

ASHA 0944

Teaching Play, Language and Social Skills to Children with Autism: Techniques including Video Modeling

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Introduction

- Sarah Clifford Scheflen, M.S. CCC-SLP
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Overview

- play as critically important for children with autism
- play as a developmental sequence
- techniques to teach play
- introduction to video modeling
- presentation of case study using video modeling to teach play
- techniques to incorporate teaching language and social skills into your therapy using video modeling

Goals

- be able to describe the developmental sequence in which children learn play skills
- learn methodology to accurately assess your clients' current level of play
- describe techniques to integrate video modeling into your existing therapy

Developmental Importance of Play

- analogized to the “work” of childhood (Berliner & Casanova, 1989)
- critically important to children’s cognitive and social-linguistic development (Jordan 1997, Piaget 1954, 1962) and play skills often used as short-hand measure of overall developmental progress
- play is also correlated with language development; more advanced play (symbolic) predicts later development, peer interactions and potentially later-developing language skills (Baron-Cohen 1987, Sigman & Ungerer 1984)

Core Deficit for ASD

- one of the diagnostic criteria for ASD (DSM-IV)
- absent or delayed play skills very common, and play skills tend to be limited – stereotypical and rote, with a lack of symbolic, abstract and imaginative play (Wulff 1985, Ungerer 1981, Jarrold 1993, Whyte 1989)

What is NOT Play

- reading (A–B–C s) or counting (1–2–3 s)
- self-stimulatory behaviors using toys (especially those that light up and make noises)
- repetitive movements with toys (running car up the ramp and down the ramp over and over)
- ritualistically lining up or arranging toys
- memorizing series of facts or data (knowing a lot about dinosaurs, or airplanes)

Overview of “Play Ladder”

- play as a developmental sequence
- research identifies continuums from simplest, most concrete to more symbolic, abstract and imaginative
- ECPHP primarily uses a system created by Connie Kasari, Ph.D., Stephanny Freeman, Ph.D. and Tanya Paparella, Ph.D. at UCLA, which is a modified form of the Developmental Play Assessment developed by Karin Lifter, Ph.D., at Northeastern University based on descriptive studies of how play skills are acquired
- 16 distinct levels in the play hierarchy
- analogy to a “play ladder” – each new developmental level of play represents a higher rung on the ladder

Play Ladder – Steps 1 – 4

- **Level 1 – Indiscriminate Actions**
 - All objects are treated alike (e.g., all objects are mouthed)
- **Level 2 – Discriminative Actions**
 - Differentiates among conventional objects, preserving their physical characteristics, or single objects (e.g., rolls round beads, squeezes stuffed animal)
- **Level 3 – Takes Apart Combinations (“Take Apart”)**
 - Separates configurations of objects (e.g., takes all pieces out of puzzle)
- **Level 4 – Presentation Combinations (“Put Together”)**
 - Re-creates combinations of objects according to their presentation configuration (e.g., puts puzzle pieces into puzzle; nests the nesting cups)

Play Ladder – Steps 5 - 8

- **Level 5 – General Combinations (“Put In / Put On”)**
 - Creates combinations of objects that result in simple, non-specific configurations such as container/ contained relations (e.g., puts beads & puzzle pieces in the cup)
- **Level 6 – Pretend Self (“Pretend to Eat”)**
 - Relates objects to self, indicating a pretend quality to the action (e.g., brings empty cup to mouth to drink)
- **Level 7 – Specific Combinations – Physical Attributes (“Build a Tower”)**
 - Preserves unique physical characteristics of objects in the (physical attributes) configuration (e.g., stacks nesting cups, strings beads)
- **Level 8 – Child as Agent (“Feed My Dinosaur”)**
 - Extends familiar actions to doll figures, with child as agent of the activity (e.g. extends cup to doll’s mouth)

Play Ladder – Steps 9 - 12

- **Level 9 – Specific Combinations – Conventional Attributes (“Things That Go Together”)**
 - Preserves unique conventional characteristics of object in the (conventional attributes) configuration (e.g., places cup on saucer; places string of beads on self)
- **Level 10 – Single Scheme Sequences (“Feed My Dinosaur’s Family”)**
 - Extends same familiar action to two or more figures (e.g., extends cup to baby doll, to stuffed lamb, to interactant)
- **Level 11 – Substitutions With Object (“French Fry is an Airplane”)**
 - Uses one object to stand in place for another (e.g., puts bowl on head for a hat)
- **Level 12 – Substitutions Without Object (“Invisible French Fry”)**
 - Pretends to use something that is not there (e.g., shakes an imaginary salt shaker)

