn, provides us a more thorough understanding of children's overall development.

Research Questions

This study was guided by the following questions based on my reflections of the literature review and my personal experiences working with children's theory of mind for the past years.

- How is children's theory of mind manifested in play and social interactions with other children in a preschool classroom?
- How do children negotiate differences between their own and others' theory of mind in their interactions?
- How are children's relationships extended through their understanding of each other's theories of mind?

Dissertation Overview

In *Chapter 1*, the reader will find an introduction regarding the importance of the research on theory of mind, especially in relation to young children's social interactions such as play. *Chapter 2* is a review of the background and critical issues in theory of mind research, focusing on children's pretend play context, as well as the theoretical framework that helped to shape the present research. A comprehensive description of the methodology and data analysis procedures applied to this study can be found in *Chapter 3*. Also included in *Chapter 3*, is a rich illustration of the study environment, to provide the reader an in-depth understanding of the context in which the data were gathered. *Chapter 4* and *5* are interconnected in order to represent the findings of the study regarding children's play and its relation to understanding of mental world in an integrative manner. In *Chapter 4*, several detailed descriptions of play episodes are provided to vividly portray the social context in which children in this study develop cognitive understanding through social interactions. Discussions of the findings of the study in terms of theoretical aspects of the naturalistic observational data, practical implications, and future directions in research are summarized in *Chapter 5*. To close, in *After Thoughts*, I share my reflections as a researcher and participant who was fortunate to be a part of the children's world.

CHAPTER TWO
Theoretical Background

This chapter reviews literature that guided the study of children's theory of mind in social context. I will outline the main findings and explanations for a child's theory of mind carried out over the last decade and review literature in the areas of children's play in relation to children's understanding of mind.

Theory of Mind

An Overview

Children's understanding of the mind is currently an active area of developmental research. The mind and cognitive development have been of great interests to psychologists, anthropologists, and philosophers throughout history. Going back to about 2,400 years ago, Socrates questioned how humans could learn about abstract concepts such as virtue from our sensory experience (Gopnik & Meltzoff, 1997). Human beings have highly abstract and complex representations of the world. There has been a constant effort to answer the question of how people learn the connections between words and the meaning in the world as well as between our mental activities and the physical world.

The study of children's understanding of the mind was investigated by Piaget (1929) over half a century ago and has been of interest to researchers in the area of child development ever since. Piaget investigated an aspect of intellectual development called childhood "realism" (p. 126), which is the child's inability to distinguish between mental phenomena and real events. He saw children younger than 7 or 8 years-of-age as incapable of distinguishing their own points of view from those of others due to their inability to coordinate various perspectives across space and time, transcend their egocentric worlds, or consider other's mental worlds.

However, the relatively young and growing research area, known as children's "theory of mind" (Astington & Gopnik, 1991), challenges the timeline put forth by Piaget. Piaget's conclusions about young children's egocentrism have been revised considerably by Neo-Piagetians as well (Case, 1992). In agreement, recent research suggests that even young infants are surprisingly non-egocentric. Research in children's theory of mind has made an effort to

answer questions such as "How do we ordinarily understand each others' actions, thoughts, and lives?" with a focus on cognitive capacities, rather than on cognitive stages.

Theory of mind seems to develop in complexity through the early childhood years. Baron-Cohen (1995) suggests that most children begin to develop a theory of mind when they can recognize primitive mental states like "desire." This ability emerges around nine months of age and manifests in skills like joint attention (Baron-Cohen, 1995; Tomasello, Knuger, & Rather, 1993). Children of approximately eighteen months of age learn to follow another's gaze in order to see what they are looking at, as well as to comment on what they see in the environment. By two years of age, children begin to understand a full range of mental state words, such as, think, know, want, desire, believe, remember, forget, pretend, etc. By age four, children are aware of that others hold views that differ from their own, at which point they are considered to have a full-blown theory of mind (Baron-Cohen, 1995).

Overall, most of recent studies have suggested that children as young as 3 to 4 years-of-age, and certainly by 5 to 6 years-of-age, have capacities to conceptualize themselves and others as entities that think, believe, doubt, wonder, and pretend (Olson, Astington, & Harris, 1988). Results from a study by Wellman and Estes (1986) indicate that by age three children have the capacity to deal with the nature and function of the mind. In addition, social influences seem to promote an earlier obtaining of theory of mind abilities in younger children (Jenkins & Astington, 1996; Mayes & Cohen, 1996).

Flavell (1999) summarized that there have been three main waves of research on the development of children's knowledge about the mind. The first two, which were influenced by Piaget's theory and research, were *perspective taking* abilities and *metacognitive development*. The third wave, research in *theory of mind development*, began in the 1980s in Europe and North America. This new wave of research on children's understanding of the mind is linked to but separate from studies on stages of intellectual development and cognitive research.

Premack and Woodruff (1978) were the first to introduce the term "theory of mind." They observed chimpanzees to investigate whether chimpanzees hold a theory of mind in order to infer and explain behaviors of human beings. Premack and Woodruff concluded that the chimpanzee had a theory of mind based on the animal's consistent choice of the correct photograph to solve a problem. After this pioneering study by Premack and Woodruff, research in young children's theory of mind has blossomed.

The understanding of mind has also been referred to as belief-desire psychology, common-sense theory, folk psychology, and naïve psychology. In many cases in research and literature, theory of mind is interchangeably used with belief-desire psychology and folk psychology. In belief-desire psychology, the words "belief" and "desire" are defined by the very essence of their everyday meanings. Belief is simply taking something as true and desire is simply wanting (Astington, 1993). Common sense theories are people's ordinary understandings of certain bounded bodies of information, such as a set of ideas that laypersons hold about celestial phenomena such as aliens (Wellman & Gelman, 1998). Folk psychology is a network of principles which characterizes a sort of common-sense theory about how to explain human behavior. These principles provide a central role to certain propositional attitudes, particularly beliefs and desires (Horgan & Woodward, 1993). Similarly, naïve psychology focuses on our everyday understanding of psychological states and experience (Wellman & Gelman, 1998). According to Heider (1958, p.14), naïve psychology refers to "a system hidden in our thinking about interpersonal relations, and that system can be uncovered" (Bennett, 1993).

Whether theory of mind is *theory* or not is controversial. Although there is a consensus that children develop a conception of the mind during preschool years, the theoretical explanatory perspectives framing and explaining nature, origin, and development of theory of mind are diverse. While there are several theoretical explanations for theory of mind such as "theory theory," "modularity theory (Theory of Mind Mechanism)," and "simulation theory," theory theory was utilized in this study. The reason is that this is used most persuasively and has provided consistent evidence about the differences in understanding between age groups (Flavell, 1999).

The theory theory view suggests that throughout childhood, children construct a theory-like body of knowledge to account for a variety of phenomena about the mind (Gopnik & Wellman, 1994). Theory-like knowledge is a commonsense understanding of how the mind works rather than a scientific understanding. This perspective suggests that a theory of mind is not innate but is constructed by the child based on experiences and interactions with others (Wellman, 1993).

One might ask, "What and how do children of different ages understand the mind? How does their understanding of mind develop?" Young children obviously do not have an explicit understanding of mind of the kind possessed by psychologists and philosophers (Astington &

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Gopnik, 1991a, 1991b). However, even very young children have notions about inner states. For example, Leslie (1987, 1988) argued that the acquisition of symbolic or representational capacity, which emerges with pretend play at the end of infancy, is a precursor to theory of mind. Bretherton and Beeghly (1982) also suggest that 2 to 3 year-old children's abilities to talk about internal states and use mental state language constitute evidence for an acquisition of an explicit theory of mind. Literature in this area shows that children's capacity to understand mind is much richer around age four. Bartsch and Wellman (1995) address that children's global theories of mind undergo a qualitative change between the ages of three and four. They suggest that children move from a theory of mind in which desires play a central causal role to one in which beliefs are central.

Theory of mind understanding enables children, as they grow, to acquire more complicated socio-cognitive skills such as perspective-taking, collaboration, recursive thought, and metacognition. It is important for adults to understand what children know about the mind and how children use and apply their understandings in their everyday learning. Adults' knowledge about children's understanding helps adults to be more efficient in scaffolding and communicating with children. More effort is needed to explore children's theory of mind development, both from quantitative and qualitative perspectives, to further understanding of this area of child development.

Related Constructs

In the broad scope, theory of mind research has included the study of the following constructs: false belief (Gopnik & Astington, 1988; Hala, Chandler, & Fritz, 1991; Hogrefe, Wimmer, & Perner, 1986); deception (Sodian, Taylor, Harris, & Perner, 1991); appearance-reality distinction (Flavell, Flavell, & Green, 1983, 1986; Woolley & Wellman, 1990); understanding of mental states in social interaction and communication (Bonitatibus, 1988); and pretend play (Leslie, 1987, 1988; Lillard, 1993a, 1993b). Various populations have also been studied including children with autism (Baron-Cohen, 1995, Leekam & Perner, 1991). The study of autism has particular relevance to investigations into the development of a concept of mind. A claim made within the last couple of decades is that autism amounts to either a deficient or a deviant theory of mind (Mitchell, 1997). Research on autism has demonstrated the independence of theory of mind and general cognitive functioning through comparisons of Down's syndrome,

language impaired, and autistic children. This suggests that theory of mind is composed not only of skills from the cognitive domain, but also from the social domain (Greene, 1997).

Among the relevant concepts in theory of mind study, the topic of false belief has been one of the most popular constructs for revealing children's understanding of theory of mind. False belief is when people believe an event to be true, and act in accordance with a mental representation that does not correspond to reality (Flavell, 1999). That is, young children do not realize people think and act in accordance with the way they represent the world mentally but in the way the world actually is.

Gopnik and Astington (1988) found that young children experienced difficulty in acknowledging false belief. Children were presented with a Smarties tube and a candy container. They were asked what they thought was inside the containers. When the child replied "Smarties," the experimenter opened the tube to reveal an unexpected pencil, then returned it to the tube, closed the lid, and then asked the child what he or she had thought was originally inside. Most children over 4 years of age correctly responded "Smarties," and thereby acknowledge their own initial false belief. In contrast, most children below 4 years of age simply reported the current reality. Moreover, Gopnik and Astington found that the children who failed in one of the tasks tended to fail in the others as well. In other words, children who failed to anticipate another person's false belief tended not to report their own prior false belief. That is, they tended not to recognize a distinction between appearance and reality.

Flavell, Flavell, and Green (1983) studied children's understanding of the appearance-reality distinction. They found that most 3-year-old children appeared unable to acknowledge the distinction between the way an object looks and what it really is. In a classic example, children were shown an object that convincingly resembled a rock, but then its true identity as a sponge became obvious when the children were allowed to feel the object. Finally, children were asked what the object looked like and what it really was. Most of the three-year-olds gave the same response to both questions, usually "sponge" and "sponge." Older children, in contrast, successfully judged that although the object really was a sponge, it looked like a rock. Flavell, Zhang, Zou, Dong, and Qi (1983) confirmed the findings with Chinese children. Similarly, I found the same results with Korean children (Park, 1997).

As mentioned above, theory of mind understanding stems from other domains. The domains also include pretense, mental representation, and language ability, which are related to

one another. For example, Astington and Jenkins (1995) found that children's overall performance on false belief tasks was linked to some measures of interaction during pretend play in school contexts. Children who passed false belief tasks engaged in more purposeful joint play because of their ability to predict and explain their peers' actions.

Children's pretend play is one of the domains where children show an early ability to accommodate different representations of the same object or situation. The possible link between early pretending and the development of a theory of mind has generated a lively area of research within the past few years (Rosen, Schwebel, & Singer, 1997). Although the development of pretend-play skills during early childhood has been studied for many years (Rubin, Fein, & Vandenburg, 1983), only recently has it been viewed as part of the development of children's knowledge about the mind (Flavell & Miller, 1998). Leslie (1987, 1988), asserted that the acquisition of symbolic or representational capacity, which emerges with pretend play at the end of infancy, is the beginning of a capacity to understand cognition itself and thus a precursor to theory of mind. There have been some disagreements on Leslie's view. The debate in terms of the relationship between pretense and theory of mind will be discussed under the section that reviews play literature.

Individual Differences and Cultural Influences

Several studies have shown that children who are exposed to high levels of social interaction with siblings and caregivers perform better on false belief tasks (typically a proxy measure for theory of mind capabilities) than do children who are not exposed to such social interactions (Dunn, 1991; Perner, Ruffman, & Leekam, 1994). The evidence from studies in both the United States and Britain show that young children in these countries grow up in a world in which there is much conversation within families about the feelings and behavior of others and about their motives, intentions, and the permissibility of their actions (Dunn, 1991). Similarly, other research findings suggest that a home environment with more interactions may provide more opportunities for learning about thought-behavior relations (Jenkins & Astington, 1993; Perner, Ruffman, & Leekam, 1994).

Experiences of social interaction can provide opportunities for the child to see the outcomes of his or her as well as others' intentional behavior. In addition, there has been a recent increase in interest in individual differences in children's understanding of mind (Astington,

1993). A body of research revealed that particular patterns of social interaction and language use in the home, such as sibling cooperation, social pretend play, and family talk about feeling states are associated with later differences in false belief and emotion understanding (Youngblade & Dunn, 1995). Additionally, participation in training procedures involving, for example, conversations about surprise, has been shown to promote false belief understanding.

In Dunn's longitudinal research (1991), 33-month-olds who conversed mainly with their mothers about feelings and causal relations were more proficient in affective perspective taking and false-belief tasks seven months later, and on measures of emotional understanding of age 6. Similarly, Perner and his colleagues (Perner, Ruffman, & Leekam, 1994) found that false belief understanding is related to the number of siblings in the family. Other researchers revealed the amount of participation in pretend play is also related to children's understanding of mind (Brown & Dunn, 1992; Dunn, 1995; Moore, Pure, & Furrow, 1990; Youngblade & Dunn, 1995).

Some cross-cultural studies that examine the dynamics of pretend play have implications for the connections between cultural background and children's capabilities to understand other children and to show empathetic social behavior (Farver, Kim, & Lee, 1995). According to Farver and Shin (1997), children's play behavior, including pretend or dramatic play, seems to be quantitatively different depending on their culture. The research by Farver, Kim, and Lee (1995) on cultural differences in pretend play suggests children's pretend play behavior is influenced by culture-specific socialization practices. Research on pretend play has implications for the study of theory of mind since children's ability to distinguish the real and mental world and to understand their own and others' intentions can be seen in their play.

Children's ability to distinguish reality and pretense is seen in their daily conversations as well. Children seem to constantly make sense of the world in their own way by intensely engaging in the process of thinking while participating in activities. The children's conversations reported in Paley's book *Wally's Stories* (1981) seem to demonstrate that they can distinguish between one's appearance (Superman) and the reality (himself):

Wally once told Eddie he was going to grow up and become Superman. "You can't do that, Wally," Eddie said. Whereupon Wally altered his statement to "I mean look like Superman," and Eddie approved (p. 16).

Not only young children's understanding of other people, but also their understanding of

relationships is important in development because it permits more refined assessments of the sharing of intentions, goals, beliefs, and understandings that can affect relational quality. Thus, examination of children's understanding of theory of mind in their various relationships and communications will be meaningful. According to Bartsch and Wellman (1995), parents' talking with children is an important source of differences in children's reference to and understanding of beliefs. Parents' frequent talk about beliefs and thoughts is a crucial factor because it directly fosters children's understanding of the mental states. However, we should be aware that cultural parenting practices are important communicators of cultural meanings (Harkness & Super, 1995). As Wellman and Gelman (1998) noted, cultural worldviews are conveyed in folk theories that shape ways of thinking within particular societies. In addition to parents' roles in socialization where children learn how to establish social relationships based on understandings of self and others, other environmental factors such as peers and schooling may also have great influences in this cultural process.

Based on the available literature, it appears that social factors have an impact on a child's acquisition of a theory of mind (Dunn, 1991, 1995, 2000). In order to understand cognitive development, it is necessary to consider the everyday context in which children are guided by adults in approaching and solving novel problems (Rogoff & Wertsch, 1984). Theory of mind has many possibilities to offer the field of child development. Much work needs to be done to dismantle claims of universalism that do not take into account the naturalistic context of the child. Ethnographic approaches that look at individuals closer will help researchers better understand contextual and cultural influences that may contribute to individual differences.

Play

Children's Play as a Tool for Making Sense of the World

How do children make sense of their lives in various contexts? How do young children gain knowledge and information about the social world? Many researchers in the area of child development have emphasized the importance of play in children's development (Rubin, Fein, & Vandenberg, 1983; Pellegrini & Galda, 1991). Both Piaget (1962) and Vygotsky (1962) believed that play is an excellent tool for children's cognitive development. Bruner (1972) also considered play as a significant force in the development of tool use and problem solving. For Vygotsky

(1967, 1978), play is viewed as a highly motivated behavioral formation and adaptive mechanism that promote cognitive growth during the preschool years.

A thorough literature review of play research was conducted in order to inform the study. Defining "play" is not easy because different theorists define play differently. However, defining play is not the purpose of this study. Rather, it attempted to reconstruct meanings and roles of play in children's lives as children develop their understandings of the world. Despite differences in defining play, there is "the widely shared notion that the entity play is a behavioral disposition that occurs in describable and reproduceable contexts and is manifest in a variety of observable behaviors" (Rubin, Fein, & Vandenberg, 1983, p. 698).

According to Parten's (1932) classic definition, there are several categories of play that include unoccupied play, solitary play, onlooker play, parallel play, associative play, and cooperative play. Whereas Parten's categories emphasize the role of play in the child's social world, the contemporary perspective on play categorizes play as sensorimotor/ practice play, pretend/ symbolic play, social play, constructive play, and games to emphasize both the cognitive and social aspects of play (Santrock, 2000). Given that a great deal of research has provided evidence of relationships between theory of mind development and frequency of involvement in social pretend play, for my study, I focused on play that involves social interaction and symbolic representation found in such as cooperative play, pretend/symbolic play, social play, constructive play, and games, in order to explore children's understanding of mind shown in their peer interactions.

Play is an important environment for children to experience social interactions naturally. In play, children spontaneously use rules that in real life are condensed, compressed, and employed by others (Rubin, Fein, & Vandenberg, 1983). This may allow children to make sense of the world while they play. In play, children adopt and practice rules, meanings, and understanding in their intentions. According to Vygotsky (1962), play brings into being the mediating role of signs and creates the zones of proximal development. Children's interaction with more competent others facilitates the growth of the ability to think and talk about things (Vygotsky, 1976).

As McCall (1977) noted, studies restricted to the laboratory often tell us what children are capable of doing, whereas studies of children in their natural ecologies tell us what they actually do (Pellegrini & Boyd, 1993). Thus, future research in children's play should include

various settings including laboratory, classroom, and home so that we can understand a variety of ways that children develop their folk psychology to make sense of the world as they interact with different playmates including peers, siblings, and adults.

<u>Pretend Play</u>

Leslie (1987) suggested that children's ability to pretend is a part of theory of mind that emerges earlier than other concepts such as false belief.

Although many researchers have focused on the relationship between pretense and theory of mind development, few studies took the *context* into account in conducting an experimental study with young children. While the development of social pretend play is motivated by underlying cognitive changes in the capacity of the child to manipulate symbols and representations, we should consider that all of children's development including play occurs within a particular "ecocultural" context (Bloch & Pellegrini, 1989). Another issue that we should consider is that children tend to engage in more social pretend play when they are with familiar peers (Doyle, Connolly, & Rivest, 1979).

Following the pioneering observations of pretend play by Piaget (1962), research emphasis has been on the way that children engage in joint pretence and collaborative activity in pretend play (Harris, 1997). Children at age three or four begin to engage in collaborative role play and a pair of children will adopt complementary roles such as mother and baby (Dunn & Dale, 1984). Therefore, symbolic play, where children represent their imagination and play roles, is important in developing young children's understanding of other people in a social context.

According to Bretherton (1984), symbolic play is acting "as if" a behavior or an object was something else while sociodramatic play is "a state of engagement in which the successive, nonliteral behaviours of one partner are contingent on the nonliteral behaviours of the other partner" (Garvey, 1974, p.170). Shotwell, Wolf, and Gardner (1980) defined symbolic play as "the ability to represent actual or imagined experience through the combined use of objects, motion, and language" (p.176). In a sociodramatic play episode involves play partners are involved in negotiating the sequence of events, characters poprtrayed and objects used to reach a common goal of enacting a pretend scenario.

Pretend play is also considered an important area for the study of mutual understanding and negotiation among preschool aged children (Verba, 1993a, 1993b). Shared pretend play as a

collaborative activity implies the construction of shared meanings underlying the necessary coordinations between participants. Pretend play can be defined as "voluntary transformation of the here and now, the you and me, and the this or that, along with potential action that these components of a situation might have" (Garvey, 1990, p. 82). Pellegrini (1985) saw pretend play as behaviors children use to transform the identities of objects, actions, and people.

During play, children create two frameworks of play to distinguish between the actions *in* pretend play and the actions *out of* pretend play (Lillard, 2000). They adjust their language to accommodate the two frames of play through metacommunication. Vygotsky (1978) explained that the rules of sociodramatic play might not be predetermined, but arise during the play. However, some rules may be predetermined based on children's previous knowledge even if there is room for negotiation when new ideas and themes they improvise throughout the play. Children harmonize rules about adhering to the theme of the script, keeping reciprocity within the script, appointing complimentary relationship of roles, and transforming the meaning of objects. How do children agree to these rules? Children use communication in various forms to announce their intent and negotiate following events with their players. Some plays do not highly rely on established scripts and some do. Scripts, created by a shared context, create a background for the children to extend upon through transformations (Nelson, 1985).

Nelson and Gruendel (1986) questioned whether children had script-like event representations. They concluded in their research that children as young as 3 have well developed event representations for familiar routine events and exhibit many of the characteristics of scripts. It is hard to say that all children have scripts but it seems that script-like representations do play a role in children's development and social interactions such as pretend play.

Children's play with peers has a distinctly different character from their play with adults. While mothers often use props and toys to stimulate pretend sequences by encouraging their child to carry out particular nonliteral actions, play with peers often involves jointly produced scenarios rich with pretend roles and psychological states (Dunn & Dale, 1984). Doyle, Connolly, and Rivest (1980) found that dramatic play was more likely to occur in the presence of familiar playmates. Therefore, close observations of children's play in naturalistic contexts will allow researchers to explore children's understanding of other's mind to construct shared meanings in play.

Understanding Pretense and Theory of Mind

There has been evidence that understanding pretense and theory of mind are related (Joseph, 1998; Leslie, 1987; Lillard, 1993a). It has been argued that pretend actions have certain parallels with actions based on mistaken belief (Harris & Kavanaugh, 1993; Youngblade & Dunn, 1995). If the other person is to be a genuine partner in joint pretend play, the child must decode the other's nonverbal actions and cues in order to interpret actions. Such skills are relevant for the ability to understand another person's feelings or beliefs (Harris & Kavanaugh, 1993). A few observational studies have found that children who engage in more frequent role play demonstrate earlier mastery of various perspective-taking tasks associated with metarepresentation (Astington & Jenkins, 1995; Schwebel, Rosen, & Singer, 1997). However, since most of the research has been in the form of correlational studies, we can not conclude causal relationship between frequencies of participation in role play and metarepresentation capabilities such as perspective-taking skills.

Leslie (1987) suggests that pretense requires metarepresentation and that, to engage in pretense, a child must understand that all his or her thoughts are representations which do not need to correspond to objective reality. For a child to understand that someone else is pretending, the child must infer that the other person "knows" he or she is pretending (Leslie, 1988).

