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Social Constructivism and Play of Children with Autism for Inclusive Early Childhood*

Abstract

It has been more than two decades since Mallory & New (1994) proposed the use of Lev Vygotsky's social constructivist theory as a framework for inclusive practices in early childhood education. This article relates part of a research on the play interactions of children with Autism Spectrum Disorders (ASD) within an inclusive early childhood school to the elements of sociocultural theory. Direct observation within the natural play settings of nine children with ASD between two- to five-years old was used to gather data for this study. Interactions within the indoor and outdoor play routines of children with ASD with their peers and educators were observed and recorded for two weeks. The anecdotes of the play interactions derived from the recordings were coded into five play categories to determine how routines for play reflect the interactions experienced by children with ASD. The aim of this article is to provide documentations of the play interactions of children with ASD within their natural educational settings and examine how the elements of social constructivism as a theoretical framework for inclusive practice are reflected. In line with the writings of Mallory, this paper intends to demonstrate how a theoretical framework could guide educational practices.

Keywords: inclusion, play, play interactions, autism spectrum disorder, early childhood education

Introduction

Mallory & New (1994) proposed the use of social constructivism as a theoretical framework for inclusive practices. They argued that focus on designs for intervention programs and service delivery has been given attention in lieu of having a sound theoretical basis for practice. While positive outcomes were discovered through some interventions, they had little or no effect in improving the participation of children with disabilities within the inclusive settings where they belong. Their article encouraged professionals to reflect on the framework and the *whys* of their interventions. Further, they proposed for social constructivism to be a possible framework. As Vygotsky's work suggests that learning comes before development, opportunities to practice and learn from more knowledgeable persons become even more significant. It is through experiences such as those in play that opportunities to interact, observe, and try a new skill becomes a part of a child's daily routine. It is through such understanding of learning and development that professionals could provide programs that could serve all children well, regardless of ability.

In the midst of researches on intervention programs, recommendations from

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recent studies call to describe the nature of interactions of children with disabilities within their natural play settings (Guralnick & Groom & Groom, 1987; Kontos, et al., 1998; Odom, et al., 1999; Guralnick, et al., 2006) and to use of direct observation methods (Brown, Odom & Conroy, 2001; Guralnick, et al., 2011; Hestenes & Carroll, 2000; Manning & Wainwright, 2010). These recommendations could imply the need for more information within the natural learning environment of the children to develop materials that could facilitate effective interventions interventions (Garfinkle & Schwartz, 2002; Terpstra & Tamura, 2008; Torres, 2010). The recommendations from these studies in addition to those of Mallory & New (1994) is the basis of this research on children with ASD. By examining their interactions during their play routines, programs could be designed to capitalize more on child-initiated activities that have been found to have the greatest probability of naturally sustaining interactions (Noonan, 2006), and could be translated to more "pull in" rather than "pull out" interventions (Guralnick, et al., 2011; Stanton-Chapman, 2011).

The three features of social constructivism identified by Mallory & New (1994) that could contribute to inclusive practices in early childhood are 1) the sociocultural context of learning, 2) the role of social activity in learning, and 3) the contributions of the active learner to his development. This article aims to relate these features of social constructivism, and concepts from related literature, to the play categories demonstrated by the children with ASD in order to shed light to the nature of their interactions with peers and to the supports that could be further provided for them.

Method

The design of this qualitative research was derived from previous studies that explored the play and socialization of children with special needs and their peers in various settings. Direct observation within the natural play setting of the children were used to gather data, consistent with the recommendations from recent studies. Seventy-two videos with a total of 844.72 minutes of play routines were observed and recorded from eight classes for children ages two to five years old. Anecdotes of the play interactions of children with ASD with their peers and educators were derived from these recordings. The anecdotes were used to determine opportunities for different play interactions and were coded according to the categories used in the research of Kontos, et al. (1998). The five categories used to code the data included 1) solitary play, 2) parallel play, 3) parallel play with regard, 4) simple social play, and 5) reciprocal play. Other play categories such as those by Parten (1932) and Rubin (2001) were also options for coding, but the author found the classification by Kontos, et al. (1998) could represent the results more effectively. Their categories, especially the differentiation between two types of parallel play proved useful in determining opportunities for increased isolation and meaningful interaction within the actual play routines of the children.

Setting

While the Philippines is among the nations who have agreed to move towards inclusion in international agreements, national policies have yet to become more specific on its implementation. Local policies make some references to inclusive practices. However, legislation that propose more specific implementing rules and regulations for inclusion are still in process, including the Senate Bill 3002, Special Education Act, which has been pending since 2012. This lack of specific implementation procedures to effectively include children with special needs means that educational institutions either create their own programs for inclusion or depend on the families for coordinating services for their own children. Some early childhood institutions limit the number of children with special needs that they admit, claiming that their services could only provide for these few.