Play Ladder – Steps 13 – 16

- **Level 13 – Doll as Agent (“Dinosaur is Talking”)**
 - Moves doll figures as if they are capable of action (e.g., moves figure to load blocks in a truck; puts mirror into doll’s hand as if to see itself)
- **Level 14 – Multischeme Sequences (“Dinosaur Goes on an Adventure”)**
 - Extends different actions to same figure (e.g., feeds doll with spoon, wipes it with cloth, then puts to bed)
- **Level 15 – Sociodramatic Play (“Let’s Play House”)**
 - Adopts various familiar roles in play theme (e.g., plays house, assigning the various roles)
- **Level 16 – Thematic Fantasy Play (“I’m a Superhero!”)**
 - Adopts roles of fantasy characters (e.g., plays “Superman” or “Wonderwoman”, assigning the various roles)

Importance of Accurate Assessment

- play is a progression of skills which build on each other, so to teach play in a developmentally appropriate way you need to start at the child's current level and then progress from that level
- too often therapists attempt to teach play at a level too advanced for the child
- result – often slower learning, and stilted and rote play (e.g., memorized ABA scenarios); what if a playmate wants to go “off script”?

Techniques to Teach Play Skills

- ABA style instruction – adult directed
 - many “flavors”, below are just a few examples:
 - Discrete Trial Theory (DTT)
 - Pivotal Response Therapy (PRT)
- “floor time” style instruction – child directed
 - again, many “flavors”
 - Greenspan
 - Hanen
- UCLA approach (Kasari, Freeman & Paparella 2008 and 2006)
- organic incorporation into speech and language therapy (e.g., ancillary to traditional therapy, as an intrinsically-reinforcing modality)
- video modeling

Video Modeling – What is It?

- pre-recorded model is shown to child using audiovisual medium
- child watches model, and imitates modeled behavior
- much of children's learning is through imitation of their parents, siblings, peers and others
- model can be either another person, or self

Why Effective in Population of Autism

- various theories:
 - children with ASD tend to be strong visual learners (as opposed to auditory or kinesthetic) and have good memories, so leverages strengths (Charlop 1989)
 - children with ASD have sensory issues and are easily distracted in live therapy settings, but better able to focus on television (Zihni & Zihni 2005)

Some Advantages of Video Modeling

- models can incorporate locations and actors that would be impossible or impractical to reproduce in clinical environment
- model can be created and fine tuned using best practices to produce an ideal model (Dowrick 1991)
- once produced, models can be used again with the same child, or multiple children (Ayres & Langone 2005)
- modern technology means low barriers to clinicians creating and disseminating models

Some Limitations of Video Modeling

- research shows it is very difficult to use video modeling to show and eliminate negative behaviors
- time consuming to personalize video models to work on child's current goals

Case Study – Purpose

- teach play skills to children with autism through video modeling using a developmental sequence
- to assess generalization of play skills learned through this video modeling instruction across environments and materials
- to assess whether and to what extent incorporating language in the video modeling could teach language skills to those children

Case Study - Participants

- four subjects
- all males
- all had DSM-IV diagnosis of ASD
- enrolled in ECPHP program
- between 37 – 61 months of age

Case Study - Methods

- single subject, multiple baseline across subjects design
- initial play assessment conducted on each subject and baseline data obtained and used to identify subject's current level of play
- measured **appropriate play acts** (and coded the play level of each act), to derive **highest level of play achieved** and **average level of play** achieved in each session
- measured **appropriate play-related utterances**, to derive **MLU** over session, with non play-related utterances disregarded

Case Study - Procedure

- interventions were twice weekly sessions in which subject was shown a videotape of three play acts at his current level, twice in a row
- generalization probes conducted in regular classroom setting during unstructured play time twice weekly for five minutes at a time

Case Study - Procedure

- subject deemed to have mastery of level of play when exhibited three play acts at that level in a generalization probe, using toys not shown in video model
- two – three week maintenance phase observing subject in unstructured play time to determine whether skills retained in short term

Case Study – Closer Focus on Two Subjects (of Four)

	“Jerome”	“Matt”
Chronological Age	59 months	37 months
Mental Age (Psychoeducational Profile Revised (PER-R) Mean Age Equivalency over Four Subtests)	33 months	40 months
Preschool Language Scale Fourth Edition (PLS-4) Overall Language Standard Score (Age Equivalency)	50 (20 months)	94 (34 months)
MLU	0 – 1	2 – 3
Language	Did not initiate communication, required maximum prompting to use single words, and was echolalic.	Some longer stereotypical utterances, initiated to request.
Play Skills at Baseline	Level 1 (Discriminate Actions) / 2 (Indiscriminate Actions)	Level 8 (Child as Agent)

Case Study – Focus on “Matt” and “Jerome”

Case Study - Results

- all four subjects progressed through multiple levels of play (3, 3, 6, 6) and both generalized skills and retained them in short term
- language results inconsistent; appropriate play-related MLU increased for all subjects
- Jerome gained 3 play levels in 12 weeks and increased MLU from 0 to 1.4
- Matt gained 6 levels of play in 8 weeks and increased MLU from 1.0 to 2.4

Case Study - Implications

- adds to growing body of evidence suggesting that video modeling is an effective method to teach play skills
- key finding – