

The Role of Peer Guided Play for Children with Autism Spectrum Disorder

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Abstract

Childhood play has a well-established role in the development of social and cognitive skills that may have important implications for intervention with children with autism spectrum disorder (ASD). Yet, social and language skills of children with ASD are developmentally different from those of typically developing children, although these differences should not exclude children from being considered able to play. When implementing play interventions, it is important to remember why all children need to play and how their play affects their exploration of the world around them. This case study emphasizes the importance of peer-mediated play for children with ASD in early childhood settings by examining the actions of a pair of children engaging in play activities. Play interactions were mediated through guided participation and modeling by the peer. One child has been described by parents and teacher as being identified on the moderate to severe end of the autism spectrum.

The Role of Peer Guided Play for Children with Autism Spectrum Disorder

Autism spectrum disorder (ASD) is characterized by impairments in social interactions, impairments in verbal and nonverbal communication skills, and restricted and repetitive patterns of behavior (American Psychiatric Association, 2013). ASD is a “complex developmental disability that affects a person’s ability to interact with others” (Autism Society, 2007). Other common signs of ASD include unusual learning needs, as well as atypical attention and sensory processing patterns. The increased incidence of ASD among children has greatly increased the demands placed on early intervention and educational systems due to the complexity of ASD. Examples of such complexities include the unique ways children with ASD process and respond to information, the variability of how ASD affects each child, and the often extreme and unusual communication and socialization challenges of children with ASD. Statistics show that ASD is impacting an increasing number of children, affecting an estimated 1 in 88 children in the United States (www.cdc.gov), which translates to 32.3% of children identified with ASD being served in the general education classroom 80% of the day (OSEP, 2012). Thus, this complex disorder is impacting more and more families throughout the US with very little information about the extent of its impact on the emotional, intellectual, and social lives of family members and overall family health.

While individuals with ASD have many strengths, some behaviors that appear can impair their ability to form meaningful relationships. Childhood play is an essential and powerful mechanism of socialization that fosters development of instrumental and affective relationship skills. Through play children develop important social skills such as turn taking, problem solving, collaboration skills, and communication skills as well as perspective taking and empathy. For children, with and without disabilities, occasions to interact in play represent critical learning opportunities as well as opportunities to connect with one another. Play is a vehicle through which the development of lifelong relationships between individuals is created.

Thus play has a powerful potential for establishing and maintaining friendships and personal identities. These relationships provide rich opportunities for learning cooperation, increasing and developing interpersonal skills, acquiring the ability to support others through difficulties and beginning to understand the consequences of certain actions. Children as young as two to three years of age appear to use guidelines (Cole, 1986), which have been termed rules. Guidelines include taking turns, sharing toys, determining who leads the activity, and deciding how the game ends. When children play often they do things that are not typical for their age or abilities while interacting with their environment and peers. Arranging the play environment for children with ASD includes structuring the physical environment, choosing appropriate toys, peer grouping, and adult assistance (Mason, Kamps, Turcotte, Cox, Feldmiller, & Miller, 2014). In general, children identified with disabilities will have more interactions with peers when toys are limited and well-chosen, when children with disabilities are grouped with peers who demonstrate appropriate social skills, when there is minimal adult-child interaction, play and joint attention is the target behaviors and the play area is relatively small (Wong, 2013).

Childhood play has a well-established role in the development of social and cognitive skills in children that may have important implications for how children with autism spectrum disorder (ASD) and their peers learn to relate and persist in their relationships over time. Although play studies provide general support for a relationship between language and play, the exact nature of the relationship is not clear (Lewis, 2003). Play provides both context and readiness for the development of social, cognitive, and communication skills (Johnson, Christie & Wardle, 2005). When a child engages in play activities with another child, they become involved in activities that may expand their range of emotions and improve both social and communication skills (Wolfberg, 2009). By considering play as a possible intervention to improve social and communication skills in children with ASD, it may be possible to recognize the great value this tool has on their lives. A report by the Committee on Educational Interventions for Children with Autism, the National Research Council (2001) emphasized play as one of five priorities for skill development in children with ASD. In fact, children with ASD develop important social skills through the exploration of different forms of play, such as pretend play utilizing objects (Lifter, Ellis, Cannon, & Anderson, 2005). These social skills facilitate meaningful participation in family and community activities. In this paper I assert the importance of teaching children to mediate social interactions, particularly play in inclusive settings. This article is organized into four sections which include 1) background of play, 2) discussion of methods, 3) importance of study results, and 4) pedagogies. A discussion includes implications for research and practice as well as developmental, cultural, and behavioral pedagogies.

The purpose of this paper is to emphasize the importance of peer-mediated play for children with Autism Spectrum Disorder (ASD) in early childhood settings by examining the actions of a dyad of children engaging in play activities. When implementing play interventions or activities with a child with ASD, it is important to remember why they need to play and how their play affects their exploration of the world around them. By looking at play as a possible intervention to improve social skills in children with ASD, it may be possible to recognize the great value this tool has on their lives. This study investigated the effects of a peer modeling and guided participation in play to increase social interactions for children with ASD in order to advance thoughts of inclusion of all children with disabilities into preschool and early childhood settings.