There has been arguments regarding whether pretend play necessarily requires metarepresentational ability or not. Custer (1996) found results suggesting that 3-year-olds can represent pretenders' thoughts whereas Lillard (1993a, 1998a) concluded that young children are not aware of pretenders' thoughts or intentions. Estes, Wellman, and Woolley (1989)'s research findings indicate that by age three children understand that imagined and dreamed-of entities have different properties than physical things while some of other researchers suggests that many young 3-year-olds tend to believe that imagination reflects or creates reality (Woolley & Wellman, 1993).

Lillard (2000) claimed that pretense involves a pretender, a reality, a mental representation, the intentional projection of that mental representation onto the reality, and the pretender's awareness of the reality, the representation (although not necessary as such), and the projection. In other words, a pretend act involves certain features: (1) there must be a pretender, (2) there must be some reality that is pretended about, and that is generally different from what is

pretended, (3) pretense is guided by a mental representation, (4) pretense must be projected onto the reality, (5) a pretender must be aware of the actual situation and nonactual, represented one, and (6) one must project the representation intentionally (Lillard, 2000). Lillard (1998) stresses that observing children's pretense can provide educators and psychologists insights into children's theory of mind.

As Riggs and Peterson (2000) claimed, negotiation is extremely important since the success of the pretense interaction is dependent on synchronizing the different players' desires. The process of negotiation and synchronization is surely related to theory of mind understanding. Repeatedly coming up against and needing to resolve different desires in the context of creating a pretend play scenario could help to lay the foundation upon which understanding others' minds might rest. The intensive working-out of pretending, in which another's desires or concepts must be accommodated or altered to fit with one's own paradigm, forms a theory for learning about the fact that others do see the world differently.

However, inconsistent research findings in the beginning age of children's understanding of metarepresentation and of pretense (Lillard, 1993a) encourage researchers to further investigate this issue. Naturalistic studies, with a qualitative approach lens, that examine children's understanding of mental states in terms of negotiations and interactions with peers could add more information to this debate.

Methodological Issues when Studying Children's Development of Theory of Mind

Methodological difficulties in the study of human development are pertinent issues. The difficulties are more serious when one studies young children who often have a more difficult time expressing their thoughts verbally. Although we have gained broad knowledge about children's theory of mind due to burgeoning research over the past two decades, the tasks used to investigate children's understanding of mind have methodological limitations. In light of assumptions shared by feminist and other contemporary theories and methods in developmental research, it is pertinent to examine more closely the methodological paradigms of standard theory-of-mind research (Nelson, Henseler, & Plesa, 2000).

Obviously, there is no standardized instrument to measure children's theory of mind capabilities. Researchers have used different kinds of tasks for their studies stemming from the

same basic idea of false belief. In earlier research, false belief task that tests children's capability to infer the character's mental representation most commonly used. More recently, researchers have used a battery of tasks including false belief, appearance-reality distinction, and pretense (Wellman & Cross, 2001).

Original false belief task method of assessing the presence of a theory of mind was devised by Wimmer and Perner (1983). In this design, a child was presented with a narrative about an actor in cooperative and competitive situations. Since then, researchers have used various kinds of instruments to test children's understanding of theory of mind. These include traditional false belief tasks: unexpected contents and unexpected location. In the unexpected contents tasks, children are shown a familiar container (typically a candy box or tin) in which the apparent contents (candy) have been replaced with something unexpected, such as pencils. Children are asked what they think is inside (they typically guess candy) and then are shown the container's true contents (pencils). They are next asked to report what they originally thought was in the box, and sometimes, to predict what a friend who is waiting out in the hall will think is in the container prior to viewing the contents. In the unexpected location task, a story character places an object in one location and then leaves. A second story character enters and transfers the object to a new location. Children are asked where the original actor thinks the object is, and where he will look for the object upon return.

Typically, three-to five-year-old children are told a story that is enacted with toy figurines on a small stage: "Maxi puts his chocolate into the cupboard. He goes out to play. While he is outside he can't see that his mother comes and transfers the chocolate from the cupboard into the table drawer. She then leaves to visit a friend. When Maxi comes home to get his chocolate, where will he look for it?" (Wimmer & Perner, 1983).

Perner, Leekam, and Wimmer (1987) devised a deceptive box test of false belief, with the most famous example involving a Smarties candy tube that actually contained a pencil. Children had to judge what another person who had never seen that particular tube before would think it contained. Most children above the age of 4 years correctly anticipated another person's false belief by judging that they would think it contained Smarties. In contrast, 3-year-old children simply reported current reality by judging that another person would think that the tube contained a pencil.

Children's capabilities are assessed primarily on a temporary reality, that is present only

during the experiment that may be ambiguous to them. The false belief task is not a test of children's understanding of interpersonal action but of the logic of the conservation of object location, logic that requires mastery of the conditions for acquiring knowledge (Miller & Scholnik, 2000). Children may interpret the surface meaning of the question absolutely literally because of their difficulties with embedded thinking, which is on more than one connected level (Davies, 1997). In addition, tasks in research are stories or characters that were contrived by adults. Children's understanding and inferences of mental states in everyday naturalistic interactions may differ from the one in experimental situation. As Miller and Scholnik (2000) proposed, the context of the laboratory may pose formidable problems of interpretation for the very young child.

Dunn (1999) questioned why there is a discrepancy between conclusions about children's capacities from naturalistic and experimental studies. She suggested that to understand individual differences in children's abilities to understand mental states and their links to human action, children's social experiences must be examined.

The data that result from the experiments, based on right and wrong answers, invite single causal explanations of age-related changes rather than reflection on the complex development of social competence derived from lived experience, situated knowledge, and embodied persons existing in groups of men, women, and children. German and Leslie (2001) agree with the idea that naturally occurring situations, akin to simplified false belief tasks, will reduce inhibitory demands so the child will succeed in attributing a false belief.

Therefore, one might argue whether quantitative or qualitative methods are more appropriate to study children's theory of mind. Previous studies of children's understanding of mind typically have examined children's responses under quasi-experimental conditions in laboratory settings. Through the review of the available literature, I did not find the use of any qualitative approach to explore these topics although a few researchers collected descriptive data thorough observations to study children's use of mental verbs in communication. For example, some researchers have focused on children's everyday conversations as a window into young children's theory of mind. Recent evidence (Bartsch & Wellman, 1995) focusing on the use of mental state verbs in the everyday conversations of English speaking children and their caregivers lends support to a pattern of development from a desire to a belief psychology.

In the experimental studies, the child is assumed to be a rational, autonomous problem-

solver rather than an active participant in a human social interpretation that makes sense to her. Because the experiment is not conceived of as a social interaction, no account is taken of the roles that the child and experimenter play, and of the power imbalance between them. The false belief task is not a test of children's understanding of interpersonal action but of the logic of the conservation of object location, logic that requires mastery of the conditions for acquiring knowledge. However, few investigators have attempted to place the findings from theory-of-mind tasks in the context of earlier developments of interpersonal situations and social understanding.

Another methodological limitation of theory of mind research is due to the fact that the tasks used in previous research were based on verbal interviews. This manner in which theory of mind has been examined may be highly disconnected from how theory of mind works in real life (Slawinsky, 1998). Tardif and Wellman (2000) claimed that young children's limited ability to comprehend and respond appropriately to experimental tasks presents a major challenge to test theories of mind.

The effect of interviewer on suggestibility in a verbal interview typed test is also a problem. Narrowly defined, suggestibility refers to "the extent to which individuals come to accept and subsequently incorporate post-event information into their memory recollections" (Ceci & Huffman, 1999, p 196). According to Ceci and Huffman, this definition implies that suggestions are incorporated unconsciously into the memory system, as a result of suggestions made after an event is witnessed.

A broader definition of suggestibility is one that entails not only unconscious processing of suggestions but conscious processing of information provided before, during, and after the event, and social as well as cognitive factors. Therefore, suggestibility concerns the degree to which children's encoding, storage, retrieval, and reporting of events can be influenced by a range of social and psychological factors (Ceci & Huffman, 1999). Some children may be more influenced by social cues such as bribes and threats by significant others, while others may be resilient to these factors. Other children may be particularly susceptible to cognitive cues such as suggestive and leading questions. Even though research on suggestibility supports the claim that children's understanding of knowledge should reduce suggestibility (Toglia, Ross, Ceci, & Hembrooke, 1992), individual differences in suggestibility may also affect children's responses in experimental situation.

Consequently, some researchers have tried to devise various methods to assess children's theory of mind understanding without heavily relying on verbal ability. For example, Frye, Zelazo, and Palfai (1995) investigated relations between preschoolers' performance on standard theory of mind tasks and a card sorting task. In another study, Gordon and Olson (1998) had participants do two completely independent tasks at one time. Children who succeeded in these tasks also did well on the false belief tasks. Another approach to tackling the challenge of verbal ability required to answer the traditional false belief test is to devise experimental tasks that are more amenable to younger children (Tardif, & Wellman, 2000).

The review of methods to study children's theory of mind suggests the necessity for developing more appropriate measures especially when studying children from diverse cultural groups. The items or toys that were employed in previous research should be more thoroughly examined in terms of their potential effects on children's responses. Furthermore, alternative methodological approaches are needed in theory of mind research to explore children's understanding of mind in natural context. Dunn (1991) proposed three important advantages of naturalistic observations: First, we are able to study children in social settings that have real emotional significance for them. Second, we are able to monitor and study the comments and inquiries about other people that are generated by the children themselves. And third, by studying the context in which children perform at their most mature, we may be able to generate hypotheses about the key processes that contribute to developmental change in the domain of interest (p. 98).

Researchers in the area of children's play showed considerable efforts to employ naturalistic observational discipline including ethnographic approaches (Sawyer, 1997; Kelly-Byrne, 1989); there have been few studies that analyze children's play in naturalistic settings in relation to theory of mind development. Given that children's social interactions occur in naturalistic contexts and their development of cognitive and social understandings are inseparable, the interrelationships of children's play and metacognition development should be further explored.

Theoretical Framework of the Study

Multiple sources of frameworks support this study of theory of mind in a naturalistic

context. Developmental psychologists have acknowledged individual differences and diverse ways of thinking across cultures and contexts. Also, a few developmentalists have addressed diverse pathways of cognitive development. However, little attention has been paid to the cognitive basis for people's sensitivity to, conceptualization of, and respect for diversity, or to the development of these skills (Miller & ScholMichael, 2000).

Contextualism asserts that elements cannot be analyzed out of context because, once they are taken out of context, the elements no longer have any meaning (Goldhaber, 2000). Contextualists question mechanism's claims of objectivity. The issue is not one of a deliberate distortion of the data. Rather, it involves the argument that, because the very nature of all human contact is interactive, the study of development is necessarily the study of subject-subject interactions, and not subject-object interactions, the essence of the physical and natural sciences (Goldaber, 2000. p. 297).

From a Vygotskian perspective, we cannot abstract from context and separately investigate the universal aspects of the child's development, but only children's development within particular social contexts (Astington, 1999a, 1999b). This point is of great importance when the subject of investigation is the development of a theory of mind because it leads us to ask to what extent folk psychologies or theory of mind vary across cultures.

Social constructivists emphasize the world of intersubjectively shared social constructions of meaning and knowledge. According to social constructivist's perspectives, people construct knowledge as an attempt to make sense of or interpret their experiences throughout the process of social exchange (Schwandt, 1994). Vygotsky(1978) suggested the social context affects cognitive activity at two levels: First, sociocultural history provides tools for cognitive activity and practices that facilitate reaching appropriate solutions to problems. Second, the immediate social interactional context structures individual cognitive activity. Based on social-cultural constructions, Olson (1988) proposed a progression toward a theory of mind, with an important role assigned to language, suggesting that when children "begin to see their utterances as expressions of belief, for example, children begin to distinguish their beliefs from their utterances, to distinguish beliefs from reality, to store their beliefs as episodic representations of events rather than simply update their model of the world" (pp. 421-422).

Vygotsky proposed that higher mental functions appear first on the social level, between people, and later on the individual level, inside the child. In accordance with a Vygotskian

perspective, for instance, childhood understanding of mind is at first interpsychological, that is, available only interactively in collaborative dialogues with parents, and becomes intrapsychological, or established in the child's conception, only later. It seems very likely that, in various fashions, parents help scaffold children's conceptions and guide them into increasingly articulate expression (Bartsch & Wellman, 1995, p. 148).

Vygotsky's work has implications for the study of children's theory of mind in cultural context. As Rogoff (1998) highlights, central to Vygotsky's theory is the idea that children's participation in cultural activities with the guidance of others allows children to "internalize" their community's tools for thinking (p. 684). Thus, according to Vygotsky's "zone of proximal development (ZPD)" (1978, p. 84), efforts to understand individual cognitive development must consider the social roots of both the tools for thinking that children are learning to use and the social interactions that guide children in their use. The zone of proximal development refers to a range of tasks that the child cannot yet handle alone but can do with the help of more skilled partners (Berk, 1996), within this zone.

Children also develop "intersubjectivity" while they are interacting during play. Intersubjectivity refers to the process whereby two participants who begin a task with different understandings arrive at a shared understanding (Berk, 1996). Intersubjectivity literally means the sharing of subjective states (Whiten, 1994). According to Whiten, primary intersubjectivity refers to an early and "purely social" mental meshing of the infant directly with the parent and secondary intersubjectivity is distinguished when infant and parent are able to incorporate objects into this sensitivity, as in the case of achieving joint attention on some locus in their environment. Similarly, Rogoff (1998) termed intersubjectivity as mutual understanding between people in communication. The development of intersubjectivity is probably linked to the emergence of an understanding of intentions and beliefs underlying people's actions. Taking the perspective of others and predicting how another person would feel in a given situation is indeed a prerequisite to most theory of mind tasks children start to succeed in by the third year (Perner, 1991).

Piagetian and Vygotskian theory have some features in common, such as opportunities for active participation and acceptance of individual differences in cognitive development. However, Vygotskian theory would go beyond independent discovery learning (Berk, 1996). Teachers and parents guide children's learning with explanations, demonstrations, and verbal

prompts, carefully tailoring their efforts to each child's zone of proximal development. Taken together, it appears that researchers consider the context that have influences on children's understanding of others and shared meanings in their interactions when investigating the children's understanding of mind.

Dunn (1991, 1995) found that as children's theories of mind change, so do their relationships with family members. More advanced and powerful models of the mind help them predict, anticipate, and explain their own and other people's actions, and that understanding helps them negotiate their relationships differently with different family members. If a child's relationships with other members of the family is dependent on the ability to discriminate between the minds of individual family members, it might be similar in the child's relationships with people outside of family such as peers and teachers at school.

Most previous research on theory of mind has ignored contextual contributions by focusing on critical ages that children develop the understanding of theory of mind and trying to find universal concepts and components that children need to develop for this understanding. As Dunn (1992) suggested, discourse with any mature member of the culture provides children with great opportunities for language growth. Similarly, children's emotional experience, especially within the context of the family might play a role in accelerating or inhibiting the differentiation between real and expressed emotion (Harris, 1994). According to Harris, most children acquire a systematic understanding of the potential privacy of one's mental states by 6 years of age. This developmental change is relatively stable across different cultural milieux. Nevertheless, the exact timing and application of that insight can be modulated by the child's cultural and home environment.

Given the conclusions drawn from previous research, although there seems to be evidence of a *normed* age that children develop theory of mind capabilities, it is still important to consider various factors including the context where children develop their understanding and experience social relationships.

Researcher's Personal Narrative

As a multicultural being in a multicultural society, I believe it is of vital importance to be aware of the numerous influences surrounding human beings as well as to try to understand

ourselves in relations to these influences. Multiculturalism is the belief that there is no single right way to live and no single set of cultural practices is predetermined as the superior or "right" way to be (Kimball & Garrison, 1999). Respect for other people's experiences and their interpretation of those experiences is fundamental in multicultural perspectives.

Since our lives may be seen as storied lives or narratives (Fu, 1999), it is important to listen to children's stories in their lives to understand meanings and context of their development as well as to share researchers' narratives that would delve into the context of the researched. In the view of interpretive perspectives, researchers are not neutral beings and several aspects of their biographies may affect the decisions they make and the behavior in which they engage as they observe, select, and document any set of events (Kelly-Byrne, 1989). Thus, it seems important to share my story as a researcher with readers so that they understand my stance of research that may affect the process and interpretation of the study. It may also offer the self-understanding of my role and influences that would be a part of the research.

My interest in "theory of mind" and contextual issues, especially related to children's play in naturalistic settings, stems from my interest in human relationships and social interactions. I was born in Korea as the only child of my parents. My parents were unique in that while many Korean parents of an only child, particularly for a girl, would shelter their child, my parents made every effort to instill in me qualities of maturity, independence, and leadership. Due to my parents' encouragement, I have relished experiencing new things and meeting new people. I also recall that I always tried to "read" other people's minds so that I wouldn't inadvertently hurt them and would have positive relationships. Consequently, getting to know new people and establishing many friendships initially sparked my interest in human relations. I became curious as to how the relationships and experiences in each developmental stage affect people's personalities and socialization across their life-span.

It has been eleven years since I first became academically involved in the area of child development. Through this long period, a primary interest of mine, to investigate human development and phenomena, has been changed by my experiences. As a member of predominantly monocultural and homogeneous society, Korea, I was "a frog in the well" (A traditional Chinese expression used to describe someone who has limited experiences and perspectives) even though I always enjoyed adventures and new challenges. The more I have learned of human development, the more I have become curious to know about other societies

and cultures that I am not from. Therefore, I kept challenging myself to explore diverse contexts by studying for one year in the United States as an exchange student, participating in various job experiences in the area of child development, and meeting with an array of people from different backgrounds.

Having been aware of changes in beliefs, values, and a framework of thinking of myself, I became fascinated with the way in which young children develop their own theory of mind as they establish social relationships. When I was first interested in the topic of children's theory of mind and began to study children's understanding of the appearance-reality distinction for my Master's thesis, I tried to find universality in Korean children. By proving universal trends in child development, I wanted to convince myself to adapt or use the theories and research results found in Western society for implementation and application in Korea since there were no studies on this topic in my country at that time.

However, in attempting to understand the potential influences and variables on children's cognitive development including their theories of mind, we need to acknowledge all individual experiences in diverse contexts may shape each person's social cognition. I believe our development occurs in the interactions, interpretations, and symbolic metarepresentations that we form during life. Therefore, it is important to closely look at the context that the development occurs.

My current primary perspective when conducting research is social constructivism. Vygotsky has come to be viewed as the father of the social constructivist movement. From the Vygotskian perspective, all development must be studied in its socio-historical context. Understanding individual differences in children's development of theory of mind and its relation to environmental, cultural, and ecological factors is important to interpret results of research that we would have. Perfectly secure knowledge or truth is impossible because it is mediated by human cognition and cognition is inevitably influenced by the pervasive and intimate world hypotheses that underlie our interpretation of everything (Kendler, 1986). Thus, an awareness of our perspective as we explore themes will be helpful to understand and interpret the context appropriately.

As I pursue and extend my interests of study in children's theory of mind, I hope my findings and interpretation of children's world in play from this study will contribute to our multicultural society by using myself as a multicultural researcher to increase the understanding

of children in various contexts. I believe the process of the research has helped me understand theory of mind not only as a construct but also as my own personal "theory of mind."

CHAPTER THREE

Methodology

The purpose of the present study was to explore theory of mind dynamics shown in children's play in a preschool classroom. This qualitative research focused on contextual components of children's understanding of mind. Qualitative methodologists are intent on capturing what people say and do as a product of how they interpret the complexity of their world (Sevigny, 1981). The main tool for exploration of the research questions was an interpretive analysis based on data collected through participant observation. This approach reflects my belief that ethnographic methods may provide a more direct sense of understanding children in context than is provided by experimental studies (Kelly-Byrne, 1989). Wolfberg (1999) named this type of research as a case study, using ethnographic methods of data collection, which includes videotapes, fieldnotes, written documents, interviews, and personal artifacts as a means of data collection.

The methodological approach that I used for this inquiry was a "case study" (Stake, 1994; Merriam, 1998), of a group of children who attended the same school and class. Case studies can be defined as "intensive descriptions and analyses of a single unit or bounded system such as an individual, program, event, group, intervention, or community" (Merriam, 1998, p.19). A case study is "not a methodological choice but a choice of what is to be studied" (Stake, 2000, p. 435). Thus, it should not be seen as a single method or strategy but as an end product of field oriented research since case studies can be quantitative in nature as well (Wolcott, 1992; Merriam, 1998).

For the purpose of this case study, ethnographic methods were used. The fundamental goal of the ethnographic method is to understand human behavior from the perspective of those individuals engaging in the behavior (Vidich & Lyman, 1994). Ethnographic approaches allow the researcher to get closer to the people studied, and to gain descriptive understandings and insights through participant observation, detailed analysis of observations of everyday interactions, and the belief statements made by members of the culture during participant interviews (Atkinson & Hammersley, 1994). In educational settings, "an ethnographic researcher sees the meanings of children and teachers' thoughts and actions as embedded in their own cultural contexts, where the 'same' words or behaviors may have different meanings in different

settings." (Walsh, Tobin, & Graue, 1993, p.468).

As Walsh, Tobin, and Graue (1993) argued, people in a cultural setting are constructing meaning in their everyday situated actions and their intentional states are mutually interacting. Ethnographic analysis provides a means to understand how a particular cultural context influences the behavior of the members of that culture and, in turn, how the actions of the members of that culture or community maintain the stability of the culture (Cole, 1996). Therefore, the present case study allowed me to understand the context of the classroom and meaning that children constructed in natural interactions.

Setting

This study was conducted at a laboratory school in a small university town located in Virginia. Ranging in age from two years and eleven months to five years, the children in one of the preschool morning programs were invited to participate in the study. The classroom operated for three-and-a-half-hours daily, five days a week.

The university laboratory school, including the classroom I observed, employed a Developmentally Appropriate Program (National Association for the Education of Young Children [NAEYC], 1998) and was influenced by the Reggio Emilia Approach (for further reading regarding the Reggio Emilia Approach, see Edward, Gandini, & Forman, 1998), which attempts to use documentation of children's images and their work as a powerful tool for guiding emerging curriculum. Emergent curriculum practice reflects the philosophy of the school. Classrooms of the school in this study are social places wherein caring and learning are fostered by communities of learners, both adults and children (Artifact, VT Lab school handbook, 2001). In an emergent curriculum model, the teacher starts with careful observations of children's interests and questions and guides children into deeper experiences (LeeKeenan & Nimmo, 1993). Continuous efforts through documentation, reflection, revisiting, and revision make this curriculum possible.

Displays and children's portfolios provided the children with the opportunity to revisit their activities and experiences in the classroom as well as inform parents and visitors what is happening in the classroom. The children's daily activities included free play in different centers and on the playground, as well as group time. The curriculum was negotiated based on children's

emerging interests and framed by teachers based on a constructed framework of social constructivism and inquiry through observations and interpretations of daily activities. This philosophy was reflected in the school's notion of teacher as researcher (personal communication, Stremmel, 2001):

> In this center [practicum] students engage in the ongoing and reflexive process of connecting what they do with children to the way they are guided and supported in their own developmental journeys… Through collaborative and reflective inquiry, particularly interpretive ethnography and action research, students develop skills and understanding as active initiators of research in their own classrooms and as creators of curriculum and knowledge of young children. The careful observation and documentation of children's daily activities in the classroom makes visible traces of their experience and learning, and it represents a public sharing and testing of ideas that are essential for creating a discipline of teaching.

