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Teaching Social Skills or Play: the Importance of Foundational Skills

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TEACHING SOCIAL SKILLS OR PLAY: THE IMPORTANCE OF FOUNDATIONAL SKILLS

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My grandmother, Marcia, is the person who is responsible for my interest in special education and play. She had no idea that by letting 5-year-old Bess tag along to her preschool class she would inspire another special education teacher. Neenee, you were my inspiration.

Abstract

The purpose of this study is to conduct a thorough examination of the current literature related to the background, benefit and implementation of play in teaching social skills to children with autism spectrum disorders. The ability to demonstrate joint attention, demonstrate join attention and participate in functional and pretend play continues to show a correlation with children's language, cognitive and social skills. Functional and symbolic play provide children an opportunity to practice new vocabulary, experiment with scenarios they have observed, and have social interaction. Children with autism spectrum disorders do not develop these skills easily and naturally as their typically-developing peers do and they require specific intervention in order to acquire these skills. A number of interventions are currently being used by therapists and special education teachers in and out of the classroom to improve social and play skills.

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CHAPTER I: INTRODUCTION

Not every teacher or clinician's first attempt at teaching social skills to children with autism spectrum disorders will end as the author's did, though the majority will hit their fair share of speed bumps along the way. Working with children with autism spectrum disorders brings a set of unique challenges due to their needs in a wide variety of areas. The purpose of this study is to conduct a thorough examination of the current literature related to the background, benefit and implementation of play in teaching social skills to children with autism spectrum disorders.

The author had three boys in her first social skills class, a class she taught during her first few months of teaching. Collin was a second grader without an autism diagnosis. Chase and Bruce, a first and second grader, respectively, both had been diagnosed with autism. The author placed a box of Legos in front of the boys. Collin expressed enthusiasm for Star Wars and immediately began building a ship from the films. Bruce and Chase dug around in the bin. Bruce found a flat piece and started to add to it. Chase was becoming agitated. He was digging frantically through the bin and pushing Bruce and Collin away.

Teacher: "Chase, do you have a problem?"

Chase: "I need the instructions!!"

Collin ignored what was going on and continued to build his Star Wars ship. Bruce looked around and spotted the folded-up instructions and handed it to Chase.

Teacher: "Chase, what do you say to Bruce?"

Chase: "Thank you Bruce."

Chase had grabbed the instructions from Bruce and flipped through them as if looking for something specific. He found a diagram of an airplane and started looking for the pieces. Now that Chase was more calm, the author redirected her attention back to the other boys.

Teacher: "Wow Collin, that is looking pretty cool! What is it?"

Collin: "An X-Wing."

Teacher: "Bruce, do you like Star Wars?"

Bruce: "No."

It was clear to the author that this method of teaching was not going to yield the desired results. Meanwhile, Chase was starting to get frustrated again.

Teacher: "Chase, do you have a problem?"

Chase: "I can't find this piece!" Chase held the diagram up to the author's face and pointed.

Teacher: "Do you think we could use a different piece and make the plane a different color?"

Chase: "No! Of course not! It's supposed to be red!"

Teacher: "Chase, is this a little problem or a big problem?" That's when the rest of the Legos went flying across the room.

It became clear to the author that her students did not have some of the basic building blocks to play imaginatively. Even within her misguided lesson, she had stumbled upon skills such as joint attention and cognitive flexibility that her students were lacking. Rutherford, Young, Hepburn, and Rogers (2007) explain the importance of pretend play for children with autism spectrum disorders:

> "Engagement in pretend play is one of the areas of development most profoundly affected by autism, and a large number of studies of pretend play in autism have published over the past two decades, with the consistent finding that children with autism show decreased frequency, complexity, and novelty of spontaneous pretend play behavior. Pretend play deficits are so widely recognized in autism that a failure to us toys symbolically is an item on many diagnostic systems for autism."

Though the incidence rate of autism spectrum disorders has stabilized in recent years, one in every 41 children have autism (Thompson, 2018). These are children who, without effective intervention, will struggle with relationships and communication in some shape or form the rest of their lives.

Definition of Terms

Reviewing the history, importance, and use of play in teaching social skills to students with autism spectrum disorders reveals several necessary key terms, which are important for readers to understand. The terms listed will be used frequently throughout this review. Familiarity with these terms will help readers achieve a better understanding autism spectrum disorders, play, and social skills.

Autism spectrum disorders: The persistent deficits in social-emotional reciprocity, nonverbal communication and relationships as well as restricted, repetitive patterns of behavior (*Diagnostic and Statistical Manual of Mental Disorders,* 2013).

Special Education: The practice of educating students with physical, cognitive, and/or learning disabilities. The education provided is structured to address the student's individual differences and needs.

Individualized Education Plan (IEP): A program that is developed to ensure a child who has a disability identified under the law receives specialized instruction and related services (e.g. occupational therapy, speech, etc.). The program is updated each year and specifies the goals, setting, and duration of the program.

Functional play: Play involving the use of objects in the way they were designed to be used (e.g. driving a toy car, putting clothes on a doll, stacking blocks).

Pretend or Symbolic Play: Play involving substituting real life or imagined objects, characters, and actions for something they are not (Leslie, 1987). Pretend play appears by the age of 18 months in a typically developing child (Rutherford et al., 2007).

Social Skills: The ability to express interest and understand emotions, to join the play of others, andto participate in goal-orientated activities with peers (Jamison, Forston, & Stanton-Chapman, 2012).

CHAPTER II: LITERATURE REVIEW

Background

Play is something most parents, caregivers, and even teachers often don't consider. According to Mastrangelo (2009) play occurs naturally in most children and as they grow older and move through the various stages of play, they add complexity, imagination, and creativity to their thought processes and actions. He goes on to say that children with autism spectrum disorders may experience these various stages of play in a very fragmented order or not at all. Play is a vital tool in teaching children social communication behaviors.