Background of play

Theories of play were first developed during the eighteenth and nineteenth centuries. Throughout the years, educators, psychologists and theorists have been fascinated by the way children play. By the late 1800's, elementary schools were universal creating a definite place for children to play games (Sutton-Smith, 1981). Although school playgrounds were primitive, they did not restrict the children to playing in small areas, nonetheless school playgrounds have always followed a hierarchy of rules. Play is free, voluntary and spontaneous insofar as the authority of each of the players. From early schoolyards to contemporary playgrounds, each contains the same rules that exclude certain groups of children from many games. Structured play has clearly defined goals and rules, which are decided upon by a community of children; other play is unstructured, without rules. These rules are also many times determined by influences beyond the community of children. Some forms of play are rehearsals or practice for later life events, such as "play fighting," pretend social encounters (such as tea parties with dolls), or flirting (Sutton-Smith, 1997).

Contemporary play has become much more complex than play displayed by previous generations of children. Children's play has become saturated with commercialized and manufactured modes of play, more complex toys and video games. Through play, children explore and learn about their world as well as developing imagination, creativity, social skills, and problem solving skills. In 1932, Mildred Parten categorized the stages of children's play that continue to provide a standard definition for describing a child's developmental progress in social play. The stages of play recognized by Parten and many current scholars include: unoccupied play, solitary play, onlooker play behavior, parallel play, associative play and cooperative play (Fergus, 2009; Parten, 1932). According to Parten, as children became older, improving their communication skills, and as opportunities for peer interaction become more common, the nonsocial (solitary and parallel) types of play become less common, and the social (associative and cooperative) types of play become more common. Although Parten's stages are still widely used and recognized, some (e.g. Rubin, Smilansky, Erickson) disagree regarding whether or not these stages of development are actually followed by all children. For example, are toddlers really unable to play cooperatively or is solitary play in older children less common or a sign of developmental delay?

Developmental theorists attribute children's play to their growth and learning and play should be included in early childhood curriculum (Bowman, 1993). The relationship between social and play behaviors as asserted by theorists (i.e., Parten, 1932; Piaget, 1962) is strengthened through a cognitive-developmental perspective, which claims play is a pro-social activity that fosters the individual's learning and interpretation of the surrounding world (Lifter & Bloom, 1998). The social aspect of play begins when the child starts to notice the play of others (Jordan, 2003). According to Vygotsky (year), play, particularly pretend play, is a primary social and cultural activity through which children acquire symbolic capacities, interpersonal skills and social knowledge. Extending his theories, Rogoff (1990) suggests that children maximize their developmental potential, within their zone of proximal development (ZPD) with the support and challenge of experienced social partners through guided participation in culturally valued activity (Yang, et al., 2003). Children continue to pursue activities that are fun and enjoyable, learning about their world.

The close relationship of social and play behavior as suggested by theorists (i.e., Parten, 1932; Piaget, 1962) is supported by the cognitive-developmental perspective, which states that play is a prosocial activity that fosters one's learning about and interpretation of the world (Johnson et al., 2005). Body posture, gestures, eye contact, hand movements and other nonverbal components of language often interfere with a child's ability to understand all communication used by others (Koegel & Koegel, 1995). Play is an activity that can be utilized to improve communication skills with peers through initiation and practice (Mason et al., 2014; Parten, 1932). Yet, the social and language skills of children with ASD may be delayed or atypical which could result in barriers to the important kinds of learning that evolve out of play. Play provides both context and readiness for the development of social, cognitive, and communication skills (Johnson, Christie & Wardle, 2005). In a report by the Committee on Educational Interventions for Children with Autism, the National Research Council (2001) emphasized play as one of five priorities for skill development in children with ASD. In fact, children with ASD develop important social skills precisely through the exploration of different forms of play, such as pretend play utilizing objects (Lifter, Ellis, Cannon, & Anderson, 2005). These social skills facilitate meaningful participation in family and community activities (Gleave, 2009).

Anne Donnellan (1984) discussed the concept of the "least dangerous assumption." This notion assumes that all students, even students with significant disabilities, are competent and able to learn, because to do otherwise would result in harm in areas such as educational opportunities, inferior instruction, segregated classrooms, and fewer choices as adults. In other words, if a student does not do well in a particular classroom, the quality of the instruction or curriculum should be questioned before the student's ability to learn or not learn. Furthermore, when teachers begin to question the prevailing paradigm, they will become open to changing not only their beliefs, but also their actions. Consequently, changing our paradigm about student ability based on labels and diagnoses is key to promoting achievement, learning, inclusion, and quality of life for all students in our classrooms.

In this study, the peers demonstrated the notion of "least dangerous assumption" (Donnellan, 1984, p. 143) when interacting with the boys diagnosed with autism. For instance, instead of presuming the boys did not understand, could not learn or did not have something to say because their communication abilities were different did not factor into the equation for the peers. Especially in the case of Mia and Logan (two of the children in this study), when Logan did not respond as Mia expected, she would try to initiate an interaction again or change her play tactic. Mia never thought Logan was unable to engage in play.