FIGURE 1. CLASSROOM LAYOUT
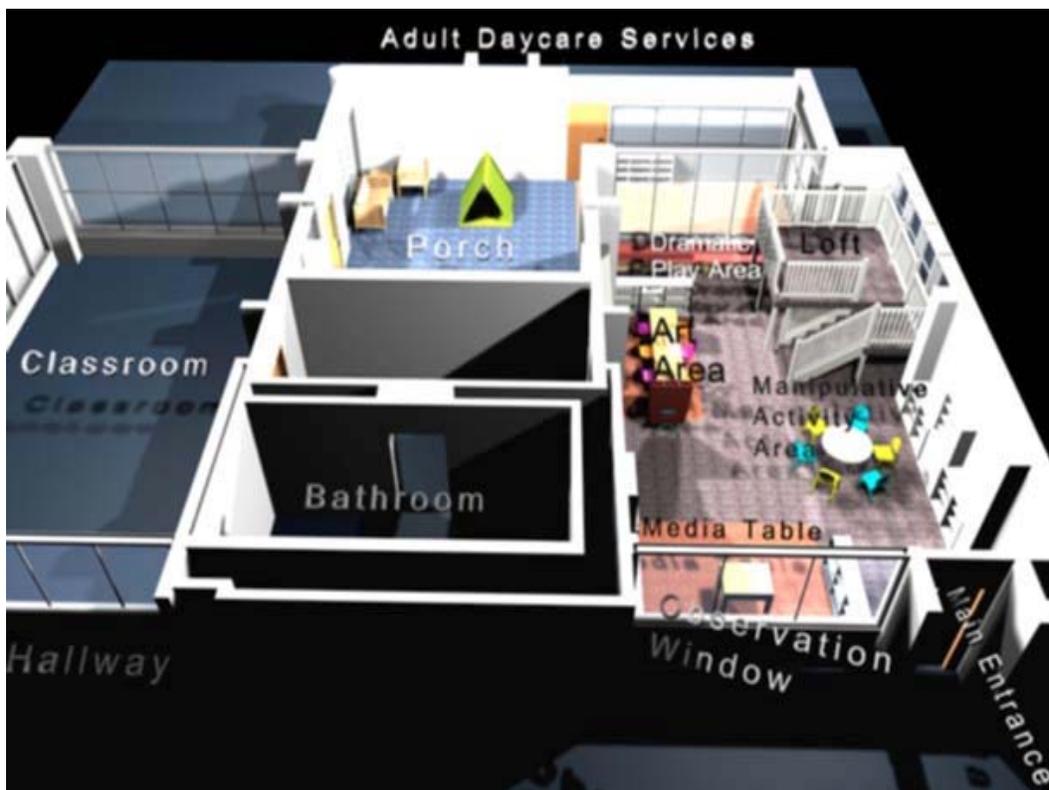
As Figure 1 shows, the two preschool classrooms were connected by a small hallway between the two rooms as well as the room referred to by the teachers as the "porch," so that children in both classes could share the space and have interactions. The porch was an intergenerational space neighboring the adult day services. A close view of the porch is shown in Figure 2. This special area was established to facilitate intergenerational interactions to benefit both groups of children and elderly people by participating in collaborative activities such as cooking, music, etc.

FIGURE 2. PORCH

The participating classroom was located right off the entry to the school. Inside the classroom was divided into several areas such as an art area, dramatic play area, block area, loft, media table (a recessed table that a variety of media such as water and sand may be placed in), and an activity table for manipulative such as Legos and puzzles that was also used as a snack area. Figure 3 and 4 show the classroom views from different perspectives. The loft had one child-sized table, two small wooden chairs, and several cozy blue cushions. The table and chairs were often used as a writing center where children created with paper--drawing, cutting, folding,

or sending a letter to friends. Above the loft was one of the main play areas for children with the dramatic play area directly under the loft. The children often engaged in play occurring in both places - up and down - the loft. The loft also allowed the children to pump out their physical energy through clambering up and down the steps.

FIGURE 3. CLASSROOM VIEW FROM MAIN ENTRANCE

The centers were separated into manipulative, dramatic play, art, blocks, a media table, writing center, and a loft. Daily activities were based on these centers and included manipulative materials and puzzles, art or construction, building with blocks, exploratory materials in a media table, and language experiences with books, songs, poems, and play.

FIGURE 4. CLASSROOM VIEW FROM THE DOORWAY TO PORCH

The Players

　　　　The participants in this study were 16 children, 2 lead teachers, and myself as a participant researcher. There were other people involved in the setting such as practicum teachers, parents, teachers in other classrooms, administrators, and elderly people of the Adult Day Services yet, in my observation, their interactions with the children or the teachers of this classroom were minimal.

<u>The Children</u>

　　　　The children in this study were multicultural, multilingual, and multiaged (See Table 1). The age range was from two years and eleven months old to five years old at the point the observations began. Three Korean children were *English as a Second Language (ESL)* speakers. One of the three Korean children was fluent, both in Korean and English, yet the other two barely spoke English since it was their first school year in the United States. Family backgrounds of the children varied in terms of parents' occupation, age, and ethnicity. However, most parents

tended to have at least an undergraduate college degree. Table 1 presents each child's age and gender. More details of the six "master players" I observed are illustrated next. All the ages of children presented here are based on the first day of the observation (September 2000).

Table 1 Age and Gender of the Children

Child	Gender	Age by Months	Age by Year/Months
1	F	35	2/11
2	F	37	3/1
3	F	37	3/1
4	M	37	3/1
5	F	38	3/2
6	M	39	3/3
7	F	40	3/4
8	M	41	3/5
9	M	45	3/9
10	M	45	3/9
11	F	45	3/9
12	F	46	3/10
13	M	52	4/4
14	M	55	4/7
15	F	56	4/8
16	M	60	5/0

Note: Numbers in bold represent master players.

Reynolds and Jones (1997) used the term "master player" to describe the competence that we observe when a young child plays. Although I observed and interacted with all the children, my fieldnotes showed the observations mainly followed six master players. This process of case (child) sampling within the case (class) was necessary to focus on the research questions. Master players tend to initiate pretend play through a simple statement about an object

or a role (Reynolds & Jones, 1997) implying pretend situation such as "I'll be the dad and you'll be the cub, okay?" and "This is a house for us, right?" The master players that I identified in my study are Stephan, Adrian, Minhee, Daniel, Kate, and Michael. Pseudonyms were used for all children in this study.

Stephan: Social butterfly

Stephan was a three-year and nine-month old, average-sized boy who was one of the main master players in the classroom. He had big blue eyes, shiny, thick blond hair and usually wore jeans and a T-shirt. Stephan frequently engaged in pretend play usually with a group of children and various materials that he chose in the classroom or brought from home. It is difficult to pin point exactly where in the classroom Stephan usually played because he normally used all areas in the room at some point in school day. However, he seemed to most enjoy playing at the dramatic play area under the loft or out on the porch. Stephan was one of the children who would play with any of his classmates in the classroom. He was a child who was not only approached by other children, but also actively invited other children to play with him.

Moreover, Stephan seemed to have a close relationship with Adrian, perhaps because they have played together since birth; their parents are friends. Stephan often seemed to be aware of friends who were left out of the play. I observed several times that he tried to make *new* roles in the play in order to include the children who wanted to join in. Stephan would also easily approach adults in the room to describe and explain his play or what he was pretending. One of the student teachers characterized Stephan as a "social butterfly" to represent his role of collaborator and listener (Artifact, Stephan's portfolio, 2000). I would add the words "initiator and negotiator" to his role in social play since I observed him trying hard to create appropriate roles for everybody in different play situations.

Adrian: Wonder Woman

Adrian was a three-year and nine-month old girl who was friendly and cheerful with everyone. She had blue eyes, blond bobbed hair, and chubby cheeks. She usually wore stretch pants and a T-shirt. Adrian's clothes reflected her favorite colors, pink and purple. She cooperated well with other children during play. Her creativity and cooperation skills seemed to add many dimensions to the play context. Adrian's close relationship with Stephan made

different kinds of play possible as they created play plots and scripts together based on common interests and shared understanding from their previous long-term relationship such as superheroes and animal characters. Adrian appeared to derive satisfaction from talking to the adults in the room and invited them to join in her play. She was one of the children who always greeted me with a big smile and often initiated conversations by offering something or asking whether I would like to join in the play. One day, she brought me a fabric "cape," that was red and large enough to cover an adult's back, in order to provide me with the opportunity to be a "superhero."

Minhee: Interpreter

Minhee was one of the oldest children in the classroom. She was four years and eight months old and it was her second year at the school. Her experience in this school reflected the length of her stay in the United States. She had moved from Korea to the United States two years ago with her parents. Minhee spoke English most fluently among three Korean children in the classroom. I had an established relationship with Minhee since I had often observed her first year in school and helped her initial transition, when necessary, by assisting communications between the teachers and Minhee and having relevant dialogues with her teacher. Her improvement of English was noteworthy, as she took a role in translating all the communication difficulties between the other two Korean children and the teachers. Frequently Minhee could be seen, black ponytails bobbing, as she determinedly attempted to interpret Korean to English for friends and teachers. Daily Minhee could be seen making incredible creation using various materials and telling her friends stories of how she made them and why she liked them.

Kate: Flexible Player

Kate, a three years and two months old girl, almost always was the first child to arrive in the school. Right after she said goodbye to her mother, she would run to one of the tables in the classroom, and with serious face, she would begin to explore the activities the teachers had prepared for the day. When I first observed her at the beginning of the school year, she seemed to be on the shy side and enjoyed just watching what other children were doing. However, as the semester went on, she became increasingly more outgoing and vocal. This shy trait of hers in transition at school was shown not only in the long-term manner, but also in the short-term

period of one day. For instance, Kate usually began her day with a relatively calm manner and attitude. It was when other children began to arrive that changes in her temperament could be seen. As other children entered the classroom, her interest in play seemed to increase dramatically. She would often abandon the art work or activity she was engaged in to join in her friends in a new game. She was one of the master players in superhero dramas such as "Batman and Batgirl." Her role in the play was seen neither a leader nor a follower. She seemed to take either role when it was appropriate depending who were in the play group and what type of play they were doing. Kate liked to follow the rules of play that other children created yet often took the initiative to negotiate or change the themes in conflict situations, and to add new ideas to play.

Daniel: Animal Expert

Daniel was an active, playful child at the age of three years and three months. He was usually in a T-shirt, khaki pants, and sneakers. He had a deep interest in dinosaurs and wild animals. Almost everyday I saw Daniel clutching miniature plastic, wild, animals in his chubby fists. Daniel would greet me at times by holding out his hand and revealing the animal hidden inside.

When Daniel played with or pretended to be wild animals, he roared loudly and dramatically so everyone in the classroom would hear. However, I could also see another side of Daniel when he was engaged in activities or quiet play. He easily concentrated on and engaged quietly in the task at hand such as art activities or reading. I never observed him simply wandering aimlessly around the classroom. If the other children did not want him to be involved in their play, he would create a new character for himself that "enticed" them to interact with him or he would invite them to his "new" play.

Michael: Joyful Player

Michael, three years and five months old, was a joyful boy. He could easily be found laughing with his friends in the classroom. His bright blue eyes always seemed to be seeking for something to catch his attention. Michael had a loud and jubilant tone, but he often changed his voice in a low and whispering tone with dramatic intonations and gestures. Michael was quick to move about the room so when I thought he was under the loft, he was already on the porch doing

something new with friends. Whenever I saw Michael, he was busy running around the room with a pack of children following closely behind him. Given that he liked to keep things different and exciting, this sometimes caused attending to group time to be difficult or conflicts with other children to occur. Yet in most cases he was easily able to resolve conflicts with or without adults' help.

The Teachers

There were two lead teachers, Rebecca and Jane, in the classroom. Both of them were master students in Child Development and it was their first year teaching in the preschool classroom at this school although Jane had taught in a toddler room the previous year. Rebecca taught three days a week while Jane worked four days a week. Therefore twice a week both of the teachers were present in the class. I knew both teachers prior to the study, from experiences when Jane began the Master's program in the same department in the previous year, and when Rebecca, as an undergraduate practicum teacher, worked in the preschool class that I taught three years ago. During my observations, both of the teachers always provided me with welcoming atmosphere and enthusiastically initiated open communications regarding the children and classroom activities.

In addition to the two lead teachers, there were eleven practicum teachers, two to four a day, who were learning developing teaching practices through observation, documentation, and social interactions with the children. Since there were many adults observing the children, in class conversations with the teachers as well as their observation notes, communicated through e-mails helped me triangulate my field notes and observations by providing diverse perspectives.

The Researcher (Soyeon)

In order to draw meaningful interpretation of the findings, it is important to explicate my multiple roles in the research process as well as the various ways my disposition might have influenced the context. In participant observation, an observer is not an objective researcher doing only observations. As a participant as well, I was an active player who had various emotions and thoughts as I watched, interacted, and communicated with the children. I drifted in a sea that was full of happiness, excitement, joy, and playfulness during the process of observation and participation. There were also sinking moments where I had feelings of

frustration, embarrassment, and bewilderment. My knowledge and pre-assumptions as an adult and child development specialist sometimes disturbed entering into children's world with their pure understanding.

It should be pointed out that I am an international student whose first language is not English. While I consider my English to be fluent and I am capable of conducting research, I have to admit that my command of English is not the same as that of my native language, Korean. It has been extremely challenging to conduct an interpretive study in a culturally and linguistically different environment. However, it seemed to be of benefit that I was able to bring a fresh perspective to think through the situations as well as lending a helping hand to assist the Korean children's transition to and communications in the classroom. I was in the situation where I was both *outsider* and *insider.* An understanding of outsider/insider, also referred to as an emic/etic perspective, is vital to the researcher in order to thoroughly understand out stance (Hodder, 1994). Uttech (1999) also described her multidimensional roles as both outsider and insider in her ethnographic research conducted in rural communities of Mexico. I would see my roles, in the present study, as the unique presence of a multidimensional being, placing me in neither an advantaged nor a disadvantaged scale.

Study Procedure

The university laboratory preschool was selected due in part to geographical convenience, my familiarity with the school context from previous teaching experiences and teachers' and parents' willingness to participate in the study. Children of appropriate age from diverse social and cultural backgrounds also attended the school. The existence of dramatic play area in the classroom, and the negotiated curriculum, based on social constructivism and inquiry, that promotes social encounters among children were additional motivation.

I received approval from the director of the school as well as the university IRB (Institutional Review Board) regarding studying human subjects (Appendix A). Following the research approval, I obtained all parents' signature concerning their agreement of their child's participation. The letter to the parents and informed consent forms for the parents are attached as Appendix B and Appendix C.

In early September 2000, for the purpose of my study, I began to observe in two

preschool classrooms of three- and four-year-olds and four- and five-year-olds, respectively, to select one classroom. This two-week period of observation also allowed me to build rapport with the children in the classroom. Establishing rapport was important in participant observation so that the children would feel comfortable with me as a member of the classroom. After the selection of the participating classroom, letters were sent to all parents inviting them to allow their child to participate in the study (see Appendix B). Teachers and parents were informed that the study was an examination of children's understanding of mind and thinking, during play situations.

The participant observation part of the study began in October and ended in December. Some activities such as interviews with the teachers, reflections and dialogues regarding the writing up of the data continued until the next spring. In the beginning of the observation, I focused on all of the children's play and interactions so that I could gain understanding of the classroom culture in the context. As I spent time in the classroom as a participant observer, I followed a few children who engaged more frequently in pretend play and/or had more diverse interactions among their peers, who I have previously introduced as master players. The teachers' knowledge and input was another source of data I used to make decision on which children would be focused on more closely for observation.

I spent four hours in the classroom everyday including transition time, when children were starting and ending the school day, observing interactions and play that occurred among children. Children arrived at the school between 8:30 and 9:00 in the morning and left around noon. In fact, many of the children and parents stayed until 12:30 p.m. as they chatted with the teachers, other parents and children. I generally stayed in the classroom from 8:30 a.m. to 12:30 p.m. Monday through Thursday, and sometimes Friday (when I did not have class) during the observation period.

Through the process of information gathering in qualitative research, the initial focus was on obtaining as complete an understanding of the cultural context of the study as possible (Rogoff, 1997). The interpretive researcher has basically 3 ways to gather information about activities in naturally occurring settings: observation, interviewing, and document analysis (Walsh, Tobin, & Graue, 1993).

Data Collection Methods

In qualitative case studies, data collection is a recursive, interactive process and understanding the case in its totality mandates both breadth and depth of data collection (Merriam, 1998). A case is the study of an intrinsically bound phenomenon that was intensive holistic description of a single unit of the study (Stake, 2000). To gain rich data that describes the case of my study and to reduce the likelihood of misinterpretation, I employed various data collection methods and procedures illustrated below.

Participant Observation

While most educational research that employs qualitative methods relies largely on the interview, ethnography draws heavily on observation and participation, with formal interviews playing an important but frequently secondary role (Nespor, 1997). In participant observation, observational techniques vary from the detached observer who becomes part of the "wallpaper" taking notes, to full participant observation, in which the researcher becomes as much a member of the group under study as possible (Merriam, 1998). According to Atkinson and Hammersley (1994), a fourfold typology includes complete observer, observer as participant, participant as observer, and complete participant. Among the four roles of the participant observer, I most often took the role of observer as participant. Observing without participating would have been difficult since children naturally want to interact with adults. Therefore, I used participant observation as the main data collection method. However, my role varied as a participant observer in terms of being participant or observer depending on the activities and situations. As an "observer as participant," my observer activities were known to the children. Participation in the classroom activities or play was definitely a secondary role. In this sense, I observed and interacted closely with members to establish an insider's identity without actively participating in those activities constituting the core of group membership (Merriam, 1998).

Participant observation as a data-gathering technique has been critiqued by some researchers as highly subjective. In qualitative research, however, where the researcher is the primary instrument of data collection, subjectivity and interaction are assumed (Merriam, 1998). Since participation and observational methods tend to be more unstructured than interviews, this technique generally takes a lot longer, and the researcher has much less control over the content

and direction of the fieldwork (Nespor, 1997), thus, the researcher should be able to write descriptively through practice and discipline of recording field notes, separate detail from trivia, and use multiple methods to validate observations (Patton, 1990).

Tools for data collection through participant observation included field notes, reflection journals, videotaping, and artifacts. Observations in the classroom were recorded in as much detail as possible to form the database for analysis. Field notes can come in many forms, but in general they included descriptions, direct quotations, and my comments as observer. Along with my field notes from direct observations, I also kept a fieldwork journal – an introspective record of my experience in the field (Merriam, 1998). It included my ideas, fears, mistakes, confusion, reflections, questions, and reactions to the experience as well as thoughts about the research methodology itself. In addition to field notes and the fieldwork journal, ethnographers often write memos or "think papers" containing analysis and interpretation (Spradley, 1979). I used this technique as a way to link the themes emerged from data-gathering to theoretical interpretation and previous research.

During the study I tried to function as a complete observer during group times, snack, or on the playground. However, it seemed impossible to be a complete observer like wallpaper since my presence itself might have had impact on the context unwittingly that I was not aware of. For the first several weeks of the study, my role was more like an observer as participant. When I had been in the study longer I became an accepted figure in the classroom and usually held the role of participant as observer.

Dialogic Interviews

In addition to close observations, naturally occurring conversations between the researcher and children are also important in an ethnographic approach. Researchers and observers have such opportunities to interact with the children, dialogic conversations often occur in natural interactions or play. Dialogic interviews are "true conversations" where the children and the researcher discuss the topic of the research (Rossman & Rallis, 1998). It was one of the primary purposes of this study to explore how children understand others' minds and socially construct negotiated meanings while participating in daily activities. In this sense, dialogic conversation is an important tool to better understand how children develop theories of mind in relationships. While I engaged and participated in their play activities, I was able to

incorporate open-ended questions for children as a part of their play. The questions were often in the form of play as I was responsive to the children during play.

When the children invited me to their play, I was able to participate in their play context while playing together with them. It was easier to ask what the children were playing and pretending when I was a part of the play. For example, two children were building something with blocks, one of them asked me if I wanted to come in their house. I didn't know what they were building until I was invited to their house that had a rule that you needed to take off shoes. I asked, "How many rooms do we have? Which one is my room?" the child said, "We have nine rooms and you will be in this room because you're the baby." (Fieldnote, Oct 17, 2000).

Dialogic conversations and questions that I had with the children were based on my understanding in the area of theory of mind research and my theoretical framework. Thus, my questions for children were unstructured, informal, and open-ended. The conversations were more mutual and reciprocal when they took place in play contexts, where we all were players, since the children also had questions and suggestions.

Given that previous research on children's play has relied mostly on adults' interpretations, it is important to expand our knowledge of children's play through keen observations and recording of children's dialogue. In order to understand children's thoughts of each other, it will be helpful to closely record their conversations, questions, and explanations that they use to negotiate meaning between each other in the context of play.

<u>Audio and Video Taping</u>

Along with the traditional ethnographic methods of observing and interviewing, many educational ethnographers are using audiotape and videotape as a tool for producing culturally rich interpretation (Walsh, Tobin, & Graue, 1993). I originally planned to use the video cameras that were mounted permanently on the walls of each classroom in the laboratory school. However, I chose a portable digital camcorder for videotaping because it was easier to follow each play episode and to capture children's movement, gestures, and conversations clearly. At the end of the study, videotaping was conducted for two weeks. Audiotapes of the children's play episodes were also supplemented my observational notes.

Although there have been concerns that videotaping might cause children and adults to act in unnatural ways and is more intrusive than other naturalistic ways of recording data such as

observations (Alder & Alder, 1994), I found several benefits of videotaping in my study. The use of a camcorder may be a little obtrusive yet it was another parameter connecting me, the researcher, to the children by having conversations about it and extending the play theme. It seemed the children in this study were also comfortable around technological tools. The use of videotaping also allowed me to analyze and reexamine play episodes repeatedly so that I could pick up on subtleties I may not have seen the first time around such as hesitations, verbal restarts, expressions, and gestures (Alder & Alder, 1994).

Children's daily play in the participating classroom was videotaped for the last two weeks of the observation period. The use of the videotape along with observational data allowed repeated viewing of a period of time in a classroom and microanalysis allowed me to have another lens, literal and figurative, through which to capture data.

Journal

In addition to the field notes for observations in the classroom, I kept my personal journal to record my reflections and ideas as I found emerging themes and continued to read more literature. This journal was written in the tradition of qualitative researchers described in Clandinin and Connelley (1994). I read the observation data "hundreds of times" and it seemed to me that the data were always new or different whenever I read it again. I tried to record the thoughts and interpretations that I had from data reading as well as on-going literature review.

Artifacts

Artifacts in the study were used to support and further illuminate primary evidence from participant observation. Hodder (2000) defined artifacts as objects found in the "material culture" of the study context. Artifacts that were used include children's portfolios, classroom displays, monthly newsletter of the classroom, and practice teachers' observation notes. Portfolios of the children were main artifacts that I referred the teachers' reflections and documentation about the children. Additionally, practicum teachers' daily observation notes regarding the children's continuous play and activities often subsidized my fieldnotes by filling gaps that I might have missed in my observations.

Analysis

The interpretation of qualitative research begins while work is still ongoing in the field (Walsh, Tobin, & Graue, 1993). Detailed field notes taken during participant observation sessions were read at the end of each day. Along with field notes, I supplemented reflections regarding data analysis. Using the emerging field notes, my journal reflections, audio and videotape analysis, and the expertise of my committee chair, I made decisions regarding avenues of further inquiry that would guide data emergence and analysis simultaneously.