While it was challenging for the researcher to find an inclusive early childhood institution, there was a private school in Quezon City, Metro Manila that catered to children of all abilities from two- to five-years old. As a research venue, this institution was selected based on criteria specific to the needs of this study. First, this preschool served children with special needs within their general classes with their same-age peers. Second, the school has specific provisions for including children with special needs including administrative policies, teaching philosophies,

environmental arrangements, and professional and paraprofessional supports. Educators and administrators of this school collaborate with professionals including include developmental pediatricians, diagnosticians, occupational therapists, speech pathologists, physical therapists, and special education teachers who provide special services within or outside of school routines. Lastly, this school was selected because it has been in operation for 12 years, which means that it is relative stable in terms of its administrative processes, school operations, educational philosophy, curriculum implementation, and home/community partnerships.

Participants

Purposive sampling was employed to identify the participants for this study. With the assistance of the school administrators, nine children were identified to meet the criteria for this research. The first criteria that the child must have a valid diagnosis conducted by a professional diagnostician and/or developmental pediatrician. Second, the child must be receiving professional services within and/or outside the school. Professional services received are consistent with the recommendations from the diagnosing professional. At the time of the research, there were 72 enrollees in this early childhood institution. Only nine students from a population of 72 were diagnosed with a special need. By coincidence, all nine children that met the sampling criteria were diagnosed with ASD. Six of the children were diagnosed to have mild autism while three had moderate autism, as determined by the diagnosing professional consulted by the family. No other children were diagnosed with any other developmental delay or exceptionality at the time of the research. Some children were being observed for possible developmental delays, but only these nine children were formally diagnosed and were receiving special services within and outside the school.

Observation and Recording Procedures

Direct observation method was used, consistent with recommendations from previous studies. Whole play routines were observed and recorded for this study to gather as many details of the play interactions as possible. A total of 72 videos, equivalent to 845 minutes of play routines, were collected after two weeks of observation in six preschool classes. Data were collected within each class' indoor and outdoor play routines. Most play routines consisted of free play activities, however some structured play was also observed. Free play activities indoors included pretend play activities and child-initiated interactions with manipulatives such as puzzles and blocks. On the other hand, free play activities outdoors included unstructured playground activities and games created by the children. Structured play routines indoors included one-on-one activities, mostly initiated by the teacher or the shadow teacher. These structured activities include coloring, putting puzzles together, and interacting with manipulative materials according to the instructions of the educator. Structured play activities outdoors included games initiated by the educators for the whole class. Play routines ran for an average of 12 minutes per session. The length of time for play routines varied within the two weeks of observation because class schedules were modified to accommodate school activities. Every child participant was recorded for an average of 8 sessions depending on their attendance in class or on their participation in play routines.

Table 1.
Profile of with special needs in general classes

Name	Sex	Age of Class	Class Session	With Shadow Teacher	With IEP
Adam	M	2	morning	Y	N
Brian	M	2	afternoon	Y	Y
Christian	M	3	morning	Y	Y
David	M	4	afternoon	Y	Y
Eric	M	4	afternoon	Y	N
Frank	M	5	morning	Y	Y
Grace	F	5	morning	Y	Y
Huey	M	5	afternoon	Y	Y
Ian	M	5	afternoon	Y	Y

**Names of children were replaced to retain their anonymity*

The observers that gathered data for this study included the author and a former colleague. Both observers are educators for early childhood up to tertiary levels, with backgrounds in child development, education, and family life. The observers are trained in use of direct observation method for teaching and research in the University. As participant observers, the researcher and the co-observer were introduced to the children as visiting teachers. Interactions between the observers and the children were limited only to those initiated by the children.

Analysis

The members of the research team translated the video recordings into anecdotes, consistent with their training as educators and researchers in the University laboratory preschool. After the researcher and the co-observer collated all the videos, the researcher and the transcriber processed the videos. Each play recording was viewed, and anecdotes were written for each event. Once the anecdotes were submitted by the transcriber, the researcher replayed the videos and reviewed the anecdotes against each recording to validate its contents.

For interactions with peers during play periods, the anecdotes were categorized according to the classifications used in the study of Kontos, et al. (1998). Each child could have anecdotes in various types of play. Consistent with the qualitative nature of this research, the anecdotes were categorized not to examine the frequency by which each type of play was observed for each child. Instead, the anecdotes were categorized to examine if any of the types of play were demonstrated by the children in their play interactions. The anecdotes were also used to describe the nature of their interactions across different types of play. Through these descriptions, the contexts wherein productive and unproductive interactions occur could be identified, and later be used as reference to identify environmental characteristics that enrich interactions or that require support to make productive interactions possible.