Albert Bandura's Social Learning Theory (1977) expresses the fundamental idea that humans notice others and seek their attention and approval. This theory supports the idea that all children learn from the modeling of peers and adults in classroom. Their interest in others and their attentions strongly motivates children and provides them with models for behaviors and attitudes (Bandura, 1977). Children in learning-through-play based programs have higher rates of interaction. They have more opportunities to observe, interact, and seek the attention of their peers. Children seek the attention and approval of teachers and teacher can be valuable role models for all children. Teachers and peers as role models can be therapeutic influences on children who have not had opportunities to practice social/ emotional skills in a larger, consistent community. Schools can be safe places for children in need to observe socially acceptable

models for behaviors and attitudes and to practice them regularly through the fun and motivating medium of play.

Johnson, Christie, and Wardle (2005) contend that play is a “medium that is self-enabling” and that “play can help children – and grown-ups too – deal with stress” (p. 149). Behaviorally and on the level of brain functioning, play entails both affect and cognition. Singer and Singer (2006) assert that children’s play is central to their sense of themselves and their relationship to others. If schools are the first experience beyond home and family, then teachers wield considerable power for both education and intervention. The authors examine the concept of “resilience” and its role in guiding children with challenges – of all kinds – to develop coping skills and the motivation to succeed. The goal of play within the curriculum is to integrate children’s skills and understandings to provide meaning and support their development into competent social beings. Johnson et al. (2005) explain that “with help from trusted adults, child [at risk] may become at promise as their affective system becomes more integrated and controlled. This leads to the following: improved autonomy of active agency, independence, and a sense of purpose and direction, improved emotionality, or the ability to control impulses and delay gratification in striving after goals with greater persistence, and improved subjunctive thought, or the ability to explore the possible and the fantastic” (p. 150-151).

Importance of mediating social activities

The play that children with ASD engage in is less likely to elicit the interest of peers (Jordan, 2003). A study completed by Lifter, et al. (1993) stated children with autism do not appear to be intrinsically motivated to engage in cooperative or interpersonal play in order to learn about objects and/or events. In addition, children with ASD choose things to play with that are not usually “toys” that children would usually choose as a play item. For example, a child with ASD may enjoy playing with a piece of tape or string. These objects [toys for children with ASD] can provide a preferred sensory stimulation (Holmes & Willoughby, 2005).

Play is a phenomenon that has intrigued educators, psychologists, researchers and others who have attempted to define it, understand it, explain it and connect it to particular types of activities for decades. Although the debate continues, most researchers accept that play can be defined by the manifestation of play attributes through play activities (e.g. making connections with others, intrinsic enjoyment, unstructured set of rules, sharing, and taking turns) rather than looking for the presence or absence of one definitive trait. Johnson, Christie, and Wardle (2005) define play in a number of ways. They argue play is a means of helping children learn; an element of being freely chosen by the child; a personally directed in a process of trial and error in which the child learns new activities; and an activity wherein a child is intrinsically motivated. Play exposes a child’s problem-solving skills as he or she demonstrates how the child thinks, plans and organizes (Bass & Mulick, 2007). It is a vehicle in which children can be exposed to a world of new and novel activities, while he or she controls the rules surrounding their play. Young children initially depend upon their parents, then siblings, and eventually, peers, to interact with toys and their environment. For most children with ASD play behaviors do not progress appropriately without direct instruction. For families of children with ASD, the difficulty in interactions between typically developing and ASD identified siblings may result in frustration or other negative feelings for children and parents.

Methods

Participants

There were six children involved in this study, creating three separate play dyads each consisting of a child with ASD label and a peer who has not been identified with any disability or disorder. Due to varied results among the dyads in this study, I choose to include only one of the three dyads for this discussion. During the recruitment phase, I purposefully identified the participants for this study. More specifically, I looked for children who have been labeled with ASD, as well as a peer described as typically developing. Logan, a six-year old boy who has been identified with ASD was one of the targeted participants in this intervention. Logan's parents and teacher described him as being very limited with his verbal skills, which is a concern for both. His parents believed if his language ability improved, his social skills would also improve; however, by the end of the study Logan and Mia proved play was possible without the same communication abilities. After I engaged Logan in a communication exchange, I found he repeated one-word phrases and made a variety of noises as his form of his expression. His communication skills also included a variety of gestures he used to indicate his needs and desires (e.g. pointing while hopping up and down, repeating "thi,thi,thi, rocking his body back and forth toward an object he wanted). Although Logan had a reported capacity to participate in functional play, no spontaneous symbolic play skills were present. He was recruited from the private day school for children with ASD, which he attends.

Mia, a five-year old girl, was designated as Logan's peer. She currently attends kindergarten at a public school within the same district as Logan's school. She was chosen by her teacher due to her demonstrated above average social and communication skills for children the same chronological age. Mia was described by her mother as "outgoing, socialable, spunky, full of energy, and always willing to help. She is very nice and mannerly" (personal conversation May 7, 2010).