Naturally occurring dialogic conversations with children were recorded in my fieldnotes and audio taped. Although these conversations in the classroom were unstructured and occurred naturally, emerging information and reflections regarding children's play themes and their interpretations guided further exploration during the observation period. Episodes of children's play in the classroom that were videotaped over the course of a ten-day period were viewed and partially transcribed.

Data analysis included several interrelated activities (Miles & Huberman, 1984). First of all, I transformed raw data from field notes, videotapes, audiotapes, documents, and personal journals. This process included transcribing, translating some of the fieldnotes and conversations written in Korean, composing memos, generating conceptual categories, and reflections. Practicum teachers' observation notes I was receiving by e-mail supplemented my observation notes at times when we had observed the same scene with different perspectives or there was something that I missed in the play episodes. For example, it was helpful to see what happened in the classroom while I was observing on the porch.

The second phase of analysis was data reduction. I focused on "continuity, and relatedness of the data based on extremely detailed transcripts" (Sawyer, 1997, p.22). After typing fieldnotes and transcription of audiotapes and videotapes, I coded the data to find main play themes. Mainstreams of children's play that I categorized included five themes, *superheroes, animals, family roles, dinosaur and fantasy creatures,* and *other media related themes such as Peter Pan*. These themes were often complicated as they overlapped and combined.

After sifting through and distilling the data, I conducted a second analysis focusing on conceptual elements in terms of children's mental representations to understand others. Based on

this data from fieldnotes, my reflection notes, and transcriptions of audio and videotaping, I began to analyze the children's understandings of mind conveyed through peer interactions in their play.

Study Confirmability

In quantitative research, there is certainly a vital discussion regarding the reliability and validity of a study. In qualitative research, although they are not represented in numbers, validity and reliability are usually referred in terms of study confirmability or trustworthiness (Lincoln & Guba, 1985).

Lincoln and Guba (1985) proposed the construct of confirmability as an important methodological standard to evaluate qualitative research. As a way to enhance internal validity, the study was triangulated. Using multiple sources of data to confirm the emerging findings (Merriam, 1998) is a notable strength of this study. However, I often felt I was sinking in the pile of infinite data. I found it took twice the time to rewrite and type fieldnotes especially due to the fact the original fieldnotes were mostly written in Korean. Although I wrote conversations and dialogues among children or adults in English, it was faster to write in Korean to describe the situation or children's movement.

Data were gathered through observations, participation, reflection journals, videos, and dialogic conversations with children and teachers, and these multiple sources ensured validity of the study. Peer examination, through discussion with my committee chair and fellow graduate students, was another approach to strengthen the confirmability of this study. Although generalization is not a purpose of the qualitative research (Sevigny, 1981), triangulated inquiry may offer stronger potential for the reader to generalize implications to their personal context implications of the findings for practical settings as well as future study (Merriam, 1998).

Clarifying the researchers assumptions, worldview, and theoretical orientation will also establish validity (Merriam, 1998). My thoughtful statement of personal narrative described before also helped me increase the confirmability of the present study.

Scenario: Composing the Dissertation

Huberman and Miles (1994) addressed that within-case analysis should be descriptive and include scientific explanations. A researcher may choose the style of description, to make complicated themes understandable by reducing them to their component parts. When the observation period was over, I sat down and re-read my field notes, wishing I could include all of the details about what happened and how things were proceeding in *my* classroom. I felt it was "my" classroom because I no longer seemed a visitor or outsider in the group.

I spent a long time thinking and reflecting about the way I could best describe the master players and their play within a whole classroom context. My dissertation chair, Dr. Fu, and I discussed and tested various ways of writing. After numerous discussions through regular meetings, e-mails, and phone calls, we came up with the idea of story-like writing in a rich manner in order to offer a detailed context and interpretations for readers. In *Chapter 4*, I chose to present story-like-descriptions first, which may already bear a great deal of my own interpretation. I divided the stories into several phases and added my interpretations for each phase in terms of theory of mind development embedded in the play episodes. I then extended and summarized my interpretations in *Chapter 5*.

Participants' dialogue and actions were adhered to in the main part. However, at times adult dialogue was minimally edited for readers' ease of understanding. This is in keeping with the standard in the field of qualitative research (Graue & Walsh, 1998). My comments of clarification in the dialogue may be seen in brackets.

CHAPTER FOUR
Context of Play

It was an ordinary morning, a week before the end of the fall semester, tranquil yet busy as teachers prepared materials and activities for the day before the children arrived. I was sitting on a wooden stool in the hallway watching the beginning of the day in the classroom through one-way mirrors. A few of the children began to arrive at school with their parents. Some of them were children in other classrooms who gave me friendly smiles as they followed their parents walking along the hallway, past our classroom door.

"Hi!" a familiar, high-pitched, cheerful voice sounded. I turned my attention to the entrance of the room. Kate, usually the first child to arrive at school, was greeting the teachers. Before the teachers finished returning a hello, she had run to the little cubby where she hung her coat and started exploring the room to find the activity that she wanted to do first.

I continued my morning enjoyment of "peeking," as an invisible observer, from a hidden spot between two pillars in the hallway. Jennifer spied and surprised me by calling out a loud, joyful voice "Hi" to me. Her red face indicated to me that she had just came in from cold outside. I had a sense of satisfaction that my presence in the classroom for a whole semester had established a close rapport between many of the children and me.

I got up and walked with Jennifer to the classroom while having a short conversation about what she had done at home during the previous evening. The room was already filled with noises from cheerful hellos to plaintive goodbyes. Jennifer and I joined Ian at the media table. We spent almost half an hour building a huge sandcastle together. As we played, the day blossomed and unfolded around us.

The short description above illustrates a typical morning at the school where my observations occurred. However, it was surely different when I first began my observation at the beginning of the semester. At that time, I felt like a *visitor*, not as a *participant* or a *member* of the group. In the same manner, it takes a while to get to know someone as a friend, entering a world of other people requires considerable time and effort to begin to feel a true member of the group. To function within a group, the first step is to be aware of the context in order to understand the meanings of events that happen in that setting. Therefore, to explore the dynamics

of children's understanding of mind in play it is important to carefully observe play in context. This allowed me to better interpret shared understanding among the children. Children's communications and interactions in play mostly occur within a context of established mutual understanding and meaning making.

Story telling is a common way to share our experiences and thoughts in qualitative research as well as in our daily lives. The following two stories are play episodes that I had observed during my participant observation. Although there are numerous potential episodes, I chose these two as the best examples to illustrate dynamics of children's understanding of each other's mind in the context of play. These two stories were most representative and implied all the elements answering my research questions. I divided each episode into several phases of play with comments in relations to theoretical implications. My role in these stories was mainly an observer with minimal interactions with the players. Although the children were aware that I was videotaping them, my presence was similar to other adults in the classroom and had little impact on their play and interactions.

First Story: Dinosaurs in the River

(Date: November 27, 2000)

Pale green foam bed padding had been used in a variety of ways in children's play. For many days, the children had used the foam to make dinosaur spikes and tails, streets, and sometimes it was use as just soft, spongy cushions for rest. This morning Michael squeezed and stepped on the foam and then he tried sitting on it. He seemed to be engaged in matching different shapes of foam pieces. I enjoyed watching him make different attempts to match square, round, and triangle shaped pieces. After awhile as he was manipulating the foam padding, he turned to me as if something just came across his mind and said, "I don't know where Kate is." He didn't wait for my answer and ran directly to the dramatic play area under the loft. He found Kate and Daniel at the dramatic play area -- one of their favorite places to play. Michael seemed confident when he was running to the drama play area as if he knew he would definitely find Kate there. This made me wonder why he said to me that he didn't know where she was. Did he really want my answer or was it a rhetorical statement? Was it a coincidence or intentional that he went to the place to where Kate was? I decided to follow these three children's conversations

and play which I will describe below.

Phase 1) Stage Setup: Explorations of Dinosaurs

Kate was wearing a Superman outfit and holding "Woody," a toy cowboy from the movie "Toy Story". Daniel was trying to place some of the dinosaur miniatures on the platform. Michael started asking Daniel, a dinosaur expert in the class, about the names of different kinds of dinosaurs he had put on the platform. Then Michael picked one up to play with. Daniel was focused on his own play. Michael looked at him for a second, and grabbed another dinosaur and joined him in play. While Michael was trying to initiate play with Daniel, Kate was simply sitting next to them watching as if she were trying to figure out how to join in this emerging play.

Kate put down Woody and picked up one of the miniature dinosaurs from a basket. I could see she wanted to play with the two boys. Kate crawled on her knees one step closer to the boys and began to play with the dinosaur by herself. Her eyes were fixed on the boys watching how they were moving their dinosaurs and listening to what they were saying. My attention was focused on Kate's every move. She pushed her dinosaur a little bit closer to the center of the platform where the boys were playing with the dinosaurs. They didn't seem to notice Kate's action. Thus Kate remained an observer, like me, although she was a potential actor.

Interpretation:

Michael seemed to have knowledge regarding where Kate usually played although he said, "I don't know where Kate is." His statement might be a rhetorical one. In this sequence, Michael took a more active approach to play with Daniel than Kate did. In order to be involved in the play, he made his intention known by asking questions and picking up one of the dinosaurs that Daniel was putting on the platform. Kate's attempt to join in their play was more subtle since she didn't participate in the play verbally. However, she conveyed her intention by discarding Woody, and picking up a dinosaur, which is a similar figure to the ones the other children used in their role play.

One might think that Kate was engaged in solo-pretend play (Forys & McCune-Nicolich, 1984), with minimal verbal interactions with the other children. Yet upon closer observation, one might surmise that her desire to play with the boys was apparent as she stayed close to them, watching and listening to them as they play. Her intentions to join in play seemed

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apparent when she picked up sinosaur, a pertinent object in the context of the dinosaur play.

Michael and Kate demonstrated the use of different strategies or approaches to join in the play that was started by other children. Michael's approach was asking questions and picking up one of Daniel's dinosaurs whereas Kate's approach was moving closer to the boys as a way to make it obvious to them that she wanted to play with them. Later she tried to be involved a step further by putting her dinosaur close to other dinosaurs. In this sequence, Kate seemed to be looking for reciprocal interests and themes by observing, listening, and interpreting other children's play.

Phase 2) Danger Is Coming: Fantasy Begins

All of a sudden, Daniel shouted "AHHHHH" and put his dinosaur under the platform as if he were scared. Michael looked at him, not showing any surprise but quickly said, "Danger is coming!" He moved his dinosaur toward Kate's dinosaur. Daniel took his dinosaur out from under the platform and placed it on the platform calling out, "Danger came!" It struck me how quickly pretend play could begin among these master players. Michael's prompt response to Daniel's "Ahhhh" by declaring there was "Danger" was highly spontaneous.

Finally Kate spoke, "Well, this can take care of the…" as she put her dinosaur right next to Michael's smaller one. Michael and Daniel got excited, making loud dinosaur sounds as they moved their dinosaurs closer to each other. When Kate tried to talk to Michael and Daniel, it became more apparent that she had been observing and waiting for a moment to join in the play. However, she stopped talking and waited a little more before she joined in actively.

Interpretation:

Daniel's pretence of being scared of something by making a screaming noise introduced a new theme into this play sequence. His action initiated a new phase of the play, which was quickly understood and taken up by Michael. Michael's expeditious response, by interpreting Daniel's "Ahhhh" as a sign that Daniel's dinosaur was in danger, offered a possibility of introducing another character into their play. Daniel's attempt to take their play to a new direction of was promptly understood by Michael. A new theme was introduced by Daniel's "Ahhhh" and was extended by Michael's suggestion that they were in danger. Danger became a part of the play plot as both of the children implicitly agreed that there was an imagined danger

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in their play. By offering the idea of "Danger," Michael seemed to have created a revised play plot, which was related to Daniel's intention.

It was not clear whether the new theme Daniel wanted to introduce when he cried out "Ahhhh" was the notion of danger that Michael assumed. It could be that Daniel was reacting to an imagined scary character he was going to create for their play or it could be simply Daniel's action of being scared without any intention of introducing a new plot. If latter was the case, Michael's interpretation of Daniel's action might not have corresponded with Daniel's intention. However, when Michael proclaimed, "Danger is coming" Daniel didn't challenge Michael's interpretation of his intention. This aspect may be one of the main differences between child-child interaction and child-adult interaction. While adults often impose their beliefs on the child and try to make the action fit adults' established interpretations of reality, children are fluid as they accept others' false belief and use it to produce creative, imaginative play. In the beginning of this phase of the play, Daniel put his dinosaur under the platform when he acted as if he were scared. Then he transformed his "scared" dinosaur into the "scary" danger dinosaur under the platform as he called out "Danger came!" with the same dinosaur. This kind of quick transformation of the character and/or theme in order to respond to the other players' needs is often seen in children's pretend play.

Daniel accepted Michael's interpretation of imagined danger by acting out aggressively with a big dinosaur. Daniel played two roles, in frame and out of frame, during play. When he announced "Danger came!" he played out of frame but when he moved the dinosaur aggressively as the source of the danger he was playing in frame. Spontaneous acting and reacting was exchanged in creating a new direction for the play as two children accepted each other's intentions.

Michael also invited Kate to join in their play by looking at her and warning that Danger was coming. His understanding of Kate's desire to join in the play was embedded in his action. In addition, the fact that Kate picked up a dinosaur seemed to have contributed to Michael's understanding of Kate's intention and was able to begin to include her in their play. This implicit invitation to the play appeared to have encouraged Kate to participate in an active way that was different from her passive attempt with gestures or movements shown in the previous sequence.

Phase 3) Negotiating Roles: Good Guy, Bad Guy

Michael began to attack Daniel's dinosaur. Michael shouted, "Watch out!" Then he paused as if he were unsure or puzzled. Michael whispered to Daniel, pointing to Daniel's dinosaur, for confirmation, "He's the bad guy." Daniel disagreed, "This guy is the good guy." and stroked his dinosaur. Michael looked at him and looked back to his own dinosaur and asked, with less confidence, "Is he a good guy?" Daniel pointed to each dinosaur and said, "He's the good guy and he's the good guy." Now Michael seemed confident. He whispered, "Danger is coming," Daniel responded, "Danger, is that me?" Michael pointed to another big dinosaur, "No, it's that dinosaur." Daniel nods, "Yeah it's Pachycephalosaurus."

Michael walked his dinosaur on the platform and said, "Come on." Daniel made the play plot more dramatic by crying out, "Danger!" Daniel picked up another big dinosaur to attack the Pachycephalosaurus, which he referred to as "Danger." Daniel was playing two roles saying, "I can get the danger." He showed Pachycephalosaurus to Michael and Kate saying, "Here comes the danger!"

Michael handed his dinosaur, a stegosaurus, and another dinosaur to Daniel, boldly saying, "Feel our tails." Daniel reacted, "Me?" and then he took Pachycephalosaurus' paw and placed it on the tail of Michael's dinosaur. Daniel acted as if he was scared, "OWWW!" He knocked over the Pachycephalosaurus. He assured all the other dinosaurs that the danger's dead now. He kept saying, "He's dead! I killed him!"

After the Pachycephalosaurus died, Daniel continued to scream holding onto his dinosaur as if it were fighting with other dinosaurs. He approached Michael's dinosaur, "Little Foot, Little Foot." Daniel exclaimed to Michael "Eat me!" Michael smiled and looked at the dinosaur and Daniel at the same time asking nicely, "I'm gonna eat you. Are you bad?" Daniel decided, "I'm... I'm good."

Michael slowly said, accentuating every word, "So, how did you get here?" Daniel paused as if he needed time to think. "I'm... I'm… I just went in the water." Michael was still curious pointing to the dead Danger dinosaur, Pachycephalosaurus, "But how did he die?" Daniel answered, "He's just the bad guy."

The dead Pachycephalosaurus was resurrected and returned to their play for a dramatic moment. Daniel shouted, "You're back! Danger is coming!" and looked around. Michael was puzzled, "Where is the danger?" Daniel improvised, "Right here, this lion." He ran to the basket

while he was speaking and picked out a toy lion. Michael identified it, "Scar. That's Scar" and then took his dinosaur and jumped on the lion. "Scar, Watch out!" Michael kept approaching Daniel "You're the bad guy!" but Daniel didn't want to agree, "He doesn't have time to fight" and moved the toy lion back to the basket. Michael still tried to attack "Scar" with his dinosaur and Daniel seemed a little irritated, "Hey! He doesn't have time to fight." Daniel walked his lion away saying, "I'm Mufasa. I can swim, swim, swim."

Interpretation:

Although there are some cases that a child voluntarily plays a "designated" bad guy, most children want to play "good guys," often saving people with their super power and performing good deeds. In phase 3, Michael and Daniel created a third figure as the bad guy, which was established from their creation of the imagined danger in the previous phase. Michael's statement, "He [Daniel's dinosaur]'s the bad guy" was neither a statement nor a question. It reflects Michael's uncertainty about the new character in their play yet includes his understanding of Daniel's intention not wanting to be a bad guy as well. This confusion came from the ambiguity regarding which one would play a bad guy, Danger, after they agreed the danger was coming. More importantly, when Michael made this question-esque statement, he seemed to negotiate Daniel's desire about what kind of character he wanted to play as well as express his own desire of wanting to be a good guy.

This type of negotiation in pretend play is common among children when they assign roles in pretend play. After Daniel said, "This guy is the good guy," showing his caring emotion by softly stroking the dinosaur, Michael realized that Daniel might want Michael's dinosaur to be the bad guy since Daniel decided his dinosaur was the good one. Michael asked, "Is he [Michael's dinosaur] a good guy?" This question seems to reflect Michael's intention to convey to Daniel his desire to be a good guy, not a bad one. Michael tried to make sure which dinosaur was identified as the one that caused the danger in their play and at the same time wanted to make sure his dinosaur was not the one. Thus, when Daniel confirmed that both of the dinosaurs were good guys, Michael seemed relieved. Daniel seems to understand it was not only himself, who wanted to play the role of a good dinosaur, but also Michael had a desire to be a good guy also.

After they decided the characteristics of their dinosaurs, Michael whispered to Daniel,

"Danger is coming" as if to remind him their play plot was centered around "Danger." Although Daniel already announced that both of the dinosaurs were good guys, he responded to Michael asking, "Danger, is that me?" reconfirming whether Michael wanted Daniel's dinosaur to be Danger. However, Michael created the third figure, which Daniel agreed with. Creating another character as an "improvisation" (Sawyer, 1997) was necessary to satisfy both of the children's desires to be a good guy. This short conversation in the first part of Phase 3 illustrates that two children's intentions to accept each other's desire and negotiate the roles based on their mutually shared understanding.

Children started playing with the theme that they had established. Daniel played two roles of the good guy (the dinosaur he originally had) and the Danger (Pachycephalosaurus, the new dinosaur), which required more sophisticated understanding of multiple characters. When Michael firmly said, "Feel our tails" handing two dinosaurs to Daniel that were presumably "good" characters based on their play plot, Daniel reacted as if his Pachycephalosaurus was scared. Michael's strongly exaggerated voice showing off power of the good dinosaurs implied his characters were strong. Daniel accepted this attempt and reacted appropriately to meet Michael's intention by being scared. Then he "killed" Pachycephalosaurus.

The two children in this sequence often combined, switched, and reestablished the multiple roles and characteristics shifting back and forth within the category of in-frame, out-of-frame, and sometimes in the middle of the two frames. For example, Daniel used 'I' in his statement "I killed him." when he knocked over Pachycephalosaurus. While Daniel seemed to play as Pachycephalosaurus, his communication took place in the out of frame context because 'I' is Daniel, himself, who was managing this play situation. If he acted within the frame, the statement would be "You killed me," or could be "You killed him," in case he doesn't want to disappear and remain "alive" in the play plot.

Daniel's exclamation, "You're back! Danger is coming!" may be interpreted in two ways. First, Pachycephalosaurus, the physical dinosaur figure, is back. Second, it may mean he is referring back to the original play scenario where abstract, imagined danger exists. Daniel's statement was ambiguous, as to whether it was a particular dinosaur or the danger phenomena, and therefore caused Michael's confusion. Michael then asked, "Where is the danger?" As Daniel assigned the role of the danger to a new character, the toy lion, it was apparent he meant the second interpretation that they will go back to the plot where the danger character appears.

The influence of popular media on children's play becomes apparent as the danger moves from dinosaur danger to "Lion King" danger. This is in keeping with the impact media has on children's play (Valkenburg, 2001). Michael corrected Daniel, "That's Scar." Although it may sound that Michael disagreed that Scar was not the Danger, the characteristics of Scar fit in their play scenario since Scar is an evil character from the Disney movie, "Lion King." Michael accepted Scar to play the imagined danger by saying, "You're the bad guy!" However, Daniel didn't play the same role of the bad character as Danger in the previous plot. Daniel's statement, "He doesn't have time to fight," enabled him to express his desire not to fight or not to play a role of the bad guy, without changing the characteristics of Scar in the plot.

Phase 4) This is Little!: A River for Little Dinosaurs

Michael's dinosaur stopped attacking Scar as Daniel walked the lion figure away. Michael went and got some of the foam padding. He brought pieces of foam padding close to Daniel and while he was placing the pieces in a row said, "Here's some grass. No, it's a stream. A stream can go left or right. You can make it go anyway you want." He made a sing-song voice in an exaggerated intonation.

Daniel put the lion figure down and joined Michael to make a "river." Then they put their dinosaurs in the river. Kate joined them by putting her tiny dinosaur in the river and following the track that they were making. Now Kate is not an observer anymore but an active participant.

A teacher who was sitting next to them and watching their play asked, "What are the bumps in the stream?" Of course it is always adults who "need" to know what's going on and ask questions with "what." Kate kindly answered, "They're rocks." Daniel had a big brontosaurus and suggested, "Little dinosaur has to go in the water." Michael seemed to know the little dinosaur meant the small brontosaurus that he had. He said to Daniel, "Hey Dad, this is the *downest* water." Daniel added, "I want out of the *downest* water. Help! Help!" Then Michael rushed to Daniel and pretended to rescue Daniel's dinosaur. Daniel cried, "Baby, Baby" and Michael responded, "What?" As Daniel picked up another dinosaur, he said, "The Pechefalasaurus wants to go in the water." He made it jump in and said, "YIPPEE, YEH?"

Michael stood up abruptly and went to the prop box. As he was moving, he bumped the edge of the river, the sponge padding, and this disconnected the spongy river. Daniel exclaimed,

"Ah, you broke the water!" Michael looked down and enthusiastically said, "Oh, no! We broke the water. We broke the water and get to the little one." And then Michael took one piece of the foam from the river and moved it to the table.

Daniel identified 'a little one' by picking up a small dinosaur in the river and showing it to Michael saying, "Like that one." Kate picked up her dinosaur when she saw what Daniel was doing. She showed her dinosaur to Michael, raised her voice to offer her dinosaur to be part of their play, "This is little. This one could go in the little pond. She's so little." Kate seemed proud that her dinosaur could fill the boys' need for a "little one." Michael looked at her little dinosaur and said, "This is for the little dinosaurs to swim." Daniel also looked around to find some more "little ones." He found one, picked it up, and approached them saying, "He's so little."