Results

The anecdotes from the observation showed that the nine children with ASD engaged in four out five categories of play. No anecdotes were categorized under the fifth category, reciprocal play. Productive and unproductive interactions for each play category were also identified. The terms 'productive' and 'unproductive' refer to interactions not behaviors of the children. For the purpose of this article, productive interactions pertain to those that lead to successful relations with other children, while unproductive interactions pertain to those that lead to unsuccessful relations with peers.

Solitary Play

Anecdotes of solitary play depict children with ASD in child- or educator-initiated play with various materials during free play routines. Their play was separate from peers, and interactions noted under this category were limited to looking at other children's play, peers looking at their play, or brief interactions with peers that were initiated by their educator or shadow teacher.

Table 2.
Coding Description

Coding	Description
Solitary Play	Child with ASD plays separately from peers The child may be actively engaged in play objects but no participation in their play theme is observed
Parallel Play	Play interactions are limited to use of same play objects but with little or no acknowledgement of their peers
Parallel Play with Regard	Child interacts with peers by using the same play objects at the same time but for separate play themes Interactions within this category could include brief acknowledgements of peers, such as eye contact or other nonverbal cues
Simple Social Play	Child with ASD interacts with peers by using the same play objects together under the same play theme and engaging in conversations
Reciprocal Play	Play interactions of children with ASD are characterized by more incidences of turn taking and the presence of role reversal. Role reversal is most evident in cooperative games.

Table 3.
Solitary Play of Children with ASD

Coding	Description
Productive Interactions with Peers	• Looking at peers playing near them • Peers looking at child with ASD while playing near them • Shadow teachers naming peers playing nearby, and child with ASD looks at child being referred to by the teacher • Peers allowing child with ASD to move around between them while they were at play
Unproductive Interactions with Peers	• Peers not allowing child with ASD to use the same play objects • Peers not allowing child with ASD to borrow an object because he/she did not verbalize intent

The observations during the free play routines confirm that children with ASD have the tendency to prefer solitary play. As they engage in play materials of their choice or that were provided for them by their shadow teachers, the children had little or no interaction with peers. To encourage interaction during solitary play, shadow teachers sometimes attempted to make the children more aware of their peers who are playing nearby. They did this by pointing at the activities of the other children or naming peers around them. The children responded by briefly looking at the child or activities being referred to by their teacher. The children also tend to remain in solitary play even when surrounded by peers engaged in shared play. Some anecdotes showed that the children played around their peers, but neither the children nor their peers responded to the proximity of their play. At most, the children looked at the other or at the toys being used by the other, but no further interaction was shared.

Anecdote 1. Solitary Play – Pretend Play

Grace lined up four small houses near a set of buildings that she made with blocks. She carefully placed toy people beside each of the four houses. On the other side of each house, she placed a small animal. Grace moved one of the toy people and pretended that it was talking with another, 'Bye bye, Mommy. I'm just going to the doctor, okay?' She moved the other toys around the table and said, 'Woohoo! He's swimming!' 'Let's make a toy sandcastle,' she said as she continued to make a dialogue for the toy people. Then she pounded the toy people on the table together like they were building something with the blocks. The peer who was playing in front of Grace looked at the buildings she made but did not say anything.

While Anecdote 1 showed solitary play that was a result of the preference of the child with ASD, some cases are results of exclusion from peers. Anecdote 2 demonstrates such an example of solitary play.

Anecdote 2. Solitary Play – Exclusion from Peers

Frank was in the housekeeping table playing with toy food. He looked at his peers who were playing with the toy stove from time to time while he played alone. Frank went near the toy stove and emptied an egg tray. He attempted to put some toy food in place of the eggs, but one of his peers shouted, 'Frank! No!' The boy took all the eggs and the toy food from Frank, including those that Frank played with on the table. Frank followed the boy as he moved to a corner of the room where more of his peers were playing. He looked at the children briefly then went back to the table to play with toy food again. The boy returned to the table where Frank continued his play. He said, 'Frank, stop now…' Then he hit the toy bread on the table with a wooden knife. Frank did not respond. He continued to play with the toy food and pretended to cut them with the wooden spoon. The boy looked at shadow teacher and said, 'Teacher, Frank did not say yet. Frank must say borrow first.' Frank did not say anything.

One of the differences observed between Grace and Frank was their expressive language. Grace could express herself with minimal help from educators, while Frank's language skills were still very limited even with full assistance from his shadow teacher. The study by Hestenes & Carroll (2000) suggests that the success of a child during play with peers is affected by the disability. This suggestion could be further extended by inferring that the differences in the severity of ASD between the two five-year old children may have had an impact in their play interactions with peers.

Parallel Play

Children with ASD engaged in parallel play. They played near their peers and sometimes they use the same play materials but did not share the same play goals.

Anecdotes categorized under parallel play included those wherein the children with ASD played near their peers. Being near their peers is an opportunity for the children to observe the play of others and how their peers use play materials. Anecdote 3 illustrate how children with ASD use the same play objects with their peers who were nearby, but the play themes of both children and their peers remained different throughout the routine.

Anecdote 3. Parallel Play – Same Play Object, Different Play Themes

The teacher opened a box of blocks and called Brian. Brian immediately took some blocks from the box and said, "Thank you!" to his teacher. As he was stacking the square blocks, a girl approached and took some blocks as well. The children did not look at each other but continued to take blocks for their own play. When Brian's tower of blocks became too tall, it fell on the girl. The teacher reminded him to be careful when using the toys. The girl looked briefly at Brian and then to the teacher. Brian looked at his teacher and then picked up the blocks that fell behind his classmate. He started making a tower again. The girl continued to stack her own tower of blocks. Brian put a block on top of the blocks that the girl was playing with. The girl removed this block. Brian tried to put another block on the girl's block, but the girl pulled the block away and turned her back from him. Brian went back to putting together his own tower. The girl turned to her back and gave a quick look at the tower that Brian was building. Another girl joined them in playing with blocks. All three of them made their own block structures.

While proximity to peers during play make interactions possible for children with ASD , shared play remains to be dependent on the willingness of both parties to engage in a common play theme. The example in Anecdote 3 also showed that neither the child with ASD nor his peer showed sustained observation of each other's play. Notable from this anecdote is how it was the typically developing peer who chose not to respond to initiations for possible shared play by the child with ASD. It seems that it the parallel play described in Anecdote 3 was a product of failed initiation by the child with ASD. Some interactions also showed frustration expressed by peers as they tried to initiate shared play. Anecdote 4 is an example of such occurrence.

Anecdote 4. Parallel Play – Frustration of Peer

Two boys approached Huey while he was playing. They knelt beside him on the floor. One of the boys bent over to look at Huey's face and said, "Huey, can I play with you?" Huey said yes, and the boys stayed beside him. More children came to stay beside Huey but they did not initiate any interaction with him. The teacher asked the other children if they sought permission from Huey to share his play. The children asked Huey, "Huey, can we play with you?" Huey does not look at his classmates. When he did not respond, one of the girls tapped his arm and spoke louder, "Huey! Can we play?... Huey!" When Huey still did not respond, the girl went to the teacher and said, "He's not talking." The teacher encouraged the children by telling them that Huey can talk, and they just needed to ask him properly. The children tried again, this time talking loudly but slowly. Huey still did not respond. The teacher coached the children further by telling them to look at Huey in the face while talking and to use the word 'share'. The girl bent down to level herself to Huey's face and asked, "Huey, can we share?" Huey replied, "Share." The children took this as their cue to use the same toys as Huey.

Table 4.
Parallel Play of Children with ASD

Coding	Description
Productive Interactions with Peers	• Sitting beside or across peer while playing • Child with ASD using same play materials as peers • Educators coach child to respond verbally to questions from peers
Unproductive Interactions with Peers	• Peers expressing frustration to educators that child with ASD is not responding

Even though Anecdote 4 seemed to lead towards shared play theme among the children, it did not progress as much. The play interaction among the children was very limited afterwards because of the time and effort that it took to gain a response for their initiations. It is notable however, that in this anecdote the peers sought for the assistance of the teacher to communicate with the child with ASD. Children in this school are encouraged to practice interacting with all their peers and to seek assistance when necessary. Peers requesting for assistance multiple times during this event suggest that peers are motivated to initiate interactions with children with ASD. It is also noteworthy that educators encouraged the peers to try different strategies until they receive a response that satisfies them. Communications with Huey's shadow teacher revealed that he was working on responding verbally to his peers as part of his social development plan during the period of observation.

Parallel Play with Regard

Anecdotes of parallel play with regard are distinguished from those of parallel play through the characteristic of the brief but meaningful interactions that occur between the child with ASD and their peers. Parallel play with regard is characterized by brief observations of peer play, eye contact with peers, or exchange of play objects with other children. Children who engaged in this form of play demonstrated more acknowledgement of their peers as they share play objects. However, like in parallel play, events observed under this category involved children using the same objects at the same time but not sharing a play theme.

Except for one child with ASD , all children were observed to have had at least one interaction that could be categorized as parallel play with regard. Frank was the only child among the nine observed who did not engage in this form of play. All the play observed from Frank was categorized as solitary play.