Setting

Play sessions were conducted at a private day school for children with ASD during and after school hours. Sessions were held in the same classroom each day. The classroom contained two U-shaped tables with chairs, computer, cabinets with curriculum supplies, two large white boards, one chalkboard, shelves with bins of toys and large area rug. Since this room was a pre-kindergarten (pre-k) classroom, the walls had many bright posters related to ABCs and numbers 1 through 10. Children's artwork also decorated the classroom making the room welcoming and fun for the children. Even though this study was conducted in a pre-k classroom, I brought the toys and supplies into the school each day in order for these items to be novel to each child. Before the play sessions began each day, I removed any toys or play activity items the children with ASD would have used during the day during instructional time. I placed the toys around the room in an arrangement to promote positive interaction with each set of activities. This procedure was followed to keep the toys novel to the study play sessions.

Equipment

The same age-appropriate toys were set-up around the room throughout the entire study. These toys include: Lego blocks, a set of cars, a roadway, train track and train cars, baby dolls and accessories, toy kitchen, dishes and pretend food, markers and paper, puzzles, and mats and a

parachute tunnel. In the same corner each session, a flip camera was set-up on a tripod. The computer and CD player were kept off and unavailable to the children during all play sessions.

Design

A case study design was utilized. Observations of target participants' social dimensions of play (eye contact, imitation, spontaneous interaction) were measured under controlled baseline (A) and intervention. Each play dyad met twice weekly for 20 minute sessions over a period of three months (26 sessions). All sessions were conducted in 20 minute increments with the children playing with toys within the designated play space. The baseline data included three separate observation sessions, each consisting of 20 minutes of free play; spontaneous interactions prompted by targeted participant and eye contact between children were measured.

Baseline

While establishing baseline no instruction or feedback from the researcher was given, except to prompt the children to stay in the classroom and/or to interrupt and redirect them when severe disruptions occurred (e.g., aggression, destruction of materials). If a child approached and asked for help with a toy, physical help was given without verbal comments (e.g. opening a container). A general positive statement was provided at the end of each session. For example, "I am glad you could play today; thanks." The children were given the following instruction prior to each baseline session, "you may play with anything you want, but you must stay in the room." The two children (dyad) entered the room at the same time and had immediate access to play activities and toys. Each session was videotaped and, additionally I completed detailed field notes while observing the sessions.

Measures

Play was measured by the amount of interaction between the children based upon eye contact, proximity, and/or child with autism responding to peer's attempt to engage them in play. For example, when Mia approached Logan with a Lego block, he took the block and stayed within close proximity to Mia, subsequently play interaction was recorded. Other play interactions that were recorded included such activities as Logan giving Mia a car while playing with the track, or Mia enticing Logan to join her in the crawl tunnels. Mia's attempts were not counted as engagement, unless the child (Logan) responded. Each 20-minute sample was divided into 120 intervals of 10 seconds each and coded for actions initiated by Logan.

Intervention

After baseline data were collected, instructional sessions were completed with the peers [children]. These consisted of ten minutes of social skills training followed by ten minutes playgroup during which feedback was given to the children. During instruction the peers sat at the table with me while I introduced the session, briefly reviewed the skills previously taught, described the skill to be taught that day, and modeled practice examples for the children. The children then practiced these skills with each other for the remainder of the ten minutes while the teacher gave verbal prompts and reinforced appropriate interactions and participation. During training sessions peers received instruction regarding ways to engage another child to play with them, when the other child's play skills did not match their own. Play skills were divided into the following three segments:

1. Skill 1: greetings, using names, and conversations included (a) saying hello, (b) asking friends to play and answer (c) asking questions about the toys (d) saying good-bye when the group was over [for eye contact]
2. Skill 2: imitation and following instructions included two behaviors: (a) imitation (e.g., touch head, arms up) and (b) following simple instructions (e.g., “push the car”) [for interaction]
3. Skill 3: sharing and turn taking included (a) sharing, in which children were asked to let the other children play with the toys they had, and (b) taking turns [for eye contact and interaction] (Gonzalez-Lopez & Kamps, 1997)

Posters with visual prompts were used to teach the children each skill (see figure 1). These posters were used as prompts for the peers when attempting to play partners. Poster (visible reminders) hung on easels on the perimeter of the play area. Posters represented information provided to the peers during informational sessions.



Figure 1.
Example of poster prompts - visual prompts used after training session

The training sessions continued for a total of ten hours over a two-week period. During these sessions, the peers participated in role-play practicing the three sets of skills previously discussed. The same visual prompts used during training sessions were also used during intervention play sessions.

The instructional sessions used the same toys and supplies included in the baseline sessions. Each session focused on a different set of toys, for example kitchen with dishes and pretend

food, racecar track and cars, and legos. This allowed for the children to practice asking each other to implement specific activities with a particular set of toys.

The intervention phase began after two weeks of instructional sessions. Play sessions began with a specific instruction given to the peer to implement. Specific instructions included a particular feature of play meant to engage the other child. Peers were reminded of the visual prompts set-up around the room. The first five minutes were dedicated to free play in order for the children to explore the play area. Peers were allowed to participate in free play without attempting to engage the other child in play. Non-instructional prompts were utilized for guidance when the peer seemed to be struggling to engage the other child in play.