Now all three children, Daniel, Michael, and Kate, were standing at the light table looking at the little dinosaurs in the "pond." Kate exclaimed, "This guy is little." Michael went back to the river and brought some more sponge padding to the table. He joyfully told them, "Watch out. Here comes some more water." Kate liked that idea, "Yeah, more water." She jumped her dinosaur into the enlarged pond. Michael went and brought back another sponge loudly saying, "And more water! Coming up."

The table was now full of the sponge pieces. However, Michael still kept working on bringing more "water." Kate informed him, "We don't need it." But he didn't stop. Michael said, "Come on, Lion, come get wet." And then he went to get the lion and put him in the water. Daniel responded to Michael's play script as he got a stegosaurus saying, "Hey Stegosaurus, come get in the water" and put it in their pond. Daniel added, with a look of surprise saying, "Look what's in here. Hey this guy caught a crab. He's gonna eat it for dinner." Michael frowned when he saw the small plastic piece that Daniel claimed was a "crab," "YUCK!" Daniel didn't seem to care and fed it to his dinosaur, "There's meat in it." Kate supported him, "The dad likes it." Daniel gave it to Kate's dinosaur, "I caught it for you." But Kate rejected him, "I already ate." Daniel then put a blue rhythm instrument stick in the play oven to be cooked for the dinosaur's dinner.

While Daniel was waiting for the stick to cook, Kate went to the porch where a cabinet of music instruments was. I saw her picking up some more rhythm sticks from the cabinet through the open door between the classroom and the porch. Daniel took the stick 'food' out of the oven while Kate was gone. He continued to pretend to feed the dinosaur. He also took the

role of the dinosaur by saying, "Yummy!" as he pretended that the dinosaur was eating. A while after, Daniel told Michael, "I got my sword if bad guys come." He put the dinosaur down and held up the stick.

At this time, Kate returned from the porch. She didn't bring the rhythm sticks. Instead, she exclaimed, "I'm Supergirl." The play topic was changed and all three super children flew to the porch to play Batman and Supergirl.

Interpretation:

In the phase 4, the play theme was extended by introduction of a sponge river. Michael added another element to the play by bringing the foam padding. Michael improvised representational objects, grass and then a stream, as he connected pieces of the pale green colored padding. This sequence illustrates how Kate's interests and observations throughout the play enabled her to find the right moment to join in the other children by offering a play item to satisfy their desires and intentions. Kate had been watching the boys' play from the beginning and showed her participation with gestures and nonverbal actions. It was apparent that Kate was not just an observer like the teacher but a player and had been engaged in the play. Kate spoke for the other children as she answered the teacher's question of what the bumps of the foam padding represented. Her impromptu response that they were rocks, which were appropriate to exist in the river, showed her understanding regarding what the other children were pretending.

Agreement of Michael and Daniel that the *downest* water meant the abyss of the river was evident in their pretense to be drowned and to rescue. They played non traditional roles as Daniel, the dad, was rescued by Michael, the baby. Even though the role of a baby as a rescuer, suggested by Daniel was not stereotypical, Michael quickly accepted it and reacted to him. When Michael called Daniel, "Hey Dad, this is the *downest* water," he might have wanted to play a role of the vulnerable baby, needing help rather than giving it to someone else. However, Michael understood that Daniel was pretending to be in danger and wanted help so Michael spontaneously played an appropriate role for their play.

This type of agreement in creating a reciprocally imagined play took place again in following pretense. When Michael disconnected the pieces of the padding by accident, Daniel represented it as broken water. Michael promptly accepted Daniel's suggestion by playfully repeating the statement, "We broke the water." And then Michael extended the play to the next

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step as he placed the "broken river" on the top of the table. From this moment, Kate's participation became highly active as she offered the "little dinosaur" for the play. It was smooth and natural enough so she didn't interrupt or confuse the other children. In fact, it made the play more glowing and dynamic. Kate did not simply imitate or follow the other children's pretense yet she showed her own interpretation of the pretended object, the broken water on the table, by calling it the little "pond."

Later in this phase, Daniel tried to initiate another theme by pretending that there was food and the dinosaur was eating. However, the feeding plot was not accepted by the others. Two children, Michael and Kate rejected Daniel's idea in different ways. Michael actively expressed his dislike by saying with a frowning face, "Yuck!" In contrast, Kate's rejection was less obvious since she first supported Daniel saying, "The dad likes it." But she turned down Daniel's invitation to the play as she said, "I already ate." The ability to find a proper script in order to consider both players' desires and intentions is crucial in social pretend play and it requires an understanding of own mind and its connection to the other's.

When Kate went to the porch, her actions were ambiguous as to whether she wanted to bring the rhythm sticks to provide more props for Daniel's play or had a new idea in her mind. Interestingly, when she returned with a different play theme of being Supergirl, the other two were also in transition to new play demonstrated by Daniel's transformation of the object (a rhythm stick) from food to a sword. It seems that there was a need for a new theme since the children lacked a shared plot with Daniel being the only one pretending to feed the dinosaurs. There remains an uncertainty concerning the main driving force to end the existing play plot and to start a new play. Was it Kate's proposed character or Daniel's transformed pretend object?

Overall Reflection:

The four phases of this story reflect diverse aspects of children's theory of mind in play context. First of all, each child's understandings of other players' mental states such as desire, intention, and belief are embedded in the flow of the play. It seems that all three children in this episode have considerable knowledge regarding the mental world and its role in their play. However, levels of sophistication in understanding may be different depending on the shared history of play. Shared understandings established through long-term friendship certainly influenced children's knowledge concerning their playmates' theory of mind. Evidence of

children's use of their understanding concerning abstract, mental world was described in interpretations of each phase.

Roles of each child throughout the play were evidently different in terms of giving a direction to the play. Daniel's role was seen as a leader in the beginning of the play since he was the one who initiated a new story or approved the others' suggestions. However, Michael was not a passive follower since he showed an active reaction by adopting Daniel's intention and sometimes redirecting it.

It is apparent that Kate's participation in play changed through the three steps. At first, she was completely an observer who was watching the children's play with interests. Kate was not an unengaged onlooker but a keen observer. She may be considered as a participant in a way, highly engaged in and never leaving the play scene. At the second phase, she was a participant observer as she followed and imitated the boys' movement physically. Finally she found a role for her to take when the boys exclaimed that they needed little dinosaurs in the river they made.

As seen in detailed descriptions of the episode and interpretations, these three-year-old children demonstrated complicated understanding of theory of mind elements such as desires, intentions, and beliefs. However, such understandings were not separable, but rather highly connected and complex. In addition, their understandings of each other's mind seemed remarkably fluid in play situations. The children seemed to be able to read contextual cues (Corsaro & Tomlinson, 1980), and quickly accept and recreate cues in order to manage and extend their play. The story illustrated above tells us young children's understanding of mind plays an important role in their daily interactions.

Second Story: And Wonder Woman's Cat, Too?: Creating a Plot Together
(Date: November 27, 2000)

Lillard and Sobel (1999) found that for certain types of pretence, in particular, pretence involving fantasy characters, children's understanding of pretence in terms of mental entity might be more advanced. Fantasy play, in comparison to "real life" pretend play such as cooking, shopping, and feeding a baby requires more advanced understanding of mental representation. Children might get ideas of fantasy characters from TV, movie, or storybook yet the characters are often non observable, based on creative imagination. However, it seemed that children had

their own ideas of "heroes," often connected to certain characters from media that had "super power."

Throughout the period of observation, there was not a single day that superheroes weren't observed in the classroom. Superheroes seemed a kind of ritual for most of the children. As soon as the children arrive at school, they constructed their own costumes to be a superhero of the day by using all sorts of fabric, paper, and marker. The following story is an example of "Superhero" play.

Phase 1) Starting a New Game

"I'm Supergirl," Kate said to Michael and Daniel out of nowhere when she returned from the porch. Michael corrected her, "You mean Superman." "No, Supergirl because I'm a girl, so...I have to be Supergirl," said Kate with a strong emphasis on the S of Supergirl. Michael continued saying, "But I have a Batman shirt and a Superman…" as he pointed to the superman outfit that Kate was wearing.

Daniel proceeded to go to the porch and the other two followed. Michael found a helmet on the floor and put it on. While all of the three children, Michael, Kate, and Daniel were standing around the train set table, Michael asked, "Do any of you think I am strong?" Kate said, "Yeah, I think you're strong." Michael continued saying with confidence, "I feel my muscles. You can't kill me." Kate raised her voice, "My brother, Michael, he can kill me." Michael told Kate, "But your dad can't kill you." Kate disagreed, "Yes, he can." Michael then said, "But you can't kill me." After a short pause, Kate said, "When I'm bigger, I can kill you." Michael responded, "When I'm bigger, I can kill you." Daniel had been watching the two children and jumped into the conversation with a loud voice, "I'm growing up right now." Michael replied as he took off the helmet and put it on the train table, "I'm growing up very quickly." At this time a teacher interrupted their play. The children were asked to come in the classroom since there were not many adults to supervise the children on the porch. (I was the only adult with them.)

When Stephan arrived at school later, the three children explained to him what they were playing. Then they engaged in assigning the roles for each other. Daniel took his favorite role, "I'm Robin!" Kate added before Daniel finished saying, "I'm gonna be a Super Cat." Daniel repeated, "I'm Robin." He also assigned a role for Michael saying, "You can be Batman." Michael seemed to accept the role yet didn't say anything to Daniel. At this time Adrian came

out to the porch.

Interpretation:

This sequence was a conversation rather than play although it initiated the children's play later. It was started by the children's talk about power. The strength in terms of super power was always one of the main themes in the children's play that I observed. In pretend play, power seemed to be the greatest source, enabling superheroes conduct good deeds for nice people by killing bad guys. For growing children, power and strengths might be one of their strong desires that they do not currently possess, making the children want to obtain. This wanting for the power is easily shown in children's superhero play.

When Michael began to talk about his strength and power to kill people, his implicit understanding of Kate's intention to pretend to be Supergirl and its relation to power. In this first phase of the play episode, the children began to talk about being strong and killing someone. Although Michael's sudden question, "Do any of you think I am strong?" may seem to be unrelated to other conversations or play, it appears to have connections to their previous talk regarding Supergirl. The implied agreement among the children concerning the power to kill someone was that power was related to "bigger" figures. Daniel jumped in the conversation saying, "I'm growing up right now." Michael appeared to accept the fact that Daniel was "growing up right now." Michael repeated Daniel's statement yet topped it adding, "very quickly."

Although the conversation was interrupted by the teacher and stopped, the theme of power continued as the children started playing superheroes later in the morning. Stephan, one of the master players in the classroom, arrived at school a little late and all of the children eagerly explained what they were playing. This reflects the children's understanding of Stephan's lack of knowledge about the current play since he was out of the previous scenes. Before Stephan decided what he wanted to play, Daniel and Kate chose their roles. Daniel's offered Michael a role of the Batman, which was the most relevant to his own character, Robin. This kind of reciprocal role assigning and positioning was a typical step to start a new play in the observed children.

<u>Phase 2) Creating a New Role for a Friend</u>

Stephan saw Adrian who just came out to the porch and invited Adrian to join them by suggesting, "You could be Wonder Woman. I'll be the Spiderman that flies." And he jumped high to pretend to fly. Adrian was pleased, "Okay." The other children, Daniel, Kate, and Michael didn't hear this conversation since they were at distance.

Daniel changed his mind, "I'm a Super Cat." He started crawling and suddenly changed his role again, "I'm a Power Ranger Cat." He seemed to wait for Stephan's opinion while looking up at Stephan. Stephan assigned a different role by asking, "Are you the Spiderman Cat, actually?" Daniel accepted with low voice, "Yeah, I'm the Spiderman Cat."Michael wanted to be a cat as well, "And I'm a .. a Batman Cat." Kate went back to her original claim as she tramped her foot rhythmically, "I'm gonna be a Supergirl." Her song-like talk seemed to reflect her excitement about this play.

Daniel confirmed again, "I'm the Spiderman Cat." "And Wonder Woman's Cat?" Stephan added the role for Adrian who was just wondering around them. Michael and Daniel didn't give him response and kept crawling. Stephan repeated, "And Wonder Woman's Cat, too?" Michael agreed with smile. "Uh huh."

Interpretation:

Stephan's suggestion that Adrian be Wonder Woman represents several facets of his deep understanding. First, he knew that the other children, including himself, had begun the play of heroes, in particular superheroes from mass media. That led him to offer Adrian another superhero character that had not been taken by other children. Second, Stephan understood that Adrian might not know what the other children were playing since she just entered the play scene. Thus, he helped Adrian join in the play easily by inviting her promptly with a role suggested for her.

In addition, Stephan showed the ability to take his and Daniel's intention and to combine them to resolve a conflict in the play. That is, when Daniel announced, "I'm a Power Ranger Cat," Stephan rephrased it saying, "Are you the Spiderman Cat, actually?" This statement reflects Stephan's desire to create a collaborative play by including Daniel's character, the cat, and his own role, the Spiderman. Stephan did not assign a role for his friend but indirectly expressed his intention to encourage Daniel to play a role that was related to Stephan,

himself. Stephan's suggestion was worded in such a way that Daniel easily agreed to be the Spiderman Cat and conflict was avoided.

All the children took a role but there was an unknown fact between Adrian and the other three children. When Stephan suggested a role for Adrian and she accepted, the other children did not hear it. In this phase of the play, Stephan demonstrated his comprehensive understanding of each child's knowledge. He understood that the other children did not know that Adrian was also playing with them as Wonder Woman. By saying, "And Wonder Woman's cat, too?" Stephan not only conveyed Adrian's desire and intention to the other children, but also transferred the other children's intentions to be the superhero "cat." Although it is not certain whether he transformed Adrian's role to the cat or created an imagined character of the cat for Adrian, he played a role to bridge two false beliefs of Adrian and the others, due to not hearing each other, so that everybody could play together.

Phase 3) Expanding the Play for Everyone

Now all roles were set and the children started acting their part as they crawled and roared. Stephan was on the chair. "This is a steep hill." Kate put on her helmet again and approached Stephan, "Oh, wait for me!" Adrian was under the train set table. When she came out, Stephan called her gently, "Wonder Woman." "Yeah," Adrian answered with even tone. Stephan paused looking at her and showed his rhythm stick that he was holding, "I found a stick." Adrian didn't respond yet ran to find rhythm sticks for herself. Kate showed her stick to Stephan as she listened to Stephan and Adrian's conversations. "This could be my sword." She grabbed the stick dramatically with two hands as if she was a knight holding a real sword. Daniel repeated, "Sword!" Stephan watched the two children and said, "Mmm, Spiderman doesn't have to have a sword." He threw the stick on the floor and walked away. Adrian was trying to pull all the rhythm sticks from a cabinet. Both Daniel and Kate picked two sticks up and ran around the porch. Stephan said, "I'm the Spiderman that flies."

Suddenly all the children stopped their movement for ten to twenty seconds. It seemed to me that their play was paused as if somebody had pushed a remote. Stephan broke the silence. He picked up a small toy from the floor and tried to scare Michael. Michael laughed and pretended to run away from Stephan.

Interpretation

The play became more complicated in the phase three as each child took a role. It seemed that Stephan wanted to create a mutual plot of the play when he called, "Wonder Woman." Adrian answered yet Stephan seemed unsure of what he wished to say. Then he improvised a new element in the play by saying, "I found a stick." It was accepted as Adrian ran to get the same stick for her. Stephan's suggestion of having a stick in the play was also accepted by Kate. She proposed the stick could be a sword and Daniel agreed. However, Stephan did not extend this idea by saying, "Spiderman doesn't have to have a sword."

Stephan's suggestion to bring a stick as a pretended object into their play may be interpreted in various ways. First, the stick might be a part of Stephan's strategy to create a more dramatic play plot since the children had not come up with any plot except for play roles at that moment. If that was the case, Stephan may have wanted the stick to be something else other than a sword because he refused the idea of the sword. Second, the stick might be merely a transition object to interact with Adrian, Wonder Woman. Based on his long-term friendship with Adrian as described in *Chapter 3*, it is possible that Stephan simply tried to say something to Adrian, not having any particular focus on the stick itself. Thus, when the other children proposed an idea regarding the rhythm stick, he simply discarded the object since it was not his intention. This disconnection among the children influenced the play. The flow of the play was stopped for a while, as the children were not sharing spontaneous imaginations. It seemed that the play script in terms of superheroes and their cats was not actively extended and the superhero play context was lost in this last phase of the episode.

Overall Reflection:

In this second story, Adrian was the one who was about to enter the play already initiated by other children. She did not have to use any strategy to join in the play because Stephan's prompt invitation, with a role for her, helped her transfer quickly to the context of the play. In contrast, Kate in the first story demonstrated various strategies to smoothly enter the two boys' play as well as spent a longer time in transition than Adrian. Whichever is the case, children's understanding of others provided a shared context of play that would satisfy the players' needs. Additionally, the rest of the participating players contributed to a natural flow of the play as well. Their willingness in accepting and negotiating others' suggestions encouraged

any change of the play plot in order to include every player's desire and intention.

For example, Daniel and Michael didn't challenge Stephan's implicit announcement that Adrian had joined in the play. They seemed to be confused when Stephan first said, "And Wonder Woman's cat?" because Wonder Woman was an unknown sudden appearance in their play. However, when Stephan repeated the question, Daniel and Michael agreed saying, "Uh-huh." Did they really understand that Wonder Woman was played by Adrian or did they simply accept Stephan's suggestion regarding the play? The important aspect is that Stephan's intention was understood and this enabled the play to include all of the children's desires. This episode deliberately was chosen to demonstrate, even with master players, play can come undone. For example, in Phase 1, the teacher's interruption stopped the children's dramatic moment. Although the play theme returned later in the morning, described in Phase 3, the children did not comply with the same idea regarding an imagined pretend object, the rhythm sticks, and their play was not extended. Further investigations concerning various contexts in which children extensively continue their play or get lost in collaborative themes and plots, may provide more interpretive information of children's theory of mind development through interactions.

Media and Technology in Children's Play: Let's Make a Movie!

As illustrated in the two play episodes in the previous part of this chapter, the children's play, in particular fantasy and imaginative play, seemed to be influenced by media as seen in their adoption of the roles of characters from TV or movies. The influence of media on children's fantasy play is supported and documented in the literature (Malamuth & Impett, 2001). The children in this study appeared to be highly affected by Disney media and other TV/ movie characters such as Batman, Wonder Woman, Superman, and Spiderman.

In pretend play, children pretend that they are someone else as well as treat an object as something else that is appropriate for the pretend context. For example, Daniel was a soldier and a stick was his sword. From superficial observation, it may seem that children are so intensely involved in fantasy pretense that they do not distinguish between the reality and the pretense character. However, intense play does not necessarily imply that children are unable to distinguish between pretense and reality. Through close observation and conversations, it became apparent that during superhero play, the children in this study claimed to really be a superhero.

Then when I asked the children after the play whether they were playing or really the pretend character, they smiled and said, "I was just playing."

However, it is still uncertain if young children have a clear understanding regarding the pretend and reality distinction, particularly when it is related to images of hero-like characters from mass media. One day during my observation, I was sitting on the porch with Minhee, age five, the second oldest child in the class, who seemed to possess advanced understandings of others and a highly complicated theory of mind. Minhee began to talk about a Peter Pan hat that she had made at school and continued to tell me about Peter Pan:

> Minhee: You know, I like Peter Pan very much so I wanted to go into a television when I was watching it. But then I have to break the TV, so…
>
> Soyeon: If you break the TV and enter, can you meet real Peter Pan?
>
> Minhee: (firm voice) Yes.
>
> Soyeon: You can play Peter Pan with friends instead
>
> Minhee: It is different.
>
> (Fieldnote, October 26, 2000, translated, originally communicated in Korean)

This conversation illustrates Minhee's conflict between knowledge and personal desires.

It is apparent that media plays an important role in children's knowledge, interest, perspectives, and beliefs. I observed various themes from media in the children's play during my observations. The children not only imitated media characters but also created their own complex play plot and activity based on interests in media. The children in this study developed their own "hero" movie, which became a complex extension of their superhero play. It didn't happen all of a sudden but over the course of several weeks. Their long lasting interests were reflected on this project.

One morning, Sea brought a toy camcorder from home and pretended to record his friends' play. It seemed that my use of a digital camcorder for data collection had interested the children. Many of the children approached me asking questions about how my camcorder worked and what I could see. When Sea imitated videotaping his friends, the children were being recorded by two camcorders--a real one and a toy one. Rebecca, one of the lead teachers, started asking the children how they could use Sea's camcorder (although it was a toy one) to extend

their play and make it more exciting. Even though it was the teacher who proposed to make a movie using the toy camcorder, most children were excited about the idea and participated in this "movie making" process. Stephan came up with the idea that the children would need a movie screen. A confusion ensued as he tried to explain this complex desire.

Stephan: We could make a log [logo] and play together. Make some, draw stars, and then we could take that on, and that could be a movie thing.

Teacher: Show me what you're talking about. I'm not sure I quite understand.

Stephan: We're making logs [logo].

Teacher: Logs? What are the logs used for?

Michael: Logs?

Kevin: That could be a log there (pointing to the block that Daniel was holding)

Stephan: Yeah. And we draw…on the paper. And then we could make a movie thing.

Teacher: What movie thing?

Stephan: The stuff for movie.

Teacher: Okay, so Daniel's got a log. Is that what you're talking about? A kind of block? What do you want to do with the block? What do you mean by the movie thing?

Stephan: We could make a paper on it.

Teacher: Put paper on it. Okay.

Stephan: Make a paper over it.

Teacher: Cover the block with paper?

Stephan: um-hum.

Teacher: and then?

Stephan: and then we draw on it. And then that's all the movie stuff.

Teacher: That's for the movie? How are we using it in the movie?

Stephan: We could draw Batman and other stuff.

Kevin: (who had been listening to the conversation) I'm gonna go get another log.

Stephan: Like draw the play logo on it.

Teacher: Oh, the logo! Oh.

Stephan: Um-hum.

Teacher: Okay, we got the blocks here and some paper here.

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Soon Daniel, Kate, Dave, Kevin, Michael, Adrian, and Sea were all involved in this movie making experience. Daniel and Kevin enthusiastically brought blocks.

Daniel: I got all of the blocks!

Teacher: And then what are we gonna do with it once we have covered it?

Stephan: Tape it there. (pointing to the loft)

Teacher: Tape it? To the loft?

Stephan: Yeah. And we could watch it.

Teacher: Would this be our movie?

Daniel, Kevin, and Stephan: (together) Yeah.

And then the children began to draw on a large piece of brown paper.

Michael: We're gonna watch the movie

Daniel: We're gonna watch the movie.

(Audiotape, November 6, 2000)

In this conversation, Stephan's idea of a "logo" was not understood due to his incorrect pronunciation. Stephan seemed unsure about the word, "logo" so he used a more familiar word when he expressed his idea. He seemed to be combining his knowledge about computers and movies as he tried to explain his idea. He wanted to make a movie screen so that the children could pretend to watch a movie that they had made. The other children's ideas for the movie making might have been different. However, the conversation above demonstrated efforts that the children and the teacher showed to understand Stephan's intentions by asking (Michael: Logs?), suggesting (Kevin: That could be a log there, I'm gonna go get another log), and actively doing (Daniel: I got all the blocks!). Stephan's persistence also contributed to eventual productive communication. The teacher's guided participation (Rogoff, 1990) with extended questions and confirmation of the child's ideas also played an important role in encouraging and sustaining children's play. Collaboration among the children was possible due to playful cooperation and playful participation. Later in the morning, the children placed the "screen" on the loft and pretended that they were watching a movie. They brought pretend pizza and shared the food while watching the movie.