Interactions under this category included children holding hands to guide through activities. According to the shadow teachers, such interactions were prompted in the past. Peers were deliberately partnered with children with ASD for specific activities. In the anecdotes recorded, no prompting from the educators were noted but the helping behaviors remained present. This behavior becomes even more noteworthy when it is considered that it is the peer that initiated the helping behavior during the shared activity. On the other hand, some anecdotes show that children with ASD are only passive recipients of their peers' pretend play. The child did not share conversations with his peers even while his peers were engaged in sustained conversations as they pursued their pretend play activity.

Anecdote 5. Parallel Play with Regard – Passive Recipient of Pretend Play

A girl took David's hand and led him around the classroom as she looked for a place to sit in the "restaurant". She made David stand beside a chair next to hers and nudged him gently to sit down. She adjusted the chair by pulling it backwards so that David had more room for his legs as he sat. The girl called another classmate who was pretending to be the waiter. She ordered milk for David and the waiter brought a box of milk and placed it in front of David. The waiter left and returned with an orange on a spoon. He placed the spoon in front of David as if to feed him. David took the orange from the spoon. When the orange fell on the floor, the girl picked it up and gave it back to David. She put it near his hand, but David was playing with a toy truck and he did not seem to notice. Another classmate pretended to feed David by putting a spoon near his mouth. This girl gave him several spoons filled with food. The shadow teacher approached the children. She gently turned David's face towards the girl. David seemed to finally notice that the girl was feeding him. David smiled. The girl looked at the fish on David's hand. She took the toy fish and pretended to feed him this too.

On some occasions, two children with ASD of varying severity were paired by the shadow teachers for shared play. Such interactions were designed for the more abled peer to lead the play. Prompting was given by the shadow teachers to guide the children to take turns and to ask permission. Events like this are significant because it demonstrates that even children with disabilities could serve as the more abled peer. These become opportunities for the children to master what they have been learning so far, and for the child to

perceive another dimension to his role in the community. Some of the children who were deliberately paired in the past demonstrated that they are able to use play objects with peers. Pairing children is among the strategies used by educators in this school to teach peers how to respond or to play with children with disabilities.

Anecdote 6. Parallel Play with Regard – Using Play Objects with Peers

Huey was holding a several toys in his hands. A boy approached him and asked, "Huey, can I borrow the monkey?" Huey kept his gaze on the toys on his hand and did not respond to the boy. The boy asked again buy Huey continued to play with the toys that he was holding. When Huey did not reply again, the boy leaned closer to him and asked once again if he could borrow the monkey. Huey handed the monkey to the boy without looking at him and his peer said his thanks. The boy held the monkey in the air for the other children to see. He made the monkey hold the banana and then he gave it back to Huey saying, "Here, finish." One of their classmates remarked that what the boy did was "Cool!" Huey accepted the monkey being returned to him and began playing with the banana that the monkey now held.

For the category of parallel play with regard, some unproductive behaviors were also observed. Some children subtly showed their reluctance to allow children with ASD to join their play. Such behaviors included stopping their activity or signaling other peers to be quiet until the child with ASD moved on to his own activity. Although children with ASD sometimes showed interest in their peers' activity, such behaviors from their peers prevented them from becoming part of a shared play experience.

Simple Social Play

This category represents the most complex form of play interactions that the nine children with ASD observed for this study were able to engage in. In the two weeks of gathering data, this was the highest form of play that the children were able to participate in.

Simple social play interactions are characterized by prolonged use of common play objects within the same play theme. Anecdotes coded as simple social play were also characterized by conversation among children wherein both the child with ASD and their peer were actively engaged. Anecdote 7 is an example of simple social play observed within this inclusive early childhood setting.

Anecdote 7. Simple Social Play – Conversations

Christian was playing with dough with one of the girls from his class. When he handed a piece of dough to the girl, she took it and pulled it into two pieces. Christian seemed delighted by this and said, "Waaaah… yes!" He gave another piece of dough to the girl and said, "Look, a bat!" Christian watched as the girl pressed and pulled the dough and he said, "Wow, a turtle!" Then he took a new piece of dough from the table and pretended to lick it. His shadow teacher approached and asked him, "What's that?" Christian replied and said that it was a lollipop. He stood up and waved the lollipop he made up and down in a waving motion. He showed this to the girl and asked her what she thinks it is. His peer took the lollipop from his hand, took more dough from the tub and molded it. She gave her new creation to Christian and also left some molded dough for herself. Together, they pretended to lick the dough. The girl said, "Yum! Yum!" Christian imitated the girl and said, "Yum! Yum!" too. Next, they made "ice cones" with play dough. The girl put sprinkles on hers and Christian also asked some for his. This made Christian laugh. He held out his ice cone and said, "Ice cream! We're the same ice cream."

In the anecdote above, the shadow teacher was present for most of the play but provided minimal input. It was observed that shadow teachers gave less assistance for children with ASD when interactions involved using skills that they have almost mastered. In the event cited, the shadow teacher's question seems to have facilitated the extension of play and encouraged both the child and his peer to continue recreating familiar objects using play dough. The anecdotes that show simple social play among children provide a glimpse of how play interactions could extend social skills practice of children with ASD across various activities. It is in these anecdotes that the children were observed to contribute the most and to build on play themes in collaboration with their typically developing peers.

Table 5.
Parallel Play with Regard of Children with ASD

Coding	Description
Productive Interactions with Peers	• Peers hold the hands of the child with ASD as they walk or play • Child with ASD is the passive recipient of their peers' pretend play • Child and peer share and take turns in using the same set of play objects for different play themes • Educators facilitate shared use of play objects between two children with ASD • Peers acknowledge the child with ASD as part of their group that uses the same play object
Unproductive Interactions with Peers	• Peers express reluctance to include child with ASD in their play

Table 6.
Simple Social Play of Children with ASD

Coding	Description
Productive Interactions with Peers	• Children with ASD share play objects and play themes with peers • Pretend play with peers • Extended conversations between child with ASD and peers • Recreating familiar objects using toys with peers • Peers offering assistance or reminder to the child with ASD
Unproductive Interactions with Peers	• None observed

Discussion

The anecdotes in this article describe in detail how play interactions can become opportunities for further isolation or for developing more meaningful experiences with peers. As opportunities for interaction are considered experiences for learning in the social constructivist theory, the sociocultural context of children with ASD could influence how well an environment supports their social and cognitive development (Brown & Bergen, 2002).

Solitary Play

Learning to build meaningful relations with others is one of the key developmental tasks of children in their early childhood stage. Even for children without disabilities, this task could prove challenging (Guralnick, 1993). Today's children were also found to be less able in more complex forms of social play (Frost, Wortham & Reifel, 2012). From this, it could be inferred that the intricate forms of play have become more difficult to achieve for preschoolers today, regardless of their ability.

Children with ASD who experience a certain degree of social exclusion in their unproductive interactions with peers could find relationship building a daunting task. Preference for solitary play could be the result of deficits in peer interaction skills, which is prevalent among children with mild developmental delays (Guralnick & Groom, 1987). Hestenes & Carroll (2000) found that children with disabilities spend a good portion of their play routines in solitary play. Further, Hestenes & Caroll also suggested that the severity of the disability could affect the child's success during such interactions, as demonstrated for instance in the case of Grace and Frank from Anecdotes 1 and 2. Children with disabilities were also observed to have less social engagements than their peers even within inclusive settings (Walker, 2008). The literature, together with the anecdotes on the exclusion of children with ASD resulting in solitary play, could be related to two of the premises of sociocultural theory. First is the importance of the social context of learning and second is the role of social activity to development, are both relevant to the findings of this study. In the case of Frank, it could be interpreted that his observations of peer play, especially those wherein he walked towards a group of children to observe, could be manifestations of his interest to participate. From this, the next point of inquiry would be if observations of peer play such as those seen from Frank were given support, then could instances of exclusion be turned into opportunities for learning and development? The concept of 'participatory appropriation' of Rogoff (1992) come to mind with this inquiry. This concept represents the process wherein the learner gains a new understanding of his role within a group. This new understanding of role in a social group then leads the child to alter his behavior, consistent with how he perceives himself as a member of this

group. Erwin, Alimaras, & Price (1999) discovered that children with disabilities continue to engage in solitary play even when the social context is rich in opportunities to interact. This, in relation to the findings of this study and relevant literature, makes the inquiry on providing support even more pressing. It is here, perhaps, where the zone of proximal development and the educator's support could play a critical role in identifying the necessary to make the most out of opportunities for development within daily interactions.

There is another side of solitary play that could also be considered in this discussion. While this form of play could be a venue of social exclusion, solitary play could be a natural and productive occurrence for all children in their early years. Typically developing children and socially competent preschool children were found to engage in solitary play as well (Rubin, 1982). For these children, solitary play is a venue for goal-directed play. It is possible therefore, that solitary play is a product of individual preference rather than the lack of ability to socialize (Frost, Wortham & Reifel, 2012). Recent studies also inferred on the possible reasons why children of all abilities prefer solitary play. Studies such as that of Katz & Buchholtz (1999) suggest that children may have decided to engage in solitary play because they believe that they could complete a task on their own or because of their need for time separate from their peers. It is possible, according to this study, that solitary play could lead to even more productive behavior from the children because it is through time alone that they might be able to experience a sense of peace and control within their environment.