Fifteen intervention sessions were conducted. At the beginning of each play session during the intervention phase, Mia was reminded of visual cues and ways to engage her play partner in activities. Logan was not given any directions. Sessions five through twenty followed the same procedure as baseline: specifically, twenty minute sessions, video-taped by myself with no guidance provided to either child by researcher. In addition the same equipment and classroom were used. These fifteen sessions were utilized to study how the play dyads engaged in play without adult guidance.

Results

The results of this study describe the initial impressions of children playing with peers who may be different than they are in terms of communication skills, physical attributes, and social skills. Mia and Logan's first play session began timidly with Mia drawing on the chalkboard and Logan sitting at the table on the opposite side of the room. Logan did not appear to be interested in Mia even when she began to singing to herself. Logan began to circle the room, stopping briefly at each set of toys arranged around the room. Mia continued to draw and sing, however she frequently glanced at Logan as he moved around the room. Neither child approached the other or attempted to engage the other child in any type of activity, even when Mia grew tired of drawing and moved on to another activity. Throughout the twenty-minute play session, Logan approached Mia ten times, however these interactions did not result in any shared activity or engagement between them. At the end of this session, Mia informed me she was looking forward to "playing with Logan again." I found this statement curious and encouraging; curious because they did not engage in any social interactions but encouraging because it appeared she wanted to become one of Logan's play partners or friends.

Consider this vignette about Mia and Logan's play. During one play session, Mia played with a new toy truck. Mia showed Logan how to make the truck 'drive' by itself. Logan liked the way the truck could be pulled back and drive forward automatically by itself. Mia taught him how to push the truck back and forth, however he remained more interested in watching her make the truck go. He also liked the noise the truck made when it was pushed away from him. Mia liked the truck too, but she quickly grew tired of the truck and wanted to play with something else. Subsequently, she found some picture cards she liked to play with, and left Logan with the car. When she left him, he sat down in the corner and just looked at the truck. He seemed to be studying the truck hoping it would start to go, although Mia had already taught him once what he needed to do to make the truck work.

Logan really wanted to play with the toy truck like he did with Mia, but, Mia was playing with the picture cards. Logan went over to Mia and looked at her. She continued playing with the picture cards and didn't pay attention to him. Logan touched her shoulder and tried to sound like the truck, "vroom." Mia looked at him and laughed but quickly went back to her picture cards. Logan used his hand to pretend the toy truck went "vroom" and drove up Mia's arm. Mia stopped playing cards and said, "do you want to play with me and the truck again Logan?" He laughed and said "vroom, vroom." They went over to the toy truck and played for a few minutes together with it. When Logan began to show ability to work the truck without Mia's assistance, she left him again and went back to playing cards.

Mia's modeling and guidance encouraged Logan to go beyond his present ability and explore new interactions. Piaget (1950) stated, "It is through game playing, that is, through the give and take of negotiating plans, settling disagreements, making and enforcing rules, and keeping and making promises that children come to understand the social rules which make cooperation with others possible." Throughout Mia and Logan's play sessions, plans, rules and an understanding of each other's social needs were negotiated in the course of learning to play together. For example when the play sessions began Mia would play with the car and track, while Logan would bounce from area to area without sustained interaction with any item. He did not demonstrate desire to play with Mia and/or play items. Mia established a routine to the play sessions in which she would follow Logan for a period of time, then formed rules and procedures for the activity.

During the collection of baseline data, Logan spontaneously approached, initiated Mia, and/or had eye contact with her ten to thirteen times in a twenty-minute period. These interactions were brief and as noted before, did not result in any shared social activity between them. Baseline data were collected on the first four play sessions. After the collection of the baseline data, the peers, including Mia, participated in training sessions to learn how to engage a child who was different than they were in play. The first training session, we discussed ways in which people are different. The peers had a variety of topics including but not limited to: "color of skin, color of eyes, boy/girl, how they talk, how old they are, if they like to run, what they like to eat" (personal conversation with peer participants). The peers described a few characteristics exhibited by their play partner, however, they mostly talked about their classroom peers' differences. The peers did not describe these differences in terms of disabilities or deficits but rather by physical attributes and habits. The peer who said "how they talk," continued to describe the accent another friend had but did not mention their play partner's nonverbal attribute. None of the peers mentioned that their play partners did not talk or appeared unable to participate in conversations. When questioned about this, they all said their play partner did not want to talk to them. Mia said she would try to talk to Logan the next time they played.

The intervention approach was based on Rogoff's (2003) guided participation. In *The Cultural Nature of Human Development*, Rogoff (2003) discusses the opportunities children around the world have for learning a variety of developmental tasks through the process of play. The engagement between children of different ages provides venues for peer modeling (Rogoff, 2003). Although the grouping of children by different ages varies around the world within various cultures, the definitions of play include some common characteristics. Children with ASD typically do not apply concepts to new situations but need explicit instruction for each new

skill. This may be in direct contrast to mimicking behaviors as a form of development. Logan demonstrated this when he was unable to play with the racetrack and cars without Mia’s guidance and assistance. Logan needed Mia to directly teach him each of the steps needed to put the track together and make the car move on its own.