As early as the 1960s, researchers were experimenting with how children with severe intellectual disabilities would react if they were moved to an environment that encouraged learning through gross motor activity and imaginative games. In a study by Wing, Gould, Yeates, and Brierley (1977), an experimental group of toddlers were moved to a hospital that emphasized gross motor activity and imaginative games. After two years in this particular hospital unit, the children in the experimental group had gained fourteen months in verbal mental age, compared to the six month gain of the children who had remained in the typical hospital.

Stockall, Dennis and Rueter (2014) explain that in play, "children are required to act in socially appropriate ways to extend and enhance the play interaction. Extending play interaction requires a set of socially-communicative signs that signal a willingness to interact with another." Researchers in the field agree that children need some combination of the following skills in order to be successful in play: social referencing,

reciprocity, responding, and initiation (Licciardello, Harchik, & Luiselli, 2008; Stockall et al., 2014).

Social referencing is defined as how children interpret nonverbal cues, such as eye gaze, facial expressions, and tone of voice, and how they use that interpretation to inform their own behavior (Stockall et al., 2014). This is seen in a typically developing child by eleven months, though eye gaze develops as soon as one month. Reciprocity can also be referred to as turn taking and involves awareness of a cue, the appropriate interpretation of the cue, and then providing the appropriate response. Reciprocity emerges as early as three months of age in typically developing children. Social referencing and responding are skills that are connected to the more basic skill of joint attention. Responding can be defined as requesting attention by verbalizing to, looking at, or appropriately touching someone's body in response to a communication attempt (e.g. tapping someone's shoulder) (Licciardello et al., 2008). While responding happens after someone else has started the communication process, initiation relies solely on the child to start that process. Initiation has been defined as any verbal or physical behavior by a child that immediately followed an initiation from a peer (Licciardello et al., 2008). Children with autism spectrum disorders have deficits in the areas of reciprocity, social referencing, responding, and initiation (Licciardello et al., 2008; Stockall et al., 2014), though the degree of impairment, continuum of symptoms, and the extent of ability differ from child to child and situation to situation (Mastrangelo, 2009).

Leslie (1987) offers a new approach to understanding the reason behind children's pretend play. This author aims to take the work of Piaget, Fischer and McCune-Nicolich and understand the internal mechanisms of pretend play. The first distinction Leslie

(1987) makes is in the difference between pretending and "acting in error." An example of "acting in error" is if a child is playing house and sees a lump of coal in the soap dish but thinks it is actually soap due to some inability to distinguish the difference (Leslie, 1987). Pretending is when that child sees the lump of coal in the soap dish and pretends it is soap even though they know it is not. Leslie referred to this as "acting in error" though McCune-Nicolich referred to it as "double knowledge" (Leslie, 1987); this phenomenon would later be commonly referred to as pretense. In a typically developing child, pretense develops in the first four years, with the first use seen between 12-18 months of age (Hess, 2006). This author experienced a student "acting in error" while she was playing with the fake food and kitchen items. This student struggles with comprehension and vocabulary and though it first appeared she was pretending that the fish was a knife and the lettuce was a plate, it was determined after some questioning that she did not know the difference between a fish and knife and lettuce and plate.

It can be difficult to differentiate between functional play and pretend play. Functional play is when a child is using an object in its appropriate manner (e.g. driving a toy car, drinking from an empty cup) (Leslie, 1987; Rutherford et al., 2007). Pretend play is more complex and includes object substitution, attribution of pretend properties, and imaginary objects (Leslie, 1987; Rutherford et al., 2007). In contrast, because children with autism spectrum disorders do not seek to share experiences in the same way typically developing children do, their play is often rigid, repetitive, and stereotyped; it is also shorter with fewer play sequences and without the complexity and creativity of typically developing children (Hess, 2006; Manning & Wainwright, 2010).

Rutherford et al. (2007) conducted a longitudinal study to determine if the theoretical ideas about pretend play in autism spectrum disorders held true over time. The participants included 28 children with autism spectrum disorders, 18 with other developmental disorders (seven children with Down Syndrome and eleven with mixed etiology developmental disorders), and 27 typically developing children. The developmental age was matched so the clinical groups were seen twice over a 12-month period while the typically-developing group was seen twice over a 24-month period. It is important to match and consider developmental age because children with autism spectrum disorders do not develop at the same rate as their typically-developing peers. Children were assessed with the Autism Diagnostic Interview--Revised (ADI-R), the Autism Diagnostic Observation Schedule--Generic (ADOS-G), the Mullen Scales of Early Learning (MSEL), and the Abridged Early Social Communication Scales (ESCS), and the Fewell Play Scales to assess play maturity. They designed a spatial reversal task in order to assess the child's ability to change search strategy when the spatial location of a reward had changed (Rutherford et al., 2007).

Researchers first met with the children when the children's general cognitive maturity was just under two years of age; at this stage, the children with ASD showed deficits in all types of play (Rutherford et al., 2007). By the time researchers saw the children at a cognitive maturity of three years, the children with autism spectrum disorders only showed deficits in pretend play. The researchers measured spontaneous pretend play, as well as scaffolded pretend play, in which the ideas were supplied by the adult. The children with autism spectrum disorders showed deficits in both areas,

suggesting that previous theories about children with autism struggling with pretend play due to failure to generate ideas may be false (Rutherford et al., 2007).

The Benefits of Play

Social play is important for children with autism spectrum disorders for a variety of social, cognitive, and communication needs (Wong & Kasari, 2012). The ability to participate in both functional and pretend play has continued show a correlation with language ability, and pretend play has been linked to early word acquisition (ability to learn novel words) and word combining (stringing words together to form phrases) (Toth, Munson, Meltzoff, & Dawson, 2006). Researchers have narrowed down the prerequisite list of skills needed for children with autism spectrum disorders to effectively play to the ability to demonstrate joint attention, to imitate, and to play with toys (both functionally and symbolically) (Charman et al., 1997; Poon, Watson, Baranek, & Poe, 2012; Toth et al., 2006; Wong et al., 2007).