This part of the discussion intends to portray the two faces of solitary play for children of all abilities. The anecdotes derived from the observation suggests that both dimensions of solitary play could be experienced by children with ASD within inclusive environments. Acknowledging both harmful and beneficial aspects of solitary play could be the basis of educators to adjust supports provided for children. For those who engage in solitary play due to exclusion, educators could focus on bridging the gap among peers. They could aid in communicating, specifically for children whose disabilities are magnified due to language delays. For children who have been observed to engage in solitary play for what seems to be a need for time alone or to engage in constructive activities, educators could respond by helping the child achieve such preference even in the middle of shared play. The level of assistance provided by the educator, therefore, is most critical in making solitary play beneficial for the child.

Parallel Play

Parallel play is an opportunity for children with ASD to be immersed in social activity where they could be exposed to a myriad of social cues and possible initiations from peers. Such play also allows the child to experience being part of a community within a level of interaction that he is comfortable with at the time. While proximity to peers is one of the benefits of being a part of an inclusive learning environment, the anecdotes of parallel play presented in this article show that scaffolding and continuous practice have an important role in promoting productive interactions among children. Understanding how interactions lead to successful or unsuccessful social relations could be cues for educators on the child's zone of proximal development for belonging in his community.

In Anecdote 3, the children were using the same toys at the same time but apart from brief glances to each other, no further interactions were observed. According to Erwin, et al. (1999), children who engage in either solitary or parallel play may not be seeking to engage the company of their peers. While the benefits of solitary or parallel play have merit, it could be argued that parallel play could also be used as opportunities to create cohesion in the children within the community. In the instance of individual play with the same set of blocks for example, group discussions after the free play routine could include some discourse on the objects recreated by each child during their separate block play. This could be a beginning for productive interactions in two ways. First, it is through group discussions that the educator could promote the children's awareness of the peers that surround them. Second, by pointing out that children sometimes use the same play materials, it becomes possible to encourage collaboration for future play. While the second suggestion

could take time to develop, exposing the children to ideas of working collaboratively is a start for encouraging children to try to go beyond their current play skills.

Buysse (2003) recommended that educators try to implement more active strategies as they promote social competency skills. Active strategies could include coaching children to practice their skills in actual interactions and remediating communications with peers. This was evident in the coaching provided by the shadow teacher in Anecdote 4. Teaching peers to try different strategies and to use cues that children with ASD already understand seemed to encourage interaction. Instead of their peers giving up in frustration after a single strategy was implemented, the peers sought further help from the shadow teacher until a response was achieved. This is critical especially for children who have difficulties in communicating. Brown & Bergen (2002) recommended for adults make activities that invite verbal and nonverbal responses to facilitate communication among children. Simple responses, such as "share" in the case of Huey, was effective in encouraging interaction because it is a word that could be understood both the child with ASD and his peers.

Parallel Play with Regard

When children use the same play objects as they develop their individual play themes or when children play within a common play theme but with one as a passive recipient, play interactions become a fertile ground for shared experiences and meaningful encounters. Interactions as simple as holding another's hand to guide them through an activity is an opportunity to gain understanding of others and to go beyond mere acknowledgement of their peers' presence in their learning environment.

Deliberately pairing children of varying abilities for structured and unstructured activities is a strategy utilized by educators in this inclusive setting to encourage interactions among children. The anecdotes show some similarities with the findings of Odom and colleagues (1999) wherein they found that the effects of interventions implemented within the natural learning environment could support further interactions because peers will continue to function together within the same setting even after the exercise. Pairings among children with ASD is also a possible strategy, as demonstrated in this study.

Anecdote 5 depicted the pretend play of children in their make-believe restaurant. It is an illustration of the children generalizing their pairings to interactions beyond exercises, which is a possible manifestation of social development. As an implication, educators could see these events as opportunities that could enhance the relations of the child within his learning community. Educators could enrich an inclusive environment by offering initial interventions of pairing children of varying abilities in play, and then later on providing opportunities within the environment for such pairings to be used by the children again. By mediating such circumstances, educators could guide the children in understanding that being part of an inclusive community means developing the social competency of *all* children, as well as preventing discriminatory attitudes from peers. This concept also applies to the unproductive interaction observed from one outdoor play session. When one child was subtly excluded by his peers from their running game, mediation from a more abled peer or an adult could have made a difference in the experience of the child. It could have also influenced the attitudes of the peers towards the child, wherein an adult could have processed with the group what participation in a simple game could mean for the child with ASD .