Data in figure 2 reveal the number of spontaneous interactions and eye contact initiated by Logan toward Mia. Data were graphed from video observations. In baseline conditions, Logan initiated social interaction with Mia an average of twelve times in a twenty-minute period. However, after the peer training sessions the number of spontaneous interactions and eye contact between Mia and Logan steadily increased over the remaining play sessions. Logan began to demonstrate independent social interaction skills with Mia. The last play session between Mia and Logan resulted in 143 interactions within the twenty-minute time period of continuous play together, one session resulted in 152 spontaneous interactions initiated by Logan within a twenty minute period.

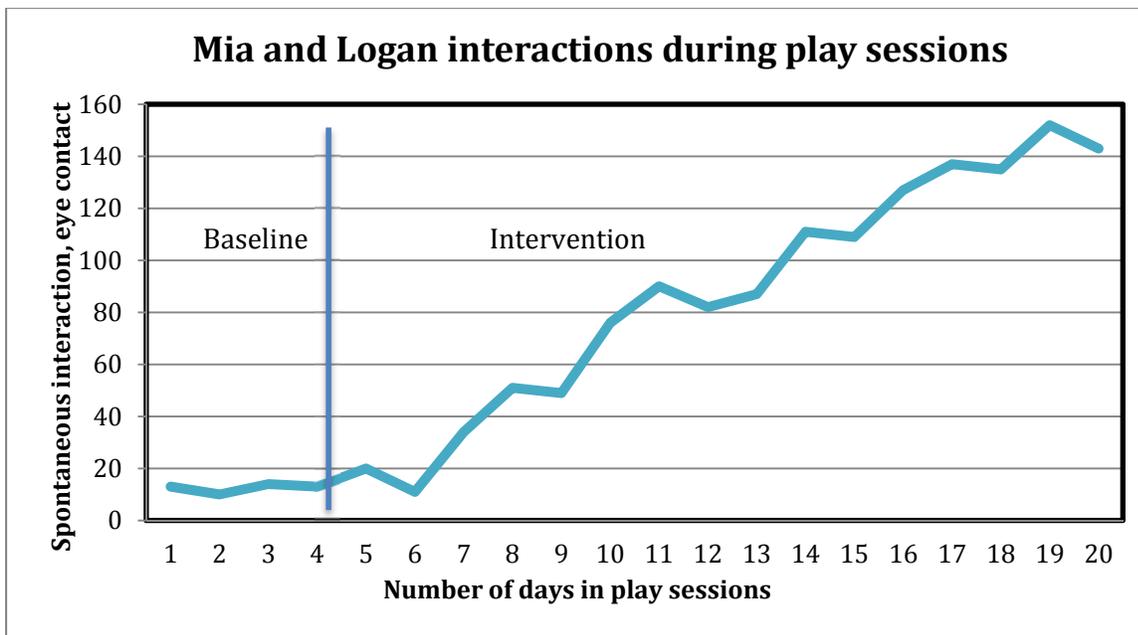


Figure 2. Spontaneous interactions and eye contact initiated by Logan.

Discussion

Play is not only “fun,” it is a child’s “work” (Gussin Paley, 2004; Piaget, 1962) and their way of learning about the world around them. Since play is a critical component for early childhood development it is important for educators to understand the deficiencies often times displayed by children identified with ASD and investigate strategies to enhance social and communication skills. A particular activity is a goal-directed or purposeful interaction of a subject with an object through the use of tools. Strategies in which facets of intellectual, social, physical, and emotional aspects are orchestrated into activities facilitate meaningful participation for children with and without disabilities. Lifter, Ellis, Cannon, and Anderson (2005) discuss the importance of facilitating the exploration of different forms of play for children with ASD. Activity theory recognizes the

internalization and externalization of cognitive processes involved in the use of tools, division of labor and rules as well as the transformation or development that results from the interaction (Engestrom, 1999; Engestrom & Miettinen, 1999). Internal activities cannot be understood if they are analyzed separately from external activities, because they transform each other. For children with ASD, the need to build independent social and communication skills requires a specific set of skills and tools. Tools are created and transformed during the development of the activity itself and carry with them a particular culture - the historical remnants from that development. Mia appears equipped with a set of social skills to assist her in making appropriate play choices, ability to access more areas of the playroom, demonstrate performance of toys, and complete meaningful interactions with Logan. However, Logan's restricted social and communication skills require additional assistance through modeling and guidance in order to improve his play skills. A recommendation for social interventions is to keep the interactions with peers fun and entertaining. For individuals with ASD, it is imperative to incorporate generalization into learning play skills. An understanding of play as voluntary, enjoyable, and pleasurable to children assists researchers with guidelines to promote educational play in children (Saracho & Spodek, 1998). Despite the fact that play may take on many forms, defining the value of play continues to include assisting children in exploring and understanding various roles and interaction patterns in their social world (Pellegrini, 2009; Rubin & Coplan, 1998; Saracho & Spodek, 1998; Scarlett et al., 2005).

Body posture, gestures, eye contact, hand movements and other nonverbal components of language often interfere with a child's ability to understand all communication used by others (Koegel & Koegel, 1995). Play is an activity that can be utilized to improve communication skills with peers through initiation and practice (Parten, 1932). Peer interactions within play activities offer the opportunity to gain important social communication skills. When children begin to play cooperatively with others, their social and emotional maturity develops. As cooperative play increases, play becomes more structured and children begin to communicate more often working for toward a common goal. Teaching a child language in natural contexts is more meaningful to retention and generalization. For example, when a child wants to join a group of children who are playing ball, teaching the child to say "can I play?" is important to their growth. Likewise, we need to consider how to make these communication changes from day to day. Play is a tool that serves not only as a vehicle for learning new skills but also a way of expanding and broadening many skills.

Implications for Research and Practice

Despite its limitations, the current study has important implications for further research and social interventions for inclusive classrooms. It would be useful to repeat this study in an inclusive preschool classroom in which more than one dyad of children is observed. For this reason, I would also recommend extending this study to include consecutive days in which play sessions are held.

The simultaneous development in language and cognition are often described as paralleling development with play behaviors because of the advances in complexity (Barton & Wolery, 2008). Early intervention cannot be stressed enough especially when the interventions involve play activities. The earlier the intervention commences the more time the child with ASD has to

learn how to play and interact with other children. According to researchers Malone, Stoneman and Langone (1994) even though an association among cognitive and communicative development variables related to play have been observed, only a handful of studies have been completed in this area regarding children with delays in play skills, cognition and communication.

Developmental pedagogies

The American Academy of Pediatrics believes play is essential for the development and well-being of a child's cognitive, physical, social and emotional structures (Ginsburg, 2007). According to Lindon (2002) children may increase physical development including fine and gross motor skills, when given appropriate space and resources to play. In preschool, many children improve fine and gross motor skills like balance, laterality (awareness of left and right sides of their body), spatial orientation and muscle coordination of large muscle groups (Elkind, 2007). When the child masters these skills, it allows for enhanced play-based activities and social competencies.

Since the implementation of No Child Left Behind Act of 2001, a national trend focusing on academic fundamentals has resulted in the decrease of other creative academic subjects, such as art, music and social sciences, as well as recess and physical education. This trend may have serious implications for the social and emotional development of children because of the diminishing focus on organized play, free play and physical activity (Ginsburg, 2007). The Alliance for Childhood put out a report in the spring of 2009 titled "Crisis in the Kindergarten: Why Children Need to Play in School," which concludes that kindergartens have changed dramatically in the last two decades. The report showed that play materials such as blocks, sand and water tables, and props for dramatic play "have largely disappeared" from more than 250 full-day kindergarten classrooms studied. Most children had half an hour or less a day for playtime, and some got no playtime at all (Miller and Almon, 2009). Joan Almon, the group's executive director explains through play children are able to develop language, express their creativity, expand social skills, problem solve – "take on every aspect of life" (Miller and Almon, 2009). Critics of NCLB blame the increased pressures to focus on academics even with the youngest students without regards to social and communication skills. Research studies have revealed in children with autism pretend play skills are important predictors to later social abilities. Curricular programs that include pretend play as a functional skill may be important within the cognitive domain for children with autism (Barten & Wolery, 2008). Teaching children to play is important for all the developmental skills play reinforces within a child. It is important to differentiate that while a peer may benefit from generally supervised play, children with ASD would have increased benefits from guided play where they are taught and guided how to interact within the play environment.

Although Logan has difficulty with the concept of abstract thinking required for pretend play and social interactions, Mia was able to foster an emerging friendship with Logan. While playing with the toy truck, Mia modeled the steps needed to make the truck work giving Logan the necessary steps to independently proceed with this play activity. Thus, Mia scaffolded the play for Logan which permitted him to accomplish more independently (i.e. pretend play) than he could have accomplished without Mia's scaffold. However within their relationship there was reciprocity in learning how to interact and react to each other as well as toys. For example,

Logan often would hop around the room when he became overly excited. As the play sessions carried on, Mia began to imitate Logan's hopping motion smiling and laughing while she followed Logan around the room. After a couple of times, he began to smile and point at Mia before hopping, looking at her to follow. This became a ritual as they switched toys and activities. In addition, the first interaction with the truck was positively reinforcing for both children, creating a mutually enjoyable experience. Furthermore, Mia's role as a peer model helped support Logan's learning. The success of future play interactions between Logan and Mia or other peers is dependent upon the development of reciprocal interactions which are influenced by Mia's reaction to Logan. This means the sophistication of Mia's role in this relationship is particularly important in guiding Logan's social interactions within their friendship.