Play themes related to movie were extended on consecutive days. In one morning, several children were scattered on the porch. Michael stood on his toes to reach the light switch. He turned off the light and ran back to the steps of the porch. I asked, "Why did you turn off the power?" When he said, "Pretend it's night time," Michael continued, "We're watching a movie." I noticed that four children were sitting together in front of some blocks and the blocks were displayed as if they were a part of a movie screen. I curiously asked Michael, "Oh, movie? Are your friends watching a movie, too?" Jennifer who was standing right beside me answered for Michael, with a big smile, "Just pretend!" Stephan ran to the light switch and turned on the lights. Then Michael rushed to the switch and turned them off again. He told Stephan, "No, it's still night time." Then four of the children added more blocks to the "screen" pretended they were watching another movie.

(Fieldnote, November 27, 2000)

Due to frequent exposure to media and media tools, such as computers, cameras, and camcorders, the children in my study demonstrated a fair amount of knowledge regarding technology. However, most of the children showed difficulty in comprehending the difference between the real child and the photographic image. For instance, some of the children expressed surprising emotion when they came to me and saw the miniature images of the classroom and friends on the LCD monitor of my camcorder. The children also talked about their beliefs that media protagonists were real, not just pretend ones. Children's thoughts and ideas of media characters and relations to a real life context are described in the next chapter.

In this chapter, I attempted to richly describe details of children's play context and included my interpretation in order to offer an in-depth portrait of the children's theory of mind as seen in their play culture. I will now move to the next chapter where I examine various contextual factors intertwined with understandings of mind in children's play.

CHAPTER FIVE
Theory of Mind Embedded in Play

"How can I be a hero?" I asked Adrian as I watched some of the children playing superheroes. She promptly answered, "You can have a cape," I asked her again "If someone wears a cape, anybody can be a hero?" Adrian smiled and said, "Yeah, why not? If they want, there can be many heroes."

(Fieldnote, November 28, 2000)

My belief that children actively construct a social world as they interact with the environment as well as the people around them caused me to choose a naturalistic and interpretive methodology for the present study. It was my intention to bring more attention to our limited knowledge of children's worlds and peer cultures (Corsaro & Streeck, 1986) by providing some evidence and stories of children's naturalistic interactions that we cannot easily draw from experimental studies. As Corsaro (1985) noted, children's play activities involve their own reproduction of perceptions of the world within peer culture where they are dependent upon the reciprocal activities of peers with understanding of each other's desires, beliefs, and intentions. This chapter will integrate the findings of the study and set forth possible implications.

Making Sense of the World in Their Own Way

Stephan kept looking at Minhee. He didn't understand why she was sitting in her cubby with sheets of paper taped across the cubby, blocking her face. He approached her and said, "Minhee, what are you doing?" Minhee said, "This is my mailbox and I am waiting for mail." Stephan went and got some paper and handed it to her between the open space.

(Artifact, Stephan's portfolio, 2000).

It is apparent that understanding others' desires, beliefs, and intentions is crucial in children's social play. Being spontaneous and reciprocal, which is a key element to being involved in play with peers, requires a complicated understanding of mental states of self and

others. This knowledge, so called theory of mind, is our basic communication tool in the life of children and adults. Inferring mental states can be observed in any type of adult conversations. Even television comedy programs are based on metacognition and jokes are based on shared understanding of what is common or unusual -- cognitive dissonance or cognitive conflict. For instance, I was watching a popular American sitcom and heard sentences such as "Well, they don't know we know that they know," and "Do you want me to want you to want it?" Although young children do not explicitly express their understanding of mental states with complex sentences as adults do, they surely use their mental representation in interactions with others.

Young children talk extensively about desires, perceptions, emotions, and beliefs (Wellman, 1990) and it is evident in their social interactions. Children's ability to make connections between the mental world such as desire and belief and the physical world based on reality is a key to making sense of things and events surrounding them. I divided the interpretive summary of my observation through a whole semester into three categories--desire, intention, and belief--in keeping with the main research areas of theory of mind. These three elements are main constructs that previous research has focused on. However, my findings of this qualitative study reflect that children's theory of mind appears to be a more complicated, dynamic aspect of human cognition. The findings of this study lend support to my assumption that children in play displayed and actively used their complex understandings of mind with other children in a variety of ways. Additionally, these findings encourage to further explore the area of theory of mind that includes ways of different concepts interconnected one another.

Desire

It is assumed that children develop "desire psychology" before "belief-desire psychology" (See Chapter 2) (Wellman, 1990). Most research in the area of theory of mind has focused on belief-desire psychology, questioning when children transition from understanding of mind based on desire only to more advanced comprehension of mental activities based on both desire and belief. However, one cannot ignore the role of desire in children's developing comprehensive, interrelational, and complex theory of mind (Russell, 1996).

It is common for children to infer others' desire in order to explain or predict behaviors in interactions. As shown in *Chapter 4* through the real examples of children's interactions in social contexts, understanding self and others as a mental agent is a fundamental element in

children's play. Many researchers emphasize the construct of belief, in particular false belief. Desire and belief are equally important in determining human action (Astington, 2001). In this study, it seems that desire was more explicit and took place more often in young children's daily interactions and communications.

In my observations, the children represented their desire in various play situations. Their desires were often related to situations where they wanted to join in the play, to choose roles for the play, and to pretend certain actions for characters. For instance, in the first story in *Chapter 4*, Kate expressed her desire to join in the play both implicitly and explicitly. Especially in phases one and two, Kate demonstrated her understanding of self and others as she used verbal and nonverbal strategies in her attempt to join. Kate's understanding in terms of theory of mind was reflected in the intentional way she approached the players step-by-step.

Intention

"Intentionally," "deliberately," and "on purpose" are ways of characterizing human action as intentional (Astington, 1999b). Children's understandings of intention and of desire are contextually interrelated and it is difficult to sort out. Particularly in play situations, children have intentions to play a certain role based on their respective desire. Dissonance between players often comes from their differing intentions and desires. In the first play episode story in Chapter 4, the children started out with different intentions and ideas regarding good guys and bad guys. However, they resolved the conflict by communicating in a way that showed and clarified an understanding of each other's intentions. That is, Daniel and Michael created a third character, a bad guy, to satisfy each other's desires that neither of them wanted to be the bad guy. After this negotiation, they were able to keep to the intended plot. This is an example of why it is difficult to separate an understanding of intention from the one of desire.

Tomasello (1999) concluded that the human understanding of other persons as intentional agents emerges all in a piece at around nine months of age, in the later phase of human infancy. Furthermore, if we define intention simply as "goal-directed behavior" (Lewis & Ramsay, 1999), it may be observed in very young children like infants. However, sophisticated interpretations regarding human actions in terms of intention and intentionality require more advanced understanding of others' mental states and their relations to the context. In order to comprehend others' intention within the context, beyond the basic understanding of human

beings as intentional and mental agents, children might have to have opportunities to interact with others in diverse situations and practice these understandings in a social setting.

Belief

A central focus of theory of mind research has been on children's understanding of belief, especially false belief since it is an unequivocal marker of mental understanding (Wellman, Cross, & Watson, 2001; Astington, 2001). Despite the point that researchers made regarding the importance of false belief in development of theory of mind, evidence of having an understanding of belief is not easily observable in children's communication or interaction. Belief was more complicated to interpret than other traits of theory of mind such as desire and intention due to its embeddedness in implicit communications and actions.

Wellman and his colleagues (2001) claimed that much current research had questioned "how, when, and in what manner an everyday theory of mind arises" (p. 655). In the same manner, it is equally important to investigate how, when, and in what manner an everyday theory of mind is shown in *daily lives*. Given that researchers have considered the construct of false belief as the most important aspect to assess children's theory of mind, more attention should be paid to the context where children show this understanding both in explicit and implicit ways. It seemed that evidence of false belief became apparent in more complicated and dynamic play situations that required this advanced understanding. In the second story in *Chapter 4*, Stephan's strategy to bridge the gap between Adrian and the other children (introducing Wonder Woman to their play in an inviting way, See Phase 2 of the second story for details) may be evidence that Stephan understood all other children's perspectives and possible false belief.

Deception is another feature that children often use that shows their understanding of others' false belief. To deceive someone, one must have the ability to make someone believe that something is true when it is actually false (Howlin, Baron-Cohen, & Hadwin, 2000). Deception can be observed in various interactions, making the play more complicated and playful. The following is an example where a child displayed his ability to employ an understanding of the other person's mental state in play situations.

Several children were playing hide and seek on the playground. Michael was with Sea and Sea observed that Michael hid behind a piece of play equipment. I saw this from a distance

and then approached Sea. "Where is Michael?" I asked. Sea said, "I don't know. Find him."
And then he pretended he was also trying to find Michael by walking around to the opposite
side of the play equipment.

<div align="right">(Fieldnote, November 2, 2000)</div>

In this example, Sea not only understood my false belief (although I had a more
advanced understanding of false belief), but also used his understanding to actively deceive me
by pretending he was also trying to find Michael. Although children's skills of deception based
on the other person's false belief may be used in various ways, both positively and negatively,
the children in my study showed this understanding in playful manner, making play more
dynamic.

An understanding of changes in mental states was also often demonstrated in the
children's conversations. In the following example, Stephan expressed an understanding of his
own complex mental states such as the capability to "forget."

Stephan was underneath the loft, looking at his image in a full-length mirror. He exclaimed,
"I'm a different Batman!" And then he repeated this claim to everybody in the classroom.
Later, on the playground, Stephan said, "I'm Batman!" I said to him, "Oh, I thought you're
a different Batman." He stopped to reflect and then said, "I can *forget*" and then he shouted,
"I'm a different Batman!"

<div align="right">(Fieldnote, October 26, 2000)</div>

The following is another example that describes a child's comprehension of changes in
his own and the other person (the adult)'s mental states and his ability to relate this
understanding to establish playful conversations:

I [Soyeon] was sitting at the snack table with three children getting ready to eat boiled eggs.
I asked Kate, who was touching the eggs, "Is it hot?" Kate smiled at me and said, "No, it's
warm." Kevin came to the table and heard our conversation. He said, "Is a worm inside?" I
thought he had said *warm* and replied, "Yeah, warm." Kevin reacted strongly, "Yuck! I
don't like worms." I corrected myself, "Oh, no. There are no *worms*. It's *warm*." Kevin

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laughed and said, "I though you said *worm.*" He started eating the eggs and after a while he told me again, "I thought you said worm but it's really warm." We laughed with each other.

<div align="right">(Fieldnote, November 2, 2000)</div>

In this example, Kevin created a cheerful conversation with jokes based on his understanding of cognitive dissonance between the researcher and himself. This sequence also shows the rapport that I established with the children through my long-term participation in their social context. Shared understanding, closeness, and friendships are reflected in this cheerful communication even when a miscommunication existed. In a pretend play context, furthermore, the children even negotiated their own mental states with the other player in order to build a collaborative play plot:

Stephan growled at Daniel and Adrian as if he was playing a lion.

Adrian: You don't know me yet.

The three children then watched one another without saying anything (about 10 seconds).

Stephan: I'm in the train.

Daniel: Big train is coming!

Adrian: I don't need it

Daniel: Why?

Adrian: Because, I'm not scared.

Stephan: I'm not scared either.

After one minute, Stephan asked Adrian, "Do I know you?"

Adrian: No!

<div align="right">(Fieldnote, October 10, 2000)</div>

In this example, when Stephan asked, "Do I know you?" he was trying to recognize Adrian's intention and desire first, in order to continue the play plot. Stephan seemed to understand that it was important what his play partner thought or believed in the specific situation in order to extend the play. Understandings of pretense in the children's play such as the example above seemed to bear advanced metarepresentative skills, rather than simple understanding of pretense as "acting as if" (Lillard, 2000). Lillard (2000) reported that the

children in her study understood mental representation in belief contexts even before they had such understandings in pretense contexts. In many cases of my observations, it seemed true that the children had to have considerably sophisticated knowledge regarding overall pretend context to engage in collaborative pretend play. However, the children's understandings of mental representations were presented in an interconnected way, not as clear-cut evidence in terms of just belief context or pretense context.

Metacommunication in Their Own Play Culture

Pretend play most often does not start with "Let's pretend." Children reveal implicit signs of the pretend play in a variety of ways. Reciprocal agreement in the beginning of a play context is often communicated with implicit metacommunicative language. Garvey (1974) defined play metacommunication as the regulatory actions children perform during play that maintain, negotiate, and direct the play activity. Although Garvey (1974) applied the term metacommunication only to *explicit* references to the pretend frame, I observed a great deal of *implicit* metacommunications in children's play.

Young children tend to continuously tell one another who they are and what they are doing during play (Paley, 1984) even when there is no need to articulate it. This was apparent in the classroom that I observed as the children began or changed their play with peers:

Stephan exclaimed, "I'm Batman!" and Daniel followed, "I'm Robin!"

(Fieldnote, November 6, 2000)

Sea sat down on the head of the airplane that some of the children made with blocks. He began to pretend that he was driving. Michael came out and said, "You're not a driver! I'm a driver! I'm going into the driver seat."

(Fieldnote, October 9, 2000)

Children do not always use complicated language to express their desire or intention. "Be" may represent any type of mental states in pretend situation. In the first example above, Stephan implicitly metacommunicated that he would be engaged in pretend play, and would

enact the Batman character. Daniel's response also implicitly metacommunicated that he had accepted the proposed plot to play in this fashion. Bateson (1955/1972) argued that most metacommunications are implicit, and often were nonverbal, communicated through gesture or posture and my observation data agreed with his assertion.

Through my observations, it was apparent that play episodes were mixed or combined at complicated levels rather than distinct separate events. For example, children often brought one play episode to another combining them to create a new plot. That is the reason why "children are not only playwrights and actors, but also stage managers" since they give directives, comment on performances, and create scenery (Verba, 1993a, p. 4). Metaphorically, all of our lives are play and we write a scenario, play an actor, and manage the stage. As in Shakespeare's famous quote, "*All the world's a stage, And all the men and women merely Players; They have their exits and their entrances; And one man in his time plays many parts,* (From As You Like It, Act II, Scene IX; Griffith, 1971, p.81)" childhood may be an important stage where children hone their ability to "manage" their life. Children's play seems a serious way that they practice and learn their real life by adapting, recreating, and producing an ideal representation of the reality within a social boundary.

Therefore, the ability to "metaplay" (Trawick-Smith, 1998) is one of the characteristics that children differ in when cooperating with other children. Metaplay refers to the act of stepping out of a make believe role to think or communicate about play (Fein & Schwartz, 1986; Trawick-Smith, 1998). I believe this ability reflects children's theory of mind since it requires mental representation to relate one's desire, belief, and intention to others'.

Many researchers have made a distinction between acting or in-frame communication and metacommunicative or out-of-frame communication (Lillard, 2000; Verba, 1993). Evidence of children's metacommunicative skills, during play, in terms of in-frame and out-of-frame context was interpreted in *Chapter 4* with detailed play episodes.

The Role of Relationships in Theory of Mind Development

One of the factors, influencing children's developing understanding of mind in relation to mental representation of self and others, that cannot be easily observed in an experimental context may be children's capabilities to employ their cognitive knowledge such as theory of

mind in natural circumstances. Due to the fact that research based on the right/wrong question doesn't tell us how children assimilate and use their understandings in order to make sense of the world within social context. Naturalistic settings provide children with diverse situations that they can practice and continue to develop their theories regarding the mental world through social interactions with others. These social interactions may be seen in terms of intersubjectivity, guided participation, and friendship negotiation.

Intersubjectivity: Shared Understanding in Play Scripts

Intersubjectivity or shared understanding among children plays a crucial role in social play. It is important for children to play within the scheme of implicitly or explicitly scripted play activity that is established by peers. Shared understanding is defined as a social interaction in which both participants use the same behavioral theme (Brenner & Mueller, 1982). In the classroom setting, the children in this study showed various aspects of shared understanding established and deepened through their friendships and relationships as the semester went on.

Nelson (1985) proposed that children use their knowledge of past events as a starting point and elaborate imaginatively by the mutual planning and execution of an oral playwriting process as they engage in sociodramatic play. Nelson also claimed children acquire their event knowledge within their particular cultural contexts. The oral scripts that they develop collaboratively represent a full range of their experiences and their mutual imaginative embellishments. In addition to general scripts regarding everyday experiences and events, it seemed that the children in this study accumulated reciprocal scripts and shared understandings, often embedded in their everyday interactions, in particular play contexts. The more advanced understandings the children possessed, the more creative were their ways of co-constructing scripts together. For example, if the children already built mutual understanding of certain play scripts, they seemed to spend less time in establishing the context in order to create a new play. That is, these master players came to be able to spend more time negotiating, recreating, and extending their play based on existing shared understandings. Nelson (1985) claimed that children are able to put common scripts in the background and explore more fictional scripts in the foreground as they develop and have more experience with play and the environment. Furthermore, it was apparent that close friendships, throughout the long-term experiences in playing together, enabled the children to possess more intersubjectivity and shared

understandings of each other's desires, thoughts, and intentions.

Guided Participation

Adults' guided participation often provides the learners with opportunities to extend the activity to the higher level of cognitive processing (Rogoff, 1990). However, in children's spontaneous fantasy play, where the children's concerns and values can be inferred from the underlying themes or schemata that they share and employ to frame ongoing fantasy play (Corsaro, 1985), adults' efforts to lead the play script to another can sometimes be just intrusive or meaningless. I often observed that the student teachers were inadvertently interrupting the children by asking questions such as "what are you doing?" and "what are you?" while trying to figure out what was going on in the current play. It was always adults who wanted the right answers and had to know exactly the upcoming sequence. This is natural because adults do not have a shared play history as children do. Furthermore, adults mostly play in out-of-frame context even if they "try" to engage in play with children within the in-frame context.

Although adults' interruptions don't quite fit into the frame of children's peer play, Corsaro (1985) pointed out that teachers' interventions are also important because they offer "contacts" between peer culture and the adult world. The following example describes my efforts, as a participant researcher, to enter the children's world as a playmate. While my action may have seemed intrusive, they extended the children's play context. Interactions between the children and me in the play context also helped establish our rapport and friendship.

Ian, Joe, Michael, Jennifer, and Kevin were together at the media table playing with clay. They put a rhythm stick in the clay. Michael exclaimed, "Candle!" Suddenly all the children began to sing *Happy birthday* song.

I said, "Is it your birthday, Michael?"

Michael: No.

Soyeon: You, Ian?

Ian: No (smiled)

Soyeon: It's my birthday?

Kevin: Yeah…

Soyeon: Am I one year old cause I have one candle?

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Michael: (adding another stick) No, you're two.

Actually you're five years old. (picking up the stick that was stuck in the clay) Hey, this is cake for you.

Soyeon: The cake is on the candle?

Michael: No, it's not a candle.

Soyeon: Oh, I thought it was.

Michael: Yeah. But it's not anymore. You eat it.

(Fieldnote, November 1, 2000)

In this sequence, I participated in the children's play by asking a question that was related to the play. Then the children accomodated my intention to their play. They reacted, recreated, and suggested the context that would include me as a player.

There were also some cases that younger children didn't fully understand other children's intentions in relations to play. It seemed older children's guidance helped build mutual communication in order to continue the play successfully. Scaffolding interactions by older peers included directing, modeling, and verbally guiding. When younger children wanted to join in play that was initiated by a group of older children who had built close friendships, the strategies that younger children used to enter the play may not be often successful. Unlike the example of the dinosaur story in *Chapter 4,* where Kate keenly observed the other children and offered a relevant toy or script to join in the play, some children failed to use an appropriate strategy by asking irrelevant questions or offering an object that was not meaningful to the ongoing play. However, if the older children or expert players are sensitive and aware of desires and intentions of the younger children or novice players, guided participation by the expert players may offer an entry point for establishing a common focus and coordinating activities in play. Supportive peer and teacher contexts of guided participation seemed to encourage the children to pay particular attention to subtle cues and initiations.

<u>Wanting to Be a Friend: Negotiations and Role Changes</u>

Children create, change, and negotiate the roles in play to accept the other children's desires and intentions. Children's willingness to recreate the play script based on the others' interests and desires may reflect the friendship and relationships of the children. Although

children and their play seem influenced by available sources such as materials and media, they always recreate these sources into their own stories and culture. The children in my study had their own unique culture and rituals. They often demonstrated a creative approach in developing a play script, in order to include other players' desires and ideas.

The ways children use characters of media superheroes may also recreate original media plot. Paley (1984) included a story that a child in her classroom dictated:

> Superman, Batman, Spiderman, and Wonderwoman went into the woods and they went into the house where the pigs lived. They saw a wicked witch. She gave them poisoned food. Then they died. Then Wonderwoman had magic and they woke up. Everybody didn't wake up. Then they woke up from Wonderwoman's magic. They saw a chimney and the wolf opened his mouth. Superman exploded him. (p. 50-51)

The children in this study also made story plot so everybody could play together. The following sequence is one of the conversations that I recorded, showing the child's desire to be a friend and to play together by recreating his own role.

> Daniel: I'm a Batman cat.
> Stephan: Are you? Are you a Batman's cat?
> Daniel: Yeah. I'm a Batman cat.
> Stephan: I have an idea. We could play Buzz Light-Year instead.
> Daniel: I want to be a Buzz Light-Year's cat.
>
> (Fieldnote, October 25, 2000)

In this sequence, Daniel changed his cat role to one that was most appropriate to the play that Stephan suggested. However, Daniel did not discard his original idea to be a cat. A willingness to negotiate and change roles allowed the play to continue smoothly.

I have explicated the findings in terms of the traditional theory of mind in the areas of desire, intention, and belief. Furthermore, I have attempted to show, through this study, that these constructs are actually deeply connected and integrated within each child.

A Community of Theories of Mind

"I decided to play a Batman game instead of Lion King because that way I can be close to my friends." Stephan joyfully said as he joined in building a house for Batman and Robin with his friends.

(Fieldnote, November 6, 2000)

As we have seen, theory of mind is not made up of isolated constructs but richly integrated states of mind. Additionally, one child's theory of mind cannot stand independently in a social context. In order to play with others and to get along as a group, each child needs to accommodate her own understanding of mind with her friends' theory of mind. The different cognitive levels of children's understanding are linked together to create a whole theory of mind in a group, which is a rather complex process resulting in "a community of theories of mind" (Nelson, Henseler, & Plesa, 2000).

The findings of this study, described as an interconnected whole throughout *Chapter 4* and *5,* highlight that children's understandings of self and others are not simple processes that can be measured with a single test or a few questions. The trajectory of the children's theory of mind development seemed to deepen and to be extended through multiple interrelationships, social experiences, and shared understandings and scripts among peers. The children conveyed their deep understandings of mental representations in subtle ways, not often directly verbalized their thoughts.

Close observations and participation in the classroom raised more questions and wonderings that need to be further explored. Although I categorized three main constructs that researchers have focused on, desire, intention, and belief, it seemed that developing theory of mind was involved in complex processes where all these constructs were overlapped, combined, and interrelated. As demonstrated in the play episodes and interpretations, the children's expressions of their understandings of self and others in terms of the mental world were highly related to their subtle actions, gestures, and conversations in play.

Wanting to be someone else, often hero characters, is frequently seen in children's conversations and play. Being another person, simulating the person's emotion and thoughts, and pretending to do something the person might do requires complicated understandings of the

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human mind. However, it seemed that the children in this study did not always simulate or pay attention to all of the elements of theory of mind understandings while they play. Rather, the children appeared to pull out and use some of the concepts they had mastered when situations and the play context needed such knowledge and understanding. That is, their understandings were deeply embedded in their surroundings and others' actions.