Joint attention is "the shared attention between social partners in relation to an object or event," including alternating eye gaze, following the eye gaze of another, or directing the attention of another (Toth et al., 2006; Wong et al., 2007). When a child looks at an adult, then at the object they want, and then back at the adult, they are using joint attention effectively to direct the adult's attention to the object. Imitation can be seen in newborn children who imitate simple facial expressions, such as mouth opening. By nine months, typically developing infants are able to imitate immediate and deferred actions, providing the child with a shared experience and means of communicating (Toth et al., 2006). Functional and symbolic play provide children an opportunity to practice

new vocabulary, experiment with scenarios they have observed, and have social interaction.

Toth et al., (2006) conducted a study that tracked the same 42 children children, starting at ages three to four over the course of three years in order to determine if joint attention, imitation, and toy play can be used to predict language ability. They found that initiating joint attention and immediate imitation (i.e. the adult making a face and the child imitating it) were the most strongly associated with language skills in three to four year old children with autism spectrum disorders. Toy play (the ability to use toys in a functional and pretend way) and deferred imitation (the ability to imitate an action after a length of time had passed) were associated with higher rates of language skills in four to six year old children with autism spectrum disorders. According to Toth (2006), the ability to reproduce actions at a later time (deferred imitation),

> "reflects not only symbolic thinking and intact recall memory, but also a shared attitude towards objects… through toy play and imitation, the child not only comes to an understanding of the world around him--what people do and think and how objects work--but also has the opportunity to demonstrate that understanding."

If a child struggles with understanding that the people around them may think about an object in a different way than they do, they will have difficulty demonstrating this understanding. This difficulty in identifying with another person's bodily expressed attitudes limits perspective-taking and therefore negatively effects their pretend play (Hobson, Lee, & Hobson, 2009).

Poon et al. (2012) used retrospective video analysis to compare joint attention, imitation, and object play to social-communicative and intellectual outcomes later in life. The retrospective video analysis consisted of collecting home videos from the parents of 29 children with autism spectrum disorders and coded it using the Object Play Coding Scale (OPCS) and the Naturalistic Observation Schedule of Infant/Toddler Behaviors (NOSIB). By using retrospective video analysis, researchers were able to sample features of infants who later were diagnosed with autism spectrum disorders without the limitations of caregiver memory or post-diagnosis recall bias. The study found that, similar to previous studies, the joint attention gains of the children in the nine to 18 month old group were small. They found that infants who were later diagnosed with autism spectrum disorders "experienced considerable delays in developing imitation and play skills as early as nine to twelve months of age" (Poon et al., 2012). The children who displayed higher levels of joint attention, imitation, and object play as infants had stronger communication and intellectual skills when they grew older. Infants with better joint attention skills are able to learn more words through association and context. Infants with better imitation skills are able to form more relationships and learn behaviors such as games. Infants who can play with objects have more nonverbal learning opportunities, relationship building opportunities, and opportunities for language acquisition through association (Poon et al., 2012).

The amount of growth children make in the areas of joint attention, imitation, and play affects their social skills, communication, and language. Some researchers refer to this as social competence. "Social competence involves the ability to express interest, understanding, and emotion; the ability to join the play of others and; the ability to

participate in goal-orientated activities with peers" (Jamison et al., 2012). In peer-to-peer social interactions, children with autism spectrum disorders "have difficulty developing reciprocal friendships due to difficulties with cooperative play, prosocial behavior, empathy, perspective-taking, play skills (e.g. pretend play, turn-taking) and communication" (Henning, 2016). As children grow older this becomes even more difficult because play becomes inherently more social and children are expected to communicate more with each other (Manning & Wainwright, 2010). Children with autism spectrum disorders also have difficulty regulating themselves during social interactions due to any repetitive, stereotyped behaviors and inflexible thoughts (Henning, 2016). Because the key characteristics of autism spectrum disorders are deficits in social-emotional reciprocity, nonverbal communication, and relationships (*Diagnostic and Statistical Manual of Mental Disorders,* 2013) the expected social interactions inherent in play combined with the other deficits in play skills present in autistic children, create a very difficult environment.

Interventions and Strategies

Typically-developing children are able to acquire social competency skills with little teacher intervention, naturally gaining joint attention, imitation, and play skills. Students with autism spectrum disorders require specific intervention in order to acquire these skills. A number of interventions are currently being used by therapists and special education teachers in and out of the classroom to improve social and play skills, including behavioral approaches (Licciardello et al., 2008; Wong & Kasari, 2012), social skills groups (Henning, 2016), child-centered play therapy (Blanco & Ray, 2011; Salter,

Beamish, & Davies, 2016), peer- mediated interventions (Zercher, Hunt, Schuler, & Webster, 2001), and teaching interventions (Wong, 2013; Jamison et al., 2012).

Child-centered play therapy (CCPT) is a form of therapy that involves children participating in activities of their choice, such as games, art, and theatre. CCPT is also known in the United Kingdom as nondirective play therapy (NDPT). CCPT, or play therapy, has proven as an effective intervention resulting in desireable social behaviors for children with a broad spectrum of social, emotional, and behavioral challenges (Salter et al., 2016). Play therapy has improved motor functioning and academic ability in children with learning disabilities (Blanco & Ray, 2011). CCPT works well for children with autism spectrum disorders because the framework allows therapists to work directly with students on increasing their joint attention, imitation, and play skills by forming relationships and modeling (Salter et al., 2016). CCPT requires a dynamic interpersonal relationship between the child and counselor so the child has the freedom to fully express his feelings and explore roles and solve problems within the play (Blanco & Ray, 2011). Due to this necessity of one-on-one counseling staff for CCPT, it is not a widely used intervention in schools.

Because of the personnel-intensive nature of CCPT, a more classroom-friendly model was developed. The integrated play group model is characterized by well designed play spaces, interactive play materials, consistent schedule and routine, age and developmental-status balanced play groups, guided participation, and full immersion in play (Zercher et al., 2001). Play groups are generally composed of no more than five children, consisting of one or two children with autism spectrum disorders (referred to as "novice players") and two or three typically developing children (referred to as "expert

players") who meet on a regular basis (Zercher et al., 2001). Zercher et al. designed a study following two six year olds with autism spectrum disorders ("novices") and three typically developing children (ages five, ten, and twelve) who were brought together for a play group every Sunday. The typically developing children ("experts") were coached on how to include the novice players, how to use attention directing to establish joint attention, how to model symbolic play, and how to model. Before each playing session, the adult trainer would review the day's theme and the steps the expert could take with the novice. In the beginning, there were anchor chart posters (posters with text and pictures designed to cue the "experts") mounted around the room to help the expert players remember strategies but they were faded as the weeks went on. The results showed that children without disabilities can not only be trained to provide highly intensive and effective social interventions resulting in increased joint attention, symbolic play, and socially directed language for children with autism spectrum disorders, but also that they can maintain that intervention without adult support or the anchor charts (Zercher et al., 2001).

Wong & Kasari (2012) designed a study with 55 preschoolers aged three to five years. Researchers observed the children at their preschools on three mornings within a two-week period and coded both child and teacher behavior. Their goal was to determine the extent to which preschool teachers were teaching and addressing joint attention and play in the school setting. The researchers found that not only did teachers rarely facilitate play in the classroom, but they provided minimal direct instruction of both play and joint attention and did not adjust their teaching to address these issues. When they did

address play, they focused on functional play, sometimes even stifling creativity for the sake of the activity (Wong & Kasari, 2012).

Wong (2013) designed another study in order to take these findings and apply a practical intervention to a classroom setting. The study was done with 34 preschool aged children with autism spectrum disorders aged three to six years enrolled in 14 different classrooms. Observations in the child's special education class took place throughout the intervention period; researchers coded for engagement, joint attention, and play. The intervention utilized behavioral strategies and milieu teaching principles (manipulating a child's natural environment to create a setting that encourages the child to engage in a targeted behavior) and was designed so teachers could embed joint attention and play strategies into their everyday teaching. The intervention could be individualized based on particular classrooms and/or students. The teachers had freedom to customize the intervention to fit their needs while working with the research intervention specialist. After only four intervention sessions, the children were showing significant improvement in joint attention both in the classroom and with research staff. The children also showed a significant increase in symbolic play in the classroom, but the same increase did not occur with the research staff (Wong, 2013). Perhaps most importantly, the teachers felt comfortable with carrying out the intervention and felt as though they could carry on with the intervention after the research was over, demonstrating that interventions can be implemented in the classroom with little disruption and minimal increase in workload.

Licciardello et al. (2008) designed a study in order to evaluate a social skills intervention program that emphasized both children's responses and their social initiations during their regular recess time with their normal paraprofessionals.

Participants were three boys and one girl, aged six to eight years, who had been diagnosed with autism spectrum disorders. During observation, the social interactions and social responses were recorded in 10-second intervals during indoor and outdoor recess. The design of the social skills intervention was based on pre-teaching, prompting, and reward. A typical interaction involved the child before recess choosing a toy/activity and a group of peers with whom to play. The assistant would then review how to ask peers to play and practice with the child, modeling correct behavior and reinforcing desirable behavior. Before joining the peers, the child was told that there would be a reward for appropriate play. After this intervention, the participants experienced an increase in social initiations and social interactions. (Licciardello et al., 2008)

Jamison et al., (2012) stresses the importance of proximity between students and bwetween teacher and student when working on increasing joint attention, social interaction and imitation. The closer peers are to one another and the longer this proximity lasts, the more likely cooperative play opportunities are to develop (Jamison et al., 2012). Teachers can increase proximity by introducing the “buddy system” in the classroom. A visual such as matching bracelets, color coded badges, or pictures are used to cue the children as to who their buddy is, and the children are then instructed to play with their buddy based on a specified theme for a specified amount of time (Jamison et al., 2012). More guidelines for the buddy system can be found in Table 1. Teachers can use mand prompts (an explicit play directive) or model prompts (a verbatim phrase) to help the child initiate play. Examples of these prompts are featured in Table 2. Additional ideas for toy and play centers are listed in Table 3 (Jamison et al., 2012).

Jamison et al. (2012) suggests some additional strategies for teachers to increase joint attention in their students as well. He specifically discusses these ideas for children ages two to six, but all of these principles can be easily adapted for a wide age range. He reports that young children will be more enthusiastic and more likely to attend to activities and toys that are new and novel. He suggests that the teacher rotate toys and activities on a regular basis so there are always novel items. Another strategy he cites is to create a single-focus activity. Single-focus activities can be any activity requiring all the students to be focusing on a single subject. This can be as simple as looking at the pictures in a book, a show and tell where students are expected to watch what one student is holding, or creating a group art project (Jamison et al., 2012). The author of this review uses single focus activities to encourage joint attention frequently. The author will have the attention of the group while reading a book (for example) and will direct student to "think about her" with their eyes. The author will wait until all the students are looking at her before proceeding. If there is one student who isn't looking she may say, "I can see that Mary is thinking about me, I can see that Nick is thinking about me, I can see that Joe is thinking about me. Alice, what are you thinking about?"

By creating opportunities for students to help around the classroom, Jamison et al. (2012) suggests that the teacher can provide opportunities for joint attention and social communication. Due to children with autism spectrum disorder having difficulty with initiation (Licciardello et al., 2008), teachers may need to suggest to the child that they help. For example, if a teacher sees that a student is struggling to find the markers, the teacher could provide a mand or model prompt by saying "hmm, it looks like you're having trouble finding the markers. I'm not sure where they are, but Nick (another

student) might know where they are. You can say, 'Nick, where are the markers?'" This strategy is greatly dependent on the physical, cognitive, and language abilities of each child involved, but adaptations can be made so that even greatly limited children can ask for and give help. These strategies can be used to encourage more joint attention and imitation during play to initiate social interactions.

Teachers of older children with autism spectrum disorders often struggle to find age appropriate ways to get groups thinking about a common goal and working together. Children have a wide variety of special interests by upper elementary school, some of which are more age appropriate than others. More creativity and innovation is required to engage older students with autism spectrum disorders in group activities that foster joint attention, social interaction, and imagination.

The "Maker Movement" has spawned makerspaces in classrooms and Maker Faires in schools (Clapp & Jimenez, 2016; Thompson, 2014). The Maker Movement is all about creating opportunities for students to create and explore using old and new technology. In makerspaces, students use everything from 3D printers and circuits to toilet paper rolls and marbles to explore a wide variety of subjects such as physics, chemistry, engineering, math, art, and music. Students can explore numerous ideas in this hands-on way including coding, meteorology, and elevators. At the Exploratorium, a museum of science, art and human perception in San Francisco, researchers evaluate the effectiveness of these projects based on markers such as student engagement, initiative, and social scaffolding by staff (Bevan, Petrich, & Wilkinson, 2015). These interdisciplinary projects offer a backdrop for teachers wanting to incorporate some of the strategies from Jamison et al. (2012) with materials that are geared towards an older

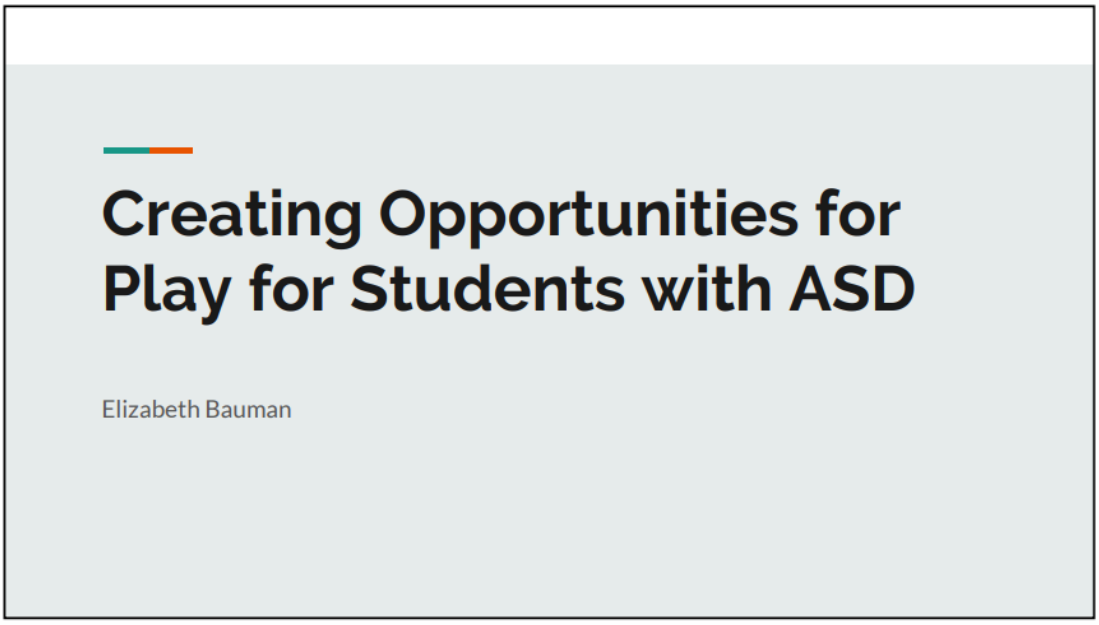
audience. By providing a new and novel activity, teachers can create opportunities for joint attention. A makerspace project can easily be turned into a single-focus event, just as a teacher would do with younger children.