Cultural pedagogies

Play can be a powerful instrument that brings children together as social beings (Johnson, et al., 2005). During a child's preschool years a variety of cognitive, emotional, social and physical changes occur. A child's social development is impacted largely by cognitive and emotional growth. These changes allow a child the ability to acquire new skills necessary for continued maturity to adulthood (Johnson, et al., 2005; Loop, 2009). Play is a way for children to make sense of their social experiences (Quill, 2000). Many opportunities for imitation and play occur within the preschool curriculum including opening circle, small group, gym, outdoor play and free choice. These opportunities create numerous occasions for a child with ASD to interact with their typically developing peers when being guided by the teacher. When Mia and Logan participate in circle time, Logan sits on the edge of the circle busying himself with a toy outside of and a part from the circle activities. He needs the teacher and peers to model appropriate behaviors and guide him through each activity. Nadel and Peze (1993) stated, "play is the glue that holds together peer interactions in early childhood" (NRC, 2001, p. 75). In the United States, play groups, organized sports activities and scheduled play dates are some examples utilized to increase a child's social developmental growth (Loop, 2009). These activities may traditionally be known in the western cultural, conversely in many parts of the world children are expected to show independence by the age 5 to 7 years and "stop playing childish games and start skill training" (Rogoff, 2003, p169). However, researchers agree children explore diversity, difference and the impact of issues such as skin color, language, knowledge of popular culture and perceptions of difference through social experiences and play (Mundine & Giugni, 2006). These issues may contribute to the greater discussion and challenges surrounding inclusion, social justice and equity in schools and the children's surrounding community.

Play can be found in a multitude of settings, is flexible, offers a foundation for developing leisure skills, increases social and communicative interaction with peers, and increases learning in natural and inclusive settings (Barten & Wolberg, 2008; Casby, 2003; Ginsburg, 2007). As a child with ASD progresses throughout the school day, they encounter settings with diverse materials, which could lead to opportunities for social interactions with peers. At the same time as children increase their awareness and understanding of self and the world around them many essential skills are developed in the areas of physical, language, social and cognitive development.

Behavioral pedagogies

The theoretical assumptions of behaviorism are primarily concerned with observable and measurable aspects of human behavior. A behaviorist explains any behavior that can be directly observed and directed by a stimuli is defined as a behavior (Cooper, et al., 2007). Many approaches to teaching social skills include breaking down the skill into the components and then to teach each individual task in a sequence of skills. However, what seems to be a basic skill can turn out to be an incredibly difficult task for both the teacher and the child with ASD. For example, in the vignette, Logan wanted Mia to play truck again. He approached her and made a “vroom, vroom” sound, his way of verbalizing his desire to initiate play. Although this was a huge step toward social competence for Logan, the skill of requesting a friend to play required a more complex set of interactions for Mia. She wanted Logan to use words and actions to tell her his needs and desires. Mia wanted Logan to wait until she was done with the picture cards, but his desire was for her to leave the picture cards immediately. He did not seem understand or care about Mia play desire. Logan continued to make the “vroom” noise and show her the truck motion, until Mia relented. She seemed to want Logan to run the truck by himself. Mia appeared to be bored with the simple action of ‘making the truck go’ and wanted Logan to expand the truck play beyond the simple mechanics of this act. These higher-level skills require an enormous set of social skills often taught utilizing intensive early behavioral interventions.

For example, if a young child with ASD is completely uninterested in social interactions with others, the teacher will utilize a set of tools to guide the child through the fundamental social skills building upon each skill that is mastered. Logan and Mia have been building a social relationship together constructing a set of tools each of them can use with other children. Effective pedagogical strategies are important for educators and students. The impact of these early social skills experiences is crucial for all children. For example, research has shown children who develop social skills and early relationships with peers are likely to have better mental health, better employment records, more likely to live independently and have greater self-esteem (Bass & Mulick, 2007; Mastrangelo, 2009; Strayhorn & Strain, 1986). Learning does not occur in compartments, cognitive, social and language learning occurs at the same time. Skilled educators know that children with and without limitations require a variety of strategies for the best possible outcomes.

Parameters of the Study

The participants in this study were young children who had limited amounts of interaction. In addition, dyad play sessions were only held in a ‘pull-out’ situation meeting only twenty times, two to three times a week. There were no group play sessions conducted during the span of this study. Consequently, I am aware of the selection of participants, setting, and limited interaction and the impact of these on the results. By coincidence, all targeted participants with the autism label were boys. However given the male-to-female ratio of autism reported in the current literature, there are more boys than girls who meet the predetermined criteria of autism. Nevertheless, it is not implausible the results are influenced by a gender factor. Another factor potentially affected by a gender factor is the boy-girl dyad, as opposed to including same gender dyads.

Conclusion

The results of this study highlight several implications for facilitating inclusive preschool education for all children. Interventions and/or play curriculum to increase social interaction and engagement in developmental stages may be most effective when considering aspects of the ‘least dangerous assumption’ are considered (Donnellan, 1984). The least dangerous assumption is that Logan belongs and that those who control curriculum; teaching and classroom organization need to change ideas in order to ensure that Logan is genuinely valued and involved in the education and community in which he belongs. When individuals assume that he does not belong with his peers, then there is a dangerous assumption encompassing all minorities, in regards to education and living in a just, caring society. Furthermore, future research should involve peer mediated play to be completed in an inclusive preschool using the natural environment of small groups of children mixing gender ratios and abilities.

In spite of this recommendation, teachers and administrators must consider the fact that making decisions for or about other individuals can be “dangerous”. When decisions must be made about another student, consideration must be given relative to which child is most affected by these decisions. If it is decided that Logan could be included in his home-school in an age-appropriate classroom designed to teach *every* student, then safeguards must be put in place to ensure all actions focus on what Logan wants and not on what others say his *needs* are. In addition to these considerations, low expectations result in segregated educational programs that do not focus on challenging our students, and narrow visions for change in the future.

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