Anybody who carefully observes a young child for even a moment might notice how much the child looks focused and curious about things around her. The child's eyes follow others' movement and their mouths may be a little open, wondering what is going to happen next. One of the big differences between children and adults may be overt curiosity and serious interests in trifle phenomena and objects surrounding themselves. Borrowing Langer and Moldoveanu (2000a, 2000b)'s terminology, "mindfulness" may help us move one more step towards explaining why children seem so intense and focused on their play and the flow of their interactions with others. In order to fully engage in social interactions, we have to be mindful about the context created by all participants. Playfulness is also important in relation to mindful context. The following example illustrates how the children were intensely focused on the same object and possible images from the object in mindful and playful manners.

Adrian and Stephan were looking at shadows on the screen that Michael created by drawing some lines on the overhead projector.

Stephan: That's vacuum cleaner.

Adrian: Yes, it is.

Stephan: It's not a vacuum cleaner.

Adrian: No, it's not. There's rain.

Stephan: It must be people.

Adrian: Yeah.

(Fieldnote, November 7, 2000)

Both children in this sequence were extremely fluid in terms of spontaneous changes without any conflict in naming the pretended object. Children's theories of mind may not be immature or underdeveloped compared to adult ones. Their theories may simply be different from ours. Given that children test out, practice, and make sense of the reality in naturalistic play

contexts, their understandings through interactions with others may be highly rich, fluid, and dynamic.

Multicultural "I" as Participant Researcher: Issues in Methodology

As a participant observer and researcher, I assumed various roles through the whole process of the study. I have to accept that knowledge, sensitivity, and some assumptions that I brought to the study were some of the most essential parts in this study in terms of interpreting the children's play episodes and guiding the avenue of the study process based on emerging themes and reflections. I included my personal narrative in a previous chapter to clarify my research stance and bias that I have.

My presence in the class had several influences on the study. First of all, as an adult, I changed the child-adult ratio in the classroom. Although I was a participant observer, I offered extra hands to help the teachers when necessary. Especially, one of my unique roles was, as an interpreter for Korean children. The lead teachers often asked me to interpret conversations the Korean children were having while playing together. While we were discussing our concerns and reflections in teaching the Korean children, mutual learning occurred as I explained some of the Korean children's behaviors and play based on cultural background and the teachers shared their experiences with the children in classroom situations. I was even asked to participate in the Korean children's parent-teacher conferences. Sharing my own reflections on the children's experiences at the school seemed helpful to bridge perspectives of the teachers and the parents. Later the Korean parents often approached me to ask questions concerning activities and play that the children were doing in the class.

Another aspect of the influences that I brought to the study was the presence of technology. One of the tools for my data collection was videotaping, using my digital camcorder. First I was concerned that using the camcorder might have intrusive impact on children's play. Thus, I used it only for the last two weeks of the observation period, after I was known as a consistent participant in the class and had established a friendship with the children. Since I tried not to be intrusive, I felt uncomfortable when the children showed interests in my camcorder and wanted to explore it. However, I realized that I unwittingly changed the play context, in deep and meaningful ways, regardless of my naïve efforts to hide this novel object. For instance, soon

after I used the camcorder, Sea brought his toy camcorder from home and introduced it to the play. This led to a new play of movie making, as illustrated in the last part of *Chapter 4*. In addition, the novelty of the real camcorder opened diverse dialogue possibilities between the children and me. We talked about miniature images on the LCD monitor of the camcorder, discussed how real images and the pictures on the monitor were different, and extended our conversations by relating the camcorder to other technological experiences that they had at home. Therefore, in summary, it seems that the researcher, as participant observer, does change the context of the study. However, the sensitive researcher can use this change as an opportunity for further analysis and exploration of research questions as participants react and respond to the researcher's presence.

Concluding Remarks: Implications

Implications for Theory of Mind Theory Development

My findings demonstrate there are important aspects of theory of mind in children's social world that remain unexplored. It appears that interplay between social and cognitive factors was more evident in social contexts. The children continuously used their everyday cognition in a contextualized manner. As an adult, we might always be outsiders in the children's culture since our theories of mind, as well as theories of children, are surely different from theirs. A new way of looking at children's theory of mind should be more qualitative, contextual, and holistic. In addition, we may have to *learn* theories of mind from our children regarding how they read clues and scaffold each other, for more fluid and flexible understanding of the world. Playful learning environments also seemed to be an important aspect to encourage children's active self-learning and development of social cognition through various interactions with peers in their *real* social world.

Implications for Future Research

This study demonstrated there are contextual influences in children's developing theories of mind. The evidence that children not only understand others' mind but also apply the understanding to their play and interactions in various ways was apparent in this research. Findings of this study may begin to bridge the gap between current paradigms in children's

theory of mind and our actual knowledge about children's reconstruction and development of their theories within social contexts. Unexplored aspects of theory of mind, focusing on interrelationships of social factors and elements of theory of mind should be further investigated. Although this qualitative inquiry in a preschool classroom illustrated theory of mind dynamics within social contexts, one case cannot represent the world of children. Future research should further explore children's complex, dynamic development of theory of mind, in qualitative manners, in diverse settings such as public school as well as with diverse groups of children such as different ages and cultures. In addition, children's demonstration of their theories of mind in other social contexts, especially with parents and siblings should be further explored. Shared understandings based on long-term relationships and secure attachment may play an important role for an advanced understanding of other people's mind.

In sum, spontaneity, playfulness, multiple reading of cues, creating a culture of play seem crucial in children's life and promote cognitive development through social relationships. Further exploration and investigation regarding how children in other cases such as different cultures and ages will inform us of the differences in complexity and creativity in theory of mind use. More efforts to collaborate with practitioners, by encouraging action research in contextual settings, where children spend a lot of time with other people, may also guide us to develop more comprehensive understanding of children's social cognitive process.

After Thoughts: Reflections on Reflections

Playfulness

Recently I went to go to the regional airport to pick up a friend. The flight was delayed for half an hour so I spent sometime sitting in the waiting lounge. I felt it was a nice break since I had been staying at home all day long while finishing up my dissertation writing. There was a child-sized table at the center of the seating area. The table had a square hole with a net hung in it. Various small Lego blocks were in the net so that children could play with them while parents and others were waiting for or greeting their friends or family arriving at the gate. Always a child developmentalist, I began to watch and concentrate on the families and children around me. I observed a family sitting in the chairs across the table from me. It was obvious that a little boy who was playing with the blocks was their child. My guess was he might have been about two and half years old. He was enthusiastically engaged in playing with the blocks, rather just exploring them. Another boy, a little older than him, came and started playing with the blocks, too.

It only took a second for the two children to look at each other, giggle, and begin to share the blocks as they played together. Their cheerful laughter made the moment and space extremely playful, producing smiles from other adults sitting close by them. I couldn't see any obvious reason that caused the children to play so easily together yet it was certainly a "happy" moment for them. One child grabbed a block and showed it to the other then that child made an 'exaggerated' face of surprise. And then both of them started laughing and giggling. They kept doing the same actions over and over.

When the younger boy's father said to him, "Daddy should go," the child said with smile, "Bye!" Everybody watching the scene laughed. I could see the child didn't want to leave since he was highly engaged in play with the other boy. After he had left, the older boy wanted his mother to play with him. The difference in play style between child-child play and child-mother play was noticeable. The mother was intent on teaching the child to construct a house. It became clear to me that the main difference was the child's theory of mind, and his desire and intent to play and not specifically teach or learn. Interactions of the child-adult were more guided learning rather than playful reciprocity.

This serendipitous encounter took place outside of the realm of my formal data collection. It reaffirmed my research findings that children manifest their mutual understanding regarding the other person's mind, through social interactions in play, and that their playfulness during peer play initiates spontaneous and fluid play contexts.

Jumping Rope: Reading the Flow of Action as a Strategy to Join in the Play

As I referred back to my study and rethought the data I had obtained, I began to reminisce about my experiences with the master players in this classroom. As pieces of play episodes and children's conversations passed through my mind, I felt as though I peered through Sea's camcorder or gazed at Stephan's movie. Suddenly the frame stopped and I thought of a game that I had eagerly played when I was young. Remembering my joy and need to negotiate desire and intent with potential play partners, I chose to offer the game as a metaphor for this study. The rules of this game are an image of theory of mind in action, which has rules, shared rhythms, and understandings of others.

When I was young, I used to play a traditional Korean game, a jump rope rhyme, called "*Kkomaya Kkomaya* (A Little Child, A Little Child)" with friends on the playground. It is a popular game among girls and similar to the Western game of jumping rope that requires the cooperation of many people. Two children grab each end of a rope and swing it slowly together. The distance between two children is about 2 to 3 meters. Then another child jumps into the center of the swinging rope and starts hopping. With the rhyme that goes with the play, the child needs to find the right moment to enter and leave the swinging rope so that the next person can continue the play. A ubiquitous game like jump rope may seem simple at first glance. However, it is necessary to "read" the flow and "predict" the next movement to be able to go on the game. Listen to my childhood memory:

꼬마야 꼬마야 뒤로 돌아라

A little child, a little child, turn around

꼬마야 꼬마야 한발을 들어라

A little child, a little child, lift your one foot

꼬마야 꼬마야 땅을 짚어라

A little child, a little child, put your hand on the ground

꼬마야 꼬마야 손뼉을 쳐라

A little child, a little child, clap

꼬마야 꼬마야 만세를 불러라

A little child, a little child, put your hands up

꼬마야 꼬마야 잘가거라

A little child, a little child, good bye.

In this play, the child who jumps the rope follows the actions that the other children sing as translated above. This is difficult since the child performs the action while jumping. A metaphor of this game is that reading and understanding self and other people in action is always necessary in our social world. Jumping into the flow of the rope requires fair understandings and prediction regarding the other players' next movement. It may be the same in any type of play. In order to interact with others, to enter other children's play, and to collaborate with playmates within the play context, children have to read the *flow* of the context, which includes all participants' desires, intentions, beliefs, ideas, and, more importantly, the combination of all of these.

The research process, exploring children's world, especially roles of metacognition in their everyday life and social interactions, dwells in my mind and has become embedded in my life experience. Everyday as I see or experience a new situation or familiar context, I find myself relating it to further questions and making sense of them. I hope, through my journey to deeply understand a child's world of play and in the manner that the children drew me into the ebb and flow of their "jump rope" game that I too may become a master at the rhythm of their play. It is my desire to honor our play by writing and sharing many more precious stories with and of children.

REFERENCES

Adler, P. A. & Alder, P. (1994). Observational techniques. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.

Astington, J. W. (1993). *The child's discovery of the mind*. Cambridge, MA: Harvard University Press.

Astington, J. W. (1999a). What is theoretical about the child's theory of mind? A Vygotskian view of its development. In P. Lloyd & C. Fernyhough (Eds.), *Lev Vygotsky: Critical assessments, Vol. IV.* London, UK: Routledge.

Astington, J. W. (1999b). The language of intention: Three ways of doing it. In P. D. Zelazo, J. W. Astington, and D. R. Olson (Eds.), *Developing theories of intention: Social understanding and self-control.* Mahwah, NJ: Lawrence Erlbaum.

Astington, J. W. (2001). The future of theory-of-mind research: Understanding motivational states, the role of language, and real-world consequences. *Child Development, 72* (3), 685-687.

Astington, J. W., & Gopnik, A. (1991a). Theoretical explanations of children's understanding of the mind. In G. E. Butterworth, P. L. Harris, A. M. Leslie, & H. M. Wellman (Eds.), *Perspectives on the child's theory of mind.* Oxford: Oxford University Press.

Astington, J. W., & Gopnik, A. (1991b). Theoretical explanations of children's understanding of the mind. *British Journal of Developmental Psychology, 9,* 7-31.

Astington, J. W., & Jenkins, J. M. (1995). Theory of mind and social understanding. *Cognition and Emotion, 9,* 2/3, 151-165.

Atkinson, P. & Hammersley, M. (1994). Ethnography and participant observation. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.

Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind.* Cambridge, MA: MIT Press.

Bartsch, K. & Wellman, H. M. (1995). *Children talk about the mind*. New York: Oxford University Press.

Bennet, M. (1993). *The child as psychologist: An introduction to the development of social cognition*. New York: Guilford Press.

Berk, L. (1996). *Infants, children, and adolescents (2nd ed.)*. Boston, MA: Allyn and Bacon.

Bonitatibus, G. (1988). What is said and what is meant in referential communication. In J. W. Astington, P. L. Harris, & D. R. Olson (Eds.), *Developing theories of mind*. Cambridge: Cambridge University Press.

Bretherton, I. (1984). *Symbolic play: The development of social understanding.* London: Academic Press.

Bretherton, I., & Beeghly, M. (1982). Talking about internal states: The acquisition of an explicity theory of mind. *Developmental Pscychology, 18*, 906-921.

Bruner, J. (1972). The nature and uses of immaturity. *American Psychologist, 27,* 687-708.

Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.

Case, R. (Ed.). (1992). *The mind's staircase: Exploring the conceptual underpinnings of children's thought and knowledge*. Hillsdale, NJ: Lawrence Erlbaum.

Case, R. (1998). The development of conceptual structures. In D. Kuhn & R. S. Siegler (Eds.), *Handbook of Child Psychology: Vol. 2. Cognition, Perception and Language Development (5th Ed.).* New York: Willey.

Ceci, S. J. & Huffman, M. L. C. (1999). How suggestible are preschool children? Cognitive and social factors. In A. Slater & D. Muir (Eds.), *The blackwell reader in developmental psychology.* Malden, MA: Blackwell Publishers Inc.

Cole, M. (1996). *Cultural psychology: A once and future discipline.* Cambridge, MA: The Belknap Press of Harvard University Press.

Corsaro, W. A. (1983). Script recognition, articulation, and expansion in children's role play. *Discourse Processes, 6,* 1-19.

Corsaro, W. A. (1985). *Friendship and peer culture in the early years.* Norwood, NJ: Ablex Publishing Corporation.

Corsaro, W. A. & Tomlinson, G. (1980). Spontaneous play and social learning in the nursery school. In H. Schwartzman (Ed.), *Play and Culture.* West Point, NY: Leisure Press.

Custer, W. L. (1996). A comparison of young children's understanding of contradictory representations in pretense, memory, and belief. *Child Development, 67*, 678-688.

Cutting, & Dunn, J. (1999). Theory of mind, emotion understanding, language, and family background: Individual differences and interrelations. *Child Development, 70* (4), 853-865.

Davies, M. M. (1997). *Fake, fact, and fantasy: Children's interpretations of television reality.* Mahwah, NJ: Lawrence Erlbaum Associates.

Dunn, J. (1991). Young childrne's understanding of other people: Evidence from observations within the family. In D. Frye & C. Moore (Eds.), *Children's theories of mind: Mental states and social understanding*. Hillsdale, NJ: Erlbaum. (pp 97-114).

Dunn, J. (1992). Lessons from the study of children's conversations: A discussion of the Quarterly [Special issue on talk]. *Merrill-Palmer Quarterly, 38,* 139-149.

Dunn, J. (1994). Changing minds and changing relationships. In C. Lewis & P. Mitchell (Eds.), *Children's early understanding of mind: Origins and development* (pp.297-310). Hillsdale, NJ: Erlbaum.

Dunn, J. (1999). Mindreading and social relationships. In M. Bennett (Ed.), *Developmental psychology: Achievements and prospects.* Philadelphia, PA: Psychology Press.

Dunn, J. (2000). Mindreading, emotional understanding, and relationships. *International Journal of Behavioral Development, 24* (2), 142-144.

Dyanda, C. (1998). *Belief-desire reasoning in Zimbabwean children: A search for evidence of the university of a child's theory of mind.* Unpublished doctoral dissertation: Loyola University Chicago. Chicago, IL.

Estes, D., Wellman, H.M., & Woolley, J. (1989). Children's understanding of mental phenomena. In H. Reese (Eds.), *Advances in child development and behavior.* New York: Academic Press.

Farver, J. M., Kim, Y. K., & Lee, Y. (1995). Cultural differences in Korean- and Anglo-American preschoolers' social interaction and play behaviors. *Child Development, 66,* 1088-1099.

Farver, J. M., & Shin, Y. L. (1997). Social pretend play in Korean- and Anglo-American preschoolers. *Child Development, 68,* 544-556.

Fein, G. G., & Schwartz, S. S. (1986). The social coordination of pretense in preschool children. In G. Fein and M. Rivkin (Eds.), *The young child at play: Reviews of research, volume 4.* Washington, DC: National Association for the Education of Young Children.

Flavell, J. H. (1999). Cognitive development: Children's knowledge about the mind. *Annual Review of Psychology, 50*, 21-45.

Flavell, J. H., Flavell, E. R., & Green, F. L. (1983). Development of the appearance-reality distinction. *Cognitive Psychology, 15,* 95-120.

Flavell, J. H., Green, F. L. Flavell,, & E. R.(1986). Developmental knowledge about the appearance-reality distinction. *Monographs of the Society for Research in Child Development, 51*, serial no. 212.

Flavell, J. H. & Miller, P. M. (1998). Social cognition. In D. Kuhn & R. S. Siegler (Eds.), *Handbook of Child Psychology: Vol. 2. Cognition, Perception and Language Development (5th Ed.)*. New York: Willey.

Flavell, J. H., Zhang, X., Zou, H., Dong, Q., & Qi, S. (1983). A comparison between the development of the appearance-reality distinction in the People's Republic of China and the United States. *Cognitive Psychology, 15,* 459-466.

Forys, S. K. S. & McCune-Nicolich, L. (1984). Share pretend: Sociodramatic play at 3 years of age. In I. Bretherton (Ed.), *Symbolic play: The development of social understanding.* London: Academic Press.

Frye, D., & Moore, C. (Eds.). (1991). *Children's theories of mind: Mental states and social understanding*. Hillsdale, NJ: Erlbaum.

Frye, D., Zelazo, P. D., & Palfai, T. (1995). Theory of mind and rule-based reasoning. *Cognitive Development, 10,* 483-527.

Fu, V. R. (1999). Stories of we the people: An invitation to join in the conversation on diversity in a democracy. In V. R. Fu & A. J. Stremmel (Eds.), *Affirming diversity through democratic conversations* (pp.3-13). Upper Saddle River, NJ: Prentice Hall.

Garvey (1990). *Play* (2nd ed.). Cambridge, MA: Harvard University Press.

Gauvain (1998). Culture, development, and theory of mind: Comment on Lillard (1998). *Psychological Bulletin, 123 (1),* 37-42.

German, T. P. & Leslie, A. M. (2001). Children's inferences from 'knowing' to 'pretending' and 'believing' *British Journal of Developmental Psychology, 19,* 59-83.

Goldhaber (2000). *Theories of human development: Integrative perspectives.* Mountain View, CA: Mayfield Publishing Company.

Gopnik, A., & Astington, J. W. (1988). Children's understanding of representational change and its relation to the understanding of false belief and the appearance-reality distinction. *Child Development, 58,* 26-37.

Gopnik, A. & Meltzoff, A. N. (1997). *Word, thoughts, and theories*. Cambridge, MA: The MIT Press.

Gopnik, A., & Wellman, H. M. (1994). The theory theory. In L. Hirschfeld & S. Gelman (Eds.), *Domain specificity in cognition and culture* (pp. 257-293). New York: Cambridge University Press.

Graue, M. E. & Walsh, D. J. (1998). *Studying children in context: Theories, methods, and ethics*. Thousand Oaks, CA: Sage.

Greene, J. K. (1997). *Social-linguistic intelligence and children's theory of mind: A new model for understanding and predicting developmental differences.* Unpublished doctoral dissertation. The Claremont Graduate School.

Hala, S., Chandler, M., & Fritz, A. S. (1991). Fledgling theories of mind: Deception as a marker of 3-year-olds' understanding of false belief. *Child Development, 62,* 83-97.

Harkness, S. & Super, C. (1995). Culture and parenting. In D. Kuhn & R. S. Siegler (Eds.), *Handbook of Parenting, Vol.: Biology and ecology of parenting*. Mahwah, NJ: Lawrence Erlbaum.

Harris, P. L. (1997). Fictional absorption: emotional responses to make-believe. In S. Braten (Ed.), Intersubjective communication and emotion in early ontogeny. Paris: Cambridge University Press.

Harris, P. L., & Kavanaugh, R. D. (1993). Young children's understanding of pretense. *Monographs of the Society for Research in Child Development, 58,* Serial No. 231.

Hodder, I. (1994). The interpretation of documents and material culture. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research.* Thousand Oaks, CA: Sage.

Hogrefe, G. J., Wimmer, H., & Perner, J. (1986). Ignorance versus false belief: A developmental lag in attribution of epistemic states. *Child Development, 57,* 567-582.

Horgan, T., & Woodward, J. (1993). Folk psychology is here to stay. In S. M. Christensen & D. R. Turner (Eds.), *Folk psychology and the philosophy of mind*. Hillsdale, NJ: Erlbaum.

Howlin, P., Baron-Cohen, S., & Hadwin, J. (1999). *Teaching children with autism to mind-read.* Chichester, England: John Wiley & Sons.

Hughes, C. & Dunn, J. (1997). "Pretend you didn't know": Preschoolers' talk about mental states in pretend play. *Cognitive Development, 12,* 381-403.

Hughes, C. & Dunn, J. (1998). Understanding mind and emotion: Longitudinal associations with mental-state talk between young friends. *Developmental Psychology, 34* (5), 1026-1037.

Hughes, C., White, A., Sharpen, J., & Dunn, J. (2000). Antisocial, angry, and unsympathetic:

"Hard-to-manage" preschoolers' peer problems and possible cognitive influences. *Journal of Child Psychiatry, 41* (2), 169-179.

Jenkins, J. M., & Astington, J. W. (1996). Cognitive factors and family structure associated with theory of mind development in young children. *Developmental Psychology, 32(1),* 70-78.

Joseph, R. M. (1998). Intention and knowledge in preschoolers' conception of pretend. *Child Development, 69,* 966-980.

Kelly-Byrne, D. (1989). *A child's play life: An ethnographic study.* New York, NY: Teachers College Press.

Langer, E. J. & Moldoveanu, M. (2000a). The construct of mindfulness. *Journal of Social Issues, 56* (1), 1-9.

Langer, E. J. & Moldoveanu, M. (2000b). Mindfulness research and the future. *Journal of Social Issues, 56* (1), 129-139.

Leekam, S., & Perner, J. (1991). Does the autistic child have a "metarepresentational" deficit? *Cognition, 40,* 203-218.

LeeKeenan, D. & Nimmo, J. (1993). Connections: Using the project approach with 2- and 3-year-olds in a university laboratory school. In C. Edwards, L. Gandini, & G. Forman (Eds.), *The hundred languages of children.* Norwood, NJ: Ablex Publishing Corporation.

Leslie, A. M. (1987). Pretense and representation: The origins of "theory of mind." *Psychological Review, 94,* 412-426.

Leslie, A. M. (1988). Some implications of pretense for mechanisms underlying the child's theory of mind. In J. W. Astington, P. L. Harris, & D. R. Olson (Eds.), *Developing theories of mind.* New York: Cambridge University Press.

Lillard, A. S. (1993a). Pretend play skills and the child's theory of mind. *Child Development, 64,* 348-371.

Lillard, A. S. (1993b). Young children's conceptualization of pretense: Action or mental representational states? *Child Development, 64,* 372-386.