Parallel play with regard is a category that seems to be a prime representation of the zone of proximal development. It is in within this category of play that mediation from those who are more able seems to allow the child to extend beyond his usual preference for solitary play. Parallel play with regard could be considered as opportunity for further scaffolding to be provided in order to encourage children to experience more complex forms of play.

Simple Social Play

It could be inferred from the observations recorded that the availability of free play routines within the daily school routine contributed to the occurrence of simple social play interactions of children with ASD. It must also be noted that most of the simple social play, as determined in another section of this research, were child-initiated. To help the reader appreciate the

significance of this observation it must be explained that in this inclusive early childhood setting, free play routines are sometimes used to deliver structured activities for children with ASD . Consistent with the idea of pull-in interventions, this practice allows the educators to provide activities to the child for cognitive and fine motor skill exercises. Child-initiated free play activities, however, is a practice that must be deemed valuable for social skills development. In lieu of structured exercises for motor or cognitive tasks, free choice play routines could be utilized as a time for the children to be surrounded by peers and to choose peers with whom they were interested in sharing activities with (Buysse, 2003).

Simple social play requires more complex play skills from children. To engage in simple social play, children need to be able to understand social cues and respond appropriately to these cues. This characteristic of simple social play makes it even more significant that such play events were observed when the children with ASD were less supervised by their teachers. It is possible that for less complex play, teachers provided more prompting because the children were just beginning to master social skills for relating with peeres On the other hand, instances of simple social play could have been supervised less because the children were at the point of mastery for play interactions.

Furthermore, it is worthy of discussion that the children who engaged in simple social play were not the oldest among the nine participants of this study. The event used as illustration of simple social play were derived from the observations of the three-year old participant. One of the common characteristics of the children with ASD who engaged in simple social play were their more developed expressive language abilities, relative to the other children observed. Language seems to have a key role in engaging in more complex forms of play. Based on Vygotsky's theory, language is a primary social tool and is crucial to verbal and nonverbal interactions (Walker & Bethelsen, 2008; Essa, 2011). Language abilities also give children the necessary tool to share their knowledge, to invite responses from their peers (Broadhead, 2004), and to contribute in building a common play theme.

Finally, the anecdotes of simple social play depict the active participation in make-believe play from children with ASD . Vygotsky emphasized the importance of make-believe play in the early years for the development of social and cognitive competencies. It is, according to his work, an activity that demands children to recreate imaginary scenes, understand the social norms within these scenes, and to abide by the rules that the scenario requires (Frost, 2012). Pretend play for children with special needs have also been examined in recent studies. It has been related by prior studies to language, cognition, and social skills development of children with disabilities (Frost, 2012). Provision of materials (Winter & Dempsey, 1994) and environmental adaptations (Broadhead, 2004) are among the recommendations to encourage make-believe play in inclusive early childhood settings. Further studies on the play interactions of children with ASD could examine the outcomes of such provisions to the development of their relations within their learning environment. It is possible that open-ended materials provided for the make-believe play of children in inclusive settings could increase the occurrence of simple social and even reciprocal play.

Reciprocal Play

Observations for this study did not reveal the occurrence of reciprocal play within the free play routines of the nine children with ASD . It is possible that the children are just beginning to master skills required for simple social play, that more opportunities for play interaction are needed for reciprocal play to emerge.

Conclusion

This study on the play interactions of children with ASD within an inclusive early childhood setting aims to emphasize the recommendations made by Mallory& New more than two decades ago of having a sound theoretical framework for inclusive practices. Social constructivism was perceived to be a sound foundation for practices because it views learning and development as deeply embedded and related to the social context & experiences of the child.

This article illustrated how children with ASD engaged in play interactions of varying

complexities within an inclusive play setting. The anecdotes described the roles that the peers and adults had in making play interactions productive or unproductive. The findings further emphasize the primacy that the social constructivist framework gives on social relations as a vital instrument in making inclusion a successful reality for all children.

Limitations

This study aims to document the play interactions of children with Autism Spectrum Disorder (ASD) within an inclusive early childhood education setting. The anecdotes in this article described in detail how play interactions of children with ASD could be opportunities for further isolation or for meaningful interactions with peers and adults. This research could be extended by creating interventions or programs guided by the social constructivist framework as proposed by Mallory & New (1994). Such interventions or programs could be evaluated by future research to determine their impact on the play interactions of children with ASD. This research could also serve as the springboard for more studies conducted within the natural play settings of children with disabilities. Interventions that highlight the importance of the children's sociocultural contexts could also be observed further and could include the use of more unstructured pretend play materials, such as those proposed by Broadhead (2004).

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