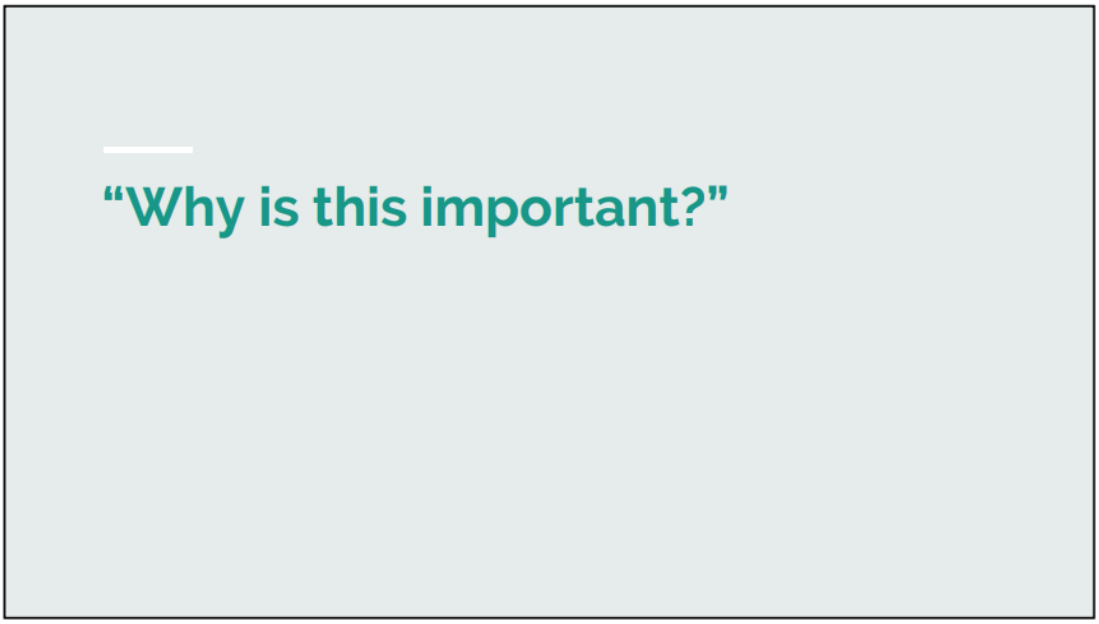
Special education teachers can tap the potential of this by replacing the vehicles they would use for younger students (like show and tell or make believe centers) with a makerspace in their classroom. The materials given must be selected carefully and adult guidance must be provided in order to foster the collaborative project needed to work on the social skills they are aiming for. If thought is not put into the type of materials and set up of the makerspace, students are likely to choose independent projects. Amy Boese, the teen librarian at the Roseville Library in Roseville, Minnesota, helps coordinate makerspaces and invention projects at the library. She has seen many teens come in for makerspace projects who only want to work independently and only want to work on one type of project. In her space, the teens usually have that flexibility, but she and her team have needed to come up with a variety of strategies to encourage collaboration when they are working on team projects because some students get stuck on a particular project or on certain part of a project. According to Boese, assigning roles to students before starting can help mitigate problems because roles can be tailored to student strengths to ensure no one is overlooked. Establishing predictable rotations and stations during camps helps students as well so they understand they won't be able to work on one thing for the whole time (A. Boese, *personal communication*, March 29, 2018). If special education teachers take the time to carefully select materials and projects to foster collaboration and set up systems such as team jobs and rotations, they can begin to work on the social skills aspect of the project.

Play is vitally important for the development of children's social and communication needs no matter their age. There are a variety of strategies available to teachers to help strengthen children's joint attention, imitation, and play skills in order to improve their social skills in the future.

CHAPTER III: POWER POINT

Slide Show Presentation for Special Education Teachers





Functional and symbolic play provide children an opportunity to practice new vocabulary, experiment with scenarios they have observed and have social interaction.

Joint Attention

Joint attention is the shared attention between social partners in relation to an object or event. This includes alternating eye gaze, following the eye gaze of another, or directing the attention of another.

Example: When a child looks at an adult and then at the object they want and then back at the adult, they are using joint attention effectively to direct attention to the object.

In order to have strong play and social skills, children need to have strong joint attention. Joint attention is also strongly associated with language skills.

“How do I do this in my classroom?”

Social Skills Groups

Peer Guided vs. Traditional

Peer Guided

- No more than 5 students
- More typically developing students ("experts") than students with autism ("novices")
- Meet on a regular basis
- To start, "experts" receive explicit instruction on how to encourage language use, social interaction and joint attention before each session. Instruction is faded over time.
- Anchor charts can be displayed to help "experts" remember strategies
- Limited intervention from adult

Traditional

- 4 to 8 students
- Usually all students with social skills needs
- Meets on a regular basis
- Moderate to high level of intervention from adults

Functional vs. Pretend Play

Functional	Pretend
Using an object in the way it was intended (ex. driving a toy car, using a brush to brush a doll's hair)	Involves object substitution and attribution of pretend properties and imaginary objects (ex. pretending a phone is a car, or using a rock as a brush to brush a doll's hair)

Tips to Encourage Pretend Play

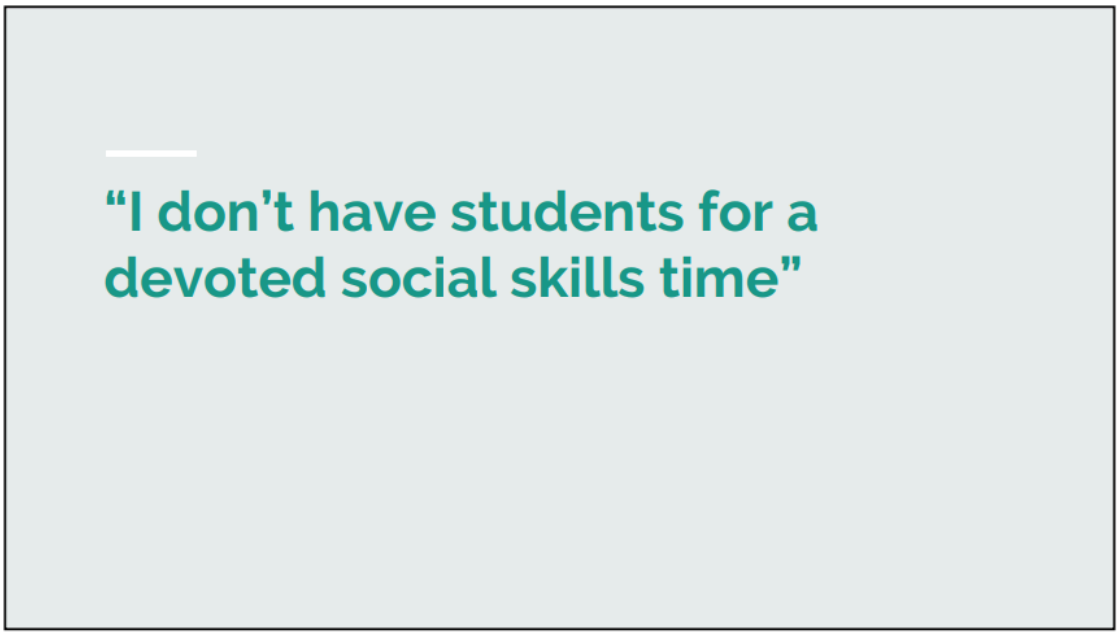
- Identify experiences the student is familiar with and have props/toys available to play out those experiences
- Respond to a student's pretend actions (ex. If the child take a bite of a pretend pizza, ask "is it yummy?")
- Encourage role playing with dress up items
- Substitute items (a spoon for a brush)
- Help the student elaborate on an idea (ex. Who is at the party? What are they eating? Where are they going?)
- Add obstacles and change the plans (ex. Say that the dog ate the birthday cake or a dinosaur is at the pool)

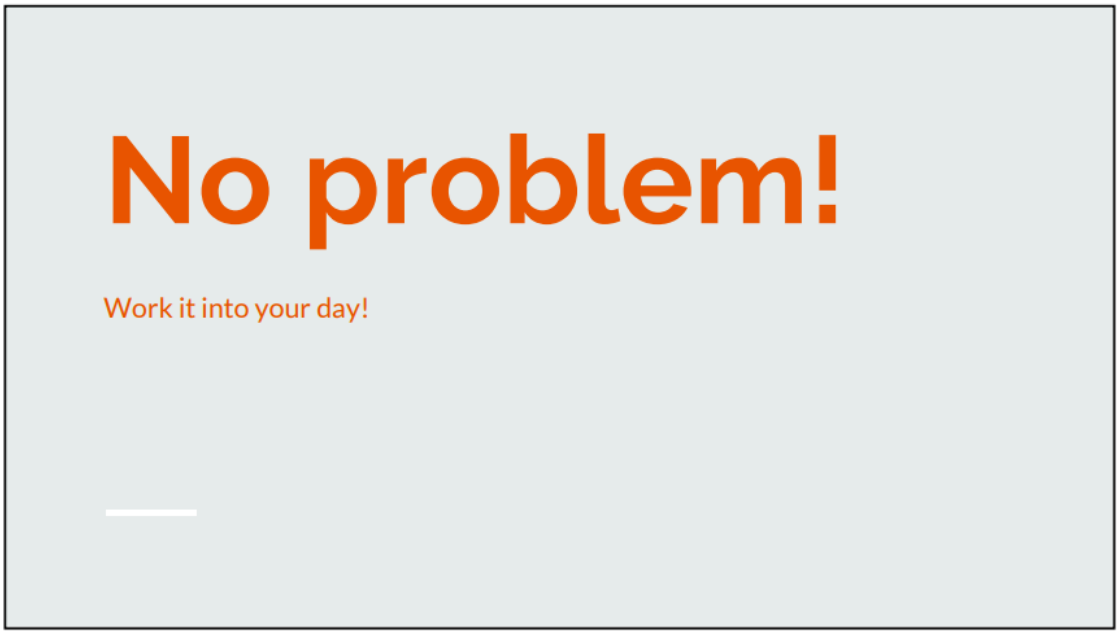
Get creative!

You don't need special materials. Things like leftover moving boxes can be great pretend play props. These students are problem solving how to put the boxes back together. The end goal is to create a city out of the boxes.

Older Students

- Maker Space materials such as magnetic tiles, blocks, toilet paper rolls, marbles, clay, Legos, etc can be used to encourage play with older students
- Set up opportunities for collaborative projects so you can work on joint attention, social language, and other social skills


"I don't have students for a devoted social skills time"


No problem!
Work it into your day!

Prompting

- Mand prompts- explicit play directive
  - (ex. "Sally, ask Sue for some blocks."
- Model prompts- verbatim phrase
  - (ex. "Sally says 'Can I have some blocks please?'")

Reinforcing

Positively reinforce whenever possible!

- Ex. "I see that Billy is thinking about going to the block center because his eyes are looking at the blocks!"
- Ex. "I love that Josephine is cleaning up just like I'm cleaning up!"

Buddy System

- Students are paired together for center time or free time
- Pairing can be done verbally or with a visual such as bracelets or color coding
- Pairs play together for a specified length of time
- This creates proximity creates natural opportunities for joint attention, social interaction and language

Single Focus Activity

- Any activity in which all students are looking and thinking about the same thing
- Ex. listening to a book being read, a show and tell circle when everyone takes turns, working on a group art project
- Perfect opportunity to use reinforcing language to direct attention to students who are using joint attention and imitation successfully

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CHAPTER IV: DISCUSSION AND CONCLUSION

Summary

It is often said that if you know one child with autism spectrum disorders, you know one child with autism. This references the broad variety of symptoms and traits covered by the autism spectrum. Just as every child with autism is unique, so are those who work with autistic children. Each educator brings a difference experience and perspective to the classroom and to teaching social skills to students with autism spectrum disorders. Many special education teachers will have much more experience teaching students with autism spectrum disorders than the author did when she encountered her first social skills class, though experience alone does not obviate the challenge of figuring out how to build meaningful skills into an engaging lesson.

In order for children to have effective social skills, children need to be able to demonstrate joint attention, imitate, and play with toys (both functionally and symbolically) (Charman et al., 1997; Poon et al., 2012; Toth et al., 2006; Wong et al., 2007). Students with autism spectrum disorders show decreased frequency, complexity, and novelty of spontaneous pretend play (Rutherford et al., 2007). Due to this increased difficulty, children with autism spectrum disorders require more interventions in joint attention, imitation, and play to develop these skills. These skills are not only important for social skills development but for development of cognitive and communication skills (Wong & Kasari, 2012), including early word acquisition and word combining (Toth et al., 2006).

There are strategies teachers can use to create opportunities for pretend play and to encourage and extend that play. Some of the strategies detailed here are easy to

implement throughout a teacher's school day, without any schedule changes, just simply changing how the student phrases things, presents things, or organizes things. Some of the the strategies are more structured and involve formal social skills groups. These strategies range from easily-implemented methods requiring only changes in phrasing, presentation, and organization to more structured and formal procedures that can necessitate significant modification of both scheduling and teaching style. Whichever strategy a teacher chooses for the classroom, progress of the students must be monitored for any of these strategies to be effective.