Lillard, A. (1998a). Ethnopsychologies: Cultural variation in theories of mind. *Psychological Bulletin, 123* (1), 3-32.

Lillard, A. (1998b). Wanting to be it: Children's understanding of intentions underlying pretense.

Child Development, 69, 981-993.

Lillard, A. (2000). *Pretend play as twin earth: A social-cognitive analysis*. Unpublished manuscript. University of Virginia.

Lillard, A. & Sobel, D. (1999). Lion Kings or puppies: the influence of fantasy on children's understanding of pretense. *Developmental Science, 2* (1), 75-80.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Malamuth, N. M. & Impett, E. A. (2001). Research on sex in the media. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media*. Thousand Oaks, CA: Sage.

Merriam, S. B. (1998). *Qualitative research and case study applications in education: Revised and expanded from case study research in education*. San Francisco: Jossey-Mass Publishers.

Miller, P. H. (2000). The development of interconnected thinking. In P. H. Miller & E. K. ScholMichael (Eds.), *Toward a feminist developmental psychology*. New York: NY. Routledge.

Miller, P. H. & Scholnik, E. K. (2000). Introduction: Beyond gender as a variable. In P. H. Miller & E. K. ScholMichael (Eds.), *Toward a feminist developmental psychology*. New York: NY. Routledge.

Mitchell, P. (1997). *Introduction to theory of mind: Children, autism, and apes*. London: Arnold.

Moore, C. & Frye, D. (1991). The acquisition and utility of theories of mind. In D. Frye & C. Moore (Eds.), *Children's theories of mind: Mental states and social understanding*. Hillsdale, NJ: Erlbaum. (pp.1-14).

Moore, C., Pure, K., & Furrow, P. (1990). Children's understanding of the modal expression of certainty and uncertainty and its relation to the development of a representational theory of mind. *Child Development, 61,* 722-730.

Moses, L. J. (2001). Executive accounts of theory-of-mind development. *Child Development, 72* (3), 688-690.

Nelson, K. (1985). *Making sense: The acquisition of shared meaning*. Orlando, FL: Academic Press.

Nelson, K. & Gruendel, J. (1986). Children's scripts. In K. Nelson (Ed.), *Event knolwedge: Structure and function in development*. Hillsdale, NJ: Lawrence Erlbaum.

Nelson, K., Henseler, S., & Plesa, D. (2000). Entering a community of minds: "Theory of mind"

from a feminist standpoint. In P. H. Miller & E. K. ScholMichael (Eds.), *Toward a feminist developmental psychology.* New York: NY. Routledge.

Nespor, J. (1997). *Tangled up in school: Politics, space, bodies, and signs in the educational process*. Mahwah, NJ: Lawrence Erlbaum.

Nicolopoulou, A. (1991). Play, cognitive development, and the social world. In B. Scales, M. Almy, A. Nicolopoulou, & S. Ervin-Tripp (Eds.), *Play and the social context of development in early care and education.* New York: Teachers College Press.

Olson, D. R. (1988). On the origins of beliefs and other intentional states in children. In J. W. Astington, P. L. Harris, & D. R. Olson (Eds.), *Developing theories of mind*. New York: Cambridge University Press.

Olson, D. R., Astington, J. W., & Harris, P. L. (1988). Introduction. In J. W. Astington, P. L. Harris, & D. R. Olson (Eds.), *Developing theories of mind*. New York: Cambridge University Press.

Paley, V. G. (1981). *Wally's stories.* Cambridge, MA: Harvard University Press.

Paley, V. G. (1984). *Boys and girls: Superheroes in the doll corner*. Chicago: University of Chicago Press.

Park, S. (1997). *Korean children's understanding of the appearance-reality distinction*. Poster presented at the annual conference of the Jean Piaget Society, Santa Monica, CA.

Parten (1932). Social participation among preschool children. *Journal of Abnormal and Social Psychology, 27,* 243-269.

Pellegrini (1985). The narrative organization of children's play. *Educational Psychology, 5,* 17-25.

Pellegrini, A. D. & Boyd, B. (1993). The role of play in early childhood development and education: Issues in definition and function. In B. Spodek (Ed.), *Handbook of research on the education of young children*. New York: MacMillan Publishing Company.

Pellegrini, A. D. & Galda, L. (1991). Longitudinal relations among preschoolers' symbolic play, linguistic verbs, and emergent literacy. In J. Christie (Ed.), *Play and early literacy* (pp.47-68). Albany, NY: State University of New York Press.

Perner, J. (1991). *Understanding the representational mind.* Cambridge, MA: MIT Press.

Perner, J., Leekam, S. R., & Wimmer, H. (1987). Three-year-olds' difficulty with false belief. *British Journal of Developmental Psychology, 5,* 125-137.

Perner, J., Ruffman, T., & Leekam, S. R. (1994). Theory of mind is contagious: You catch it from your sibs. *Child Development, 65,* 1228-1238.

Piaget, J. (1929). *The child's concetption of the world*. London: Kegan Paul.

Piaget, J. (1962). *Play, dreams and imitation in childhood.* New York: Norton.

Povinelli, D. & Giambrone, S. (2001). Reasoning about beliefs: A human specialization? *Child Development, 72* (3), 691-695.

Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *Behavioral and Brain Sciences, 1,* 515-526.

Reynolds, G. (1997). *Master players: Learning from children at play.* New York: Teachers College Press.

Riggs, K. J. & Peterson, D. M. (2000). Counterfactual thinking in pre-school children: Mental state and causal inferences. In P. Mitchell & K. J. Riggs (Eds.), *Children's reasoning and the mind.* East Sussex, UK: Psychology Press.

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in a social context.* New York: Oxford University Press.

Rogoff, B. (1997). Evaluating development in the process of participation: Theory, methods, and practice building on each other. In E. Amsel & K. A. Renniger (Eds.), *Change and development: Issues of theory, method and application* (pp. 265-285). Mahwah, NJ: Lawrence Erlbaum.

Rogoff, B. & Wertsch, J. V. (Eds.) (1984). *Children's learning in the "Zone of Proximal Development."* San Francisco: Jossey-Bass.

Rosen, C. S., Schwebel, D. C., & Singer, J. L. (1997). Preschoolers' attributions of mental states in pretense. *Child Development, 68,* 1133-1142.

Rubin, K. H., Fein, G. G., & Vandenberg, B. (1983). Play. In P. Mussen (Ed.), *Handbook of child psychology, Vol. 3: Cognitive development.* New York: John Wiley and Sons.

Russell, J. (1996). *Agency: Its role in mental development*. UK: Erlbaum (UK) Taylor & Francis.

Santrock, (2000). *Child Development (8th ed.)*. Boston, MA: McGraw Hill.

Sawyer, R. K. (1997). *Pretend play as improvisation: Conversation in the preschool classroom.* Mahwah, NJ: Lawrence Erlbaum.

Sevigny, M. J. (1981). Triangulated inquiry – A methodology for the analysis of classroom interaction. In J. Green & C. Wallat (Eds.), *Ethnography and language in educational*

settings. Norwood, NJ: Ablex Publishing Corporation.

Shotwell, J., Wolf, D., & Gardner, H. (1980). Styles of achievement in early symbol use. In M. Foster, & S. Brandes (Eds.), *Symbol as sense: New approaches to the analysis of meaning.* NY: Academic Press.

Slawinski, (1998). Children's ability to predict and explain the reasoning of a younger child. Unpublished doctoral dissertation. University of Florida.

Sodian, B., Taylor, C., Harris, P. L., & Perner, J. (1991). Early deception and the child's theory of mind. *Child Development, 62,* 468-483.

Sperry, L. L. & Sperry, D. E. (2000). Verbal and nonverbal contributions to early representation: Evidence from African American toddlers. In N. Budwig, I. C. Uzgiris, & J. V. Wertsch (Eds.), *Communication: An arena of development.* Stamford, Connecticut: Ablex Publishing Corporation.

Tardif, T. & Wellman, H. M. (2000). Acquisition of mental state language in Mandarin- and Cantonese-speaking children. *Developmental Psychology, 36,* 25-43.

Tomasello, M. (1999). Having intentions, understanding intentions, and understanding communicative intentions. In P. D. Zelazo, J. W. Astington, & D. R. Olson (Eds.), *Developing theories of intention*. Mahwah, NJ: Lawrence Erlbaum.

Tomasello, M., Kruger, A. C., & Ratner, H. H. (1993). Cultural learning. *Behavioral and Brain Sciences, 16,* 495-552.

Trawick-Smith, J. (1998). A Qualitative analysis of metaplay in the preschool years. *Early Childhood Research Quarterly, 13* (3), 433-452.

Uttech, M. R. (1999). *Education and migration in rural Mexico: An ethnographic view of local experience.* Unpublished doctoral dissertation. University of Arizona.

Valkenburg, P. M. (2001). Television and the child's developing imagination. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media.* Thousand Oaks, CA: Sage.

Verba, M. (1993a). Construction and sharing of meanings in pretend play. In M. Stambak & H. Sinclair (Eds.), *Pretend play among 3-year-olds*. Hillsdale, NJ: Lawrence Erlbaum.

Verba, M. (1993b). Cooperative formats in pretend play among young children. *Cognition and Instruction, 11,* 265-280.

Vidich & Lyman (1994). Qualitative methods: Their history in sociology and anthropology. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 236-247).

Thousand Oaks, CA: Sage Publications.

Vygotsky, L. S. (1962). *Thought and language*. Cambridge, MA: M.I.T. Press.

Vygotsky, L. S. (1978). The role of play in development. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), *Mind in society* (pp. 92-104). Cambridge, MA: Harvard University Press.

Walsh, D. J., Tobin, J. J. & Graue, M. E. (1993). The interpretive voice: Qualitative research in early childhood education. In B. Spodek (Ed.), *Handbook of research on the education of young children*. New York: MacMillan Publishing Company.

Wellman, H. M. (1990). *The child's theory of mind*. Cambridge, MA: MIT Press.

Wellman, H. M. (1993). Early understanding of mind: the normal case. In S. Baron-Cohen, H. Tager-Flusberg, & D.J. Cohen (Eds.), *Understanding other minds*. Oxford: Oxford university press.

Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development, 72* (3), 655-684.

Wellman, H. M. & Estes, D. (1986). Early understanding of mental entities: A reexamination of childhood realism. *Child Development, 57,* 910-923.

Wellman, H. M., & Gelman, S. A. (1998). Knowledge acquisition in foundational domains. In D. Kuhn & R. Siegler (Eds.), *Handbook of Child Psychology: Vol. 2. Cognition, Perception and Language Development (5th Ed.)*. New York: Wiley.

Wellman, H. M., Phillips, A. T., & Rodriguez, T. (2000). Young children's understanding of perception, desire, and emotion. *Child Development, 71* (4), 895-912.

Whiten, A. (1994). Grades of mindreading. In C. Lewis & P. Mitchell (Eds.), *Children's early understanding of mind: Origins and development* (pp.297-310). Hillsdale, NJ: Erlbaum.

Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representational and constraining function of wrong beliefs in young children's understanding of deception. *Cognition, 13,* 103-128.

Wolcott, H. F. (1995). *The art of fieldwork*. Walnut Creek, CA: Alta Mira Press.

Wolfberg, P. J. (1994). *Case illustrations of emerging social relations and symbolic activity in children with autism through supported peer play.* Unpublished doctoral dissertation. University of California at Berkeley.

Wolfberg, P. J. (1999). *Play and imagination in children with autism*. New York: Teachers

College Press.

Woolley, J. D. & Wellman, H. M. (1990). Young children's understanding of realities, nonrealities, and appearances. *Child Development, 61*, 946-961.

Woolley, J. D. & Wellman, H. M. (1993). Origin and truth: Young children's understanding of imaginary mental representations. *Child Development, 64,* 1-17.

Youngblade, L. M., & Dunn, J. (1995). Individual differences in young children's pretend play with mother and sibling: Links to relationships and understanding of other people's feelings and beliefs. *Child Development, 66,* 1472-1492.

APPENDIX A

University's Permission to Conduct Study

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Institutional Review Board

Dr. David M. Moore
IRB (Human Subjects) Chair
Assistant Vice Provost for Research Compliance and
CVM Phase II - Duckpond Dr., Blacksburg, VA 24061-0442
Office: 540/231-4991; FAX: 540/231-7736
e-mail: moored@vt.edu

MEMORANDUM

TO: Soyeon Parks, Victoria Fu
Human Development   0416

FROM: David M. Moore

DATE: 13 November, 2000

SUBJECT: Expedited Approval – "Theory of Mind Dynamics in Children's Play: A Qualitative Inquiry in a Preschool Classroom" – IRB #00-404

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of (12) months, effective today.

Approval of your research by the IRB provides the appropriate review as required by federal and state laws regarding human subject research. It is your responsibility to report to the IRB any adverse reactions that can be attributed to this study.

To continue the project past the 12-month approval period, a continuing review application must be submitted (30) days prior to the anniversary of the original approval date and a summary of the project to date must be provided. My office will send you a reminder of this (60) days prior to the anniversary date.

cc: file

APPENDIX B

Letter to the Parents

Date

Dear Parents,

I am a doctoral student in Child Development at Virginia Polytechnic Institute and State University (Virginia Tech). I would like to conduct my dissertation research in your child's classroom. The purpose of my research is to explore how children understand other children's mind and intentions in play situations. The information from my study will increase our understanding of young children and will help in developing better programs to teach children.

I will be in the classroom for observations for the months of October, November, and December. There will not be any testing or formal interviews. I will observe children's play as a participant in the classroom. For two weeks, I will videotape children's play for the purpose of subsidiary information. I will also audiotape some of the conversations the children have in the classroom.

I would like to invite you to participate in this study. All information will be held as confidential. All names in the study will be referred to with a pseudonym or code name. Only the researcher and the committee chair will have access to the actual original data or information. All audiotapes and videotapes used for the research will be destroyed three years after the study. You are also free to withdraw your child without explanation.

I sincerely hope that you will consent to your child's participation in the study. Please sign the enclosed consent form and return it to your child's teacher. If you have any concerns or questions regarding the study, please feel free to contact me (951-8737).

Sincerely,

Soyeon Park

Virginia Polytechnic Institute and State University

Informed Consent for Participants

of Investigative Projects

(Parent Informed Consent for their Child Form)

Title of Project : Theory of Mind Dynamics in Children's Play :
                   A Qualitative Inquiry in a Preschool Classroom
Investigator(s) : Soyeon Park, Victoria R. Fu, Ph. D.

1.The Purpose of the Research Project

The primary purpose of the proposed study is to explore how children understand each other in play situation. Previous research on children's theory of mind has relied almost exclusively on empirical studies with several tasks where children are required to verbally respond to adult experimenters. Since various experimental situations may influence and or limit young children's performances and responses, it is necessary to expand our understanding of children's theories of mind through contextually-relevant methods to include naturally occurring observations and dialogic conversations with children.
In this study, therefore, I intend to explore children's theory of mind dynamics in children's play. It is my hope to add more understanding to the existing research on children's theory of mind by closely observing, analyzing and interpreting children's play and relationship contextually.

2. Procedures

Letters will be sent to all parents of sixteen children inviting them to let the children to participate in the study. Teachers and parents will be informed that the study is an examination of children's understanding of mind, thinking, during play situations. The parents will receive a copy of the informed consent form to fill out sign and return to me. I will then give the parents a photocopy of their completed informed consent form. If the parents have any questions they may call me at the number provided in the informed consent form.
For the proposed study, observations will occur for approximately three months. I will spend four hours in the classroom everyday observing interactions and play that occur among children. My role will be an observer as participant in which tools for data collection will include field notes, reflection journals, and occasional audio-taping and videotaping to facilitate collection of information.

3. Risks

There are no foreseeable risks to participants. The study is designed not to cause any known discomfort or risk to the participants. The interactions among children, teachers and myself shall occur in a classroom, a naturalistic setting for children, and events will proceed as they normally would.

4. Benefits of this Project

My role as classroom "volunteer" may benefit the teachers and children as an extra pair of hands in the classroom. The study results will be of benefit to teachers, parents, and administrators who work with children in early childhood programs.

5. Extent of Anonymity and Confidentiality

The names of all children, families, teachers and schools will be kept confidential. Any information obtained during data collection or reported in the final written report will use pseudonyms rather than the names of specific participants. Only the researcher and the committee members will have access to the actual original data or information. The information will be stored in a locked cabinet under the researcher's supervision. All tapes of classroom conversations and videotapes of children's play will be destroyed three years after the study.

6. Compensation

There is no specific compensation for participation in the study.

7. Freedom to Withdraw

Please be aware that you may decide to withdraw your child's participation in the current study at any time without penalty.

8. Approval of Research

This research has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects and by the Department of Human Development at Virginia Polytechnic Institute and State University.

9. Participant's Responsibilities

Upon signing the form below, I agree to let my child participate in this study.

10. Participant's Permission

I have read and understand my responsibilities according to the informed consent form. I hereby acknowledge the above and give my voluntary consent for my child's participation in this study. All of my questions thus far have been answered. I know that I will receive a copy of this form. I am also aware that I may withdraw my child's participation in the study at any time without penalty.

_____   _____

Signature   Date

Should I have any questions about the research or the conduct of the research, I may contact the following persons at Virginia Polytechnic Institute and State University:

Soyeon Park, Investigator   Phone: (540) 951-8737

Victoria Fu, Ph.D., Faculty Advisor   Phone: (540) 231-4796

David Moore, Ph.D.   Phone: (540) 231-4991
Chair Institutional Review Board
Research Division

VITA

SOYEON PARK

215 Pettee Hall   Phone: (603) 862-0808
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Durham, NH 03824

EDUCATION

Ph. D. 2001 Child Development
                    Virginia Polytechnic Institute and State University, Blacksburg, VA

Dissertation: *Theory of Mind Dynamics in Children's Play:*
        A Qualitative Inquiry in a Preschool Classroom

M. A. 1996 Child and Family Studies
                    Yonsei University, Seoul, Korea

Thesis: *Children's Understanding of the Appearance-Reality Distinction*

B. S. 1994   Child and Family Studies
                    Yonsei University, Seoul, Korea

Thesis: The Interactions of ADHD Children with their Mothers

Exchange Student 1992 – 1993
University of California at Davis, CA

PROFESSIONAL EMPLOYMENT

Assistant Professor, August 2001 – Present
Department of Family Studies, University of New Hampshire, Durham, NH

Assistant Director, August 2001 – Present
Child Study and Development Center, University of New Hampshire, Durham, NH

Graduate Research Assistant, June 2000 – July 2001
Office of Multicultural Affairs, Virginia Polytechnic Institute and State University,
Blacksburg, VA.

Graduate Teaching Assistant, August 1998 – May 2000
Department of Human Development, Virginia Polytechnic Institute and State University,
Blacksburg, VA.

Lead Teacher (Preschool), August 1998 - May 1999
Child Development Laboratory, Virginia Polytechnic Institute and State University,
Blacksburg, VA

Researcher, December 1996 - December 1997
Center for Early Education and Development, Samsung Welfare Foundation, Seoul, Korea.

Assistant to the President, March 1996 – February 1997
Korea Association of Childhood Education International (ACEI), Seoul, Korea

Researcher, March 1996 – February 1997
Human Ecology Research Institute, Yonsei University, Seoul, Korea

Instructor, March 1996 – February 1997
Kumi College, Kumi, Korea

Instructor, March 1996 – August 1996
Kyoung In Women's College, Incheon, Korea

Psychological Test Administrator, August 1995 – March 1996
Korean Academy of Gifted Education, Seoul, Korea

Part-time Teacher, November 1995 – March 1996
Korean Academy of Gifted Education, Seoul, Korea

Graduate Teaching Assistant, August 1994 – February 1996
Department of Child and Family Studies, Yonsei University, Seoul, Korea

PUBLICATIONS

Rogers, C. S., Graham, B., & *Park, S.* (2000). *Instructor's manual to accompany John Santrock's Child Development (9th Ed.)*. Boston, MA: McGraw Hill.

Shin, D., Shin, H., & *Park, S.* (1997). *The effects of changing playground environment on children's play behaviors.* Proceedings of the Samsung Welfare Foundation Annual International Conference, Seoul, Korea.

Park, S. & Rhee, U. (1996). Children's understanding of the appearance-reality distinction. *Korean Journal of Child Studies, 17 (1),* 289-302.

Park, S. (1995). *Children's understanding of the appearance-reality distinction.* Unpublished Master's thesis. Yonsei University, Seoul, Korea.

PRESENTATIONS

National (U.S.)

Park, S. & Lahman, M. (March 2001). *Bridging perspectives of parents, teachers, and researchers in multicultural education: Methodological reflections on cross-cultural research*. Annual Ethnography in Education Research Forum. Philadelphia, PA.

Lahman, M. & *Park, S.* (November 2000). *Teaching children from diverse cultures: Parents and teachers learning together.* Annual conference of National Association for the Education of Young Children. Atlanta, GA.

Park, S. (June 1997). *Korean children's understanding of the appearance-reality distinction*. Annual conference of the Jean Piaget Society, Santa Monica, CA.

National (Korea)

Shin, D., Shin, H., & *Park, S.* (November 1997). *The effects of changing playground environment on children's play behaviors*. Annual International Conference of Samsung Welfare Foundation, Seoul, Korea.

Regional (U.S.)

Park, S. (March 2001). *Theory of mind dynamics in children's play: A qualitative inquiry in a preschool classroom*. CHRE Graduate Student Research Day. Virginia Tech, VA.

Park, S. & Lahman, M. (April 2000). *Educating children who speak English as a second language: Exploring teachers and parents understanding.* CHRE Graduate Student Research Day. Virginia Tech, VA.

Lahman, M. & *Park, S.* (April 2000). *Understanding children from diverse cultures: Bridging two perspectives of parents and teachers* (Brainstorm session). Annual Conference of the Southeastern Symposium on Child and Family Development. Athens, GA.

Park, S., Viers, D., & Ahn, J. (March 1999). *Creating an amiable school: parent-teacher partnerships*. Annual conference of Virginia Association for Early Childhood Education, Roanoke, VA.

Invited Lectures and Presentations (Local)

Park, S. (April 2001). *Metacognitive development and social interaction.* Cognitive Development: Infancy through Adolescence (Graduate Class). Virginia Tech, VA.

Park, S. (November 2000). *Theory of mind dynamics in children's play: A qualitative inquiry in a preschool classroom.* Early Cognition Research Lab. Department of Psychology, University of Virginia, VA.

Park, S. (October 2000). *Children's play and theory of mind understanding.* Practicum (Graduate Class) Virginia Tech, VA.

Park, S. (September 2000). *Theory of mind.* Theoretical Foundations of Child Development. (Graduate Class). Virginia Tech, VA.

Park, S. (September 1999). *Cognitive development: Beyond Piaget..* Human Development (Undergraduate Class). Virginia Tech Squires Auditorium, VA.

Workshop

Jacobs, C. & *Park, S.* (Fall 2000). Anti-bias approach in early childhood education. Workshop presented at the Mothergoose child care center, Christiansburg, VA.

AWARDS

James D. Moran Thesis / Dissertation Award, College of Human Resources and Education, Virginia Tech – 2000
Yonsei Scholarship, Yonsei University, Seoul, South Korea – 1992
Yonsei Scholarship, Yonsei University, Seoul, South Korea – 1991
Yonsei Scholarship, Yonsei University, Seoul, South Korea – 1990

RESEARCH INTERESTS

Theory of Mind
Pretend Play
Cultural Influences in Children's Social Cognitive Development
Multicultural Education