Professional Application

As a teacher of students with autism spectrum disorders, I work with many children who struggle with joint attention, imitation, function play, pretend play, and ultimately, social skills. As mentioned earlier, in my first year of teaching I was given a social skills group to teach for the first time. I had no idea what to do and it became quickly apparent that the children were lacking skills way beyond how to greet each other. Now, I regularly teach social skills classes because students with autism spectrum disorders usually have some sort of social skills need identified and thus have a social skills instructional service included on their Individualized Education Plan (IEP). The problem with talking about teaching social skills is that as teachers, we focus on only the symptoms that are presenting to inform our instruction.

For example, a second grade student who gets upset when the conversation is about anything but his preferred topics, gets in fights at recess, and has no friends. Usually, a special education team would look at this student and would say he needs social skills instruction. That social skills instruction might look like a social skills group

that gets together and works on how to have conversations, how to greet people, and how to make better choices. That instruction isn't going to address the fact that this student gets in fights because he doesn't know what a group is, how to stay in one, and how to play the games the kids are playing. It doesn't address that his peers get upset because the only thing he wants to do during free time is play Batman because that's the only story he knows. He doesn't have the cognitive flexibility or creativity to play something else. It doesn't address the fact that he doesn't understand his peers are upset when he only talks about Batman, spiders, and fans because he doesn't have any joint attention and isn't paying attention to them at all when he's talking. As teachers, we can drill our students with conversations starters and coping strategies, but unless we start getting at the root of the problem, we won't fix anything.

Some teachers will find these strategies easier than others. Most of these strategies rely heavily on embedding certain social language throughout the school day and across settings. This is most easily done when a teacher works with a student all day, every day. This gets more complicated in a pull out, or resource setting when a teacher may only see a student for 30 minutes, three times a week. One way to problem solve this is to enlist the help of the child's general education teachers and any paraprofessionals the child may work with during the day. Explain what you want to do and why and provide examples of how to encourage joint attention, imitation and play throughout the day. Even when a teacher works with a student all day, the other adults in the room should be trained on how to use the same strategies to ensure that there is consistency across settings and throughout the day. Teachers often miss the unstructured times during the day in which pretend play is most likely to happen and those opportunities should not

go to waste. The most important part is not who is providing prompts or guiding play, it's that it is happening consistently. If students are only exposed to these strategies irregularly, it isn't going to help. Students need to be exposed to these interventions on a regular, predictable basis (Zercher et al., 2001). It needs to be part of their routine and should feel natural for them.

In collecting this body of research and being able to present these strategies to special education teachers, I hope to be able to influence teachers who are providing social skills instruction. It is easier than most teachers think to make a difference is how a student interacts with his world, and these are just a few of the first steps. I have seen first hand what a big impact providing these consistent changes in a child's day can make. By taking these steps we can help strengthen children's joint attention, imitation and play skills in order to improve their social skills in the future.

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Appendixes

Table 1: Guidelines for Implementing the Buddy System

Table 2
Guidelines for Implementing the Buddy System in an ECSE Classroom

Guideline	Implementation	Rationale	Outcomes
Pair carefully	Peer partners are paired by similar levels of social skill and temperament	A shy child will not typically open up to an outgoing or outspoken child; if one child has social skills that are far beyond the level of the other child, interactive play will not easily develop	Conversations and play skills on the same level, comfort in communicating
Visuals	Necklace, bracelet, badge with picture of peer	A visual reminder of their "buddy" will prompt them to seek out the peer; may also initiate a fun interactive game by trying to locate the peer whose picture he or she is wearing	Longer duration of play with peer, visual reminders help to stimulate conversation and keep children participating in the shared play activity
"Stay, play, talk"	Picture cards (from a computer program or actual pictures) are used to teach the "stay with your partner, play with your partner, talk with your partner" sequence and display these cards for the children during "buddy time"	Using picture cards to teach them the sequence of "buddy time" serves as a reminder for children to stay next to, play with, and talk to their peers	Longer duration of intentional play with peer, development of camaraderie between "buddies"
Materials	Themed play toys such as doctor, grocery shopper, construction, a visual or auditory timer to let children know when the allotted time is up	Themed toys can inspire pretend play cooperation and collaboration through defined roles; a timer will serve as an indicator of when "buddy time" is over	Higher levels of play during "buddy time"; extension of play beyond the allotted time if children are more involved with role-play

Note: ECSE = Early childhood special education.

Source: Jamison, K., Forston, L., & Stanton-Chapton, T. (2012)

Table 2: Examples of Teaching Prompting During Play

Table 3
Examples for Teacher Prompting During Play

Type of Prompt	Definition	Example
Mand	Explicit instruction for target child to communicate with peer, but words not provided	"Ask Deon where the fire is."
Model	Teacher provides a specific phrase or utterance to target child	"Say, 'Deon, where is the fire?'"

Source: Adapted from Stanton-Chapman, Denning, and Jamison (2008).

Source: Jamison, K., Forston, L., & Stanton-Chapton, T. (2012)

Table 3: Examples of Materials and Toys Used to Stimulate Play

Table 4

Examples of Materials and Toys Used to Stimulate Interactive Play

Type	Category	Toys
Themed play	Construction	Blocks, uniforms, construction hats, hammers, nails, saws, screws, stapler
	Doctor	Stethoscopes, blood pressure measures, wraps, dolls, band aids, gauze pads, uniforms, shots, thermometers
	Firefighter	Hats, uniforms, blocks, walkie-talkies, binoculars, axes, badges, whistles
Play projects	Art	Large piece of poster board paper, crayons, markers, glue, colored paper, small objects
	Discovery	Water tables, sand tables, one big tank with microscopes and bugs, leaves, dirt, etc.
	Sensory	Shaving cream, finger paints, rice, marbles, different types of musical instruments

Source: Jamison, K., Forston, L., & Stanton-Chapton, T. (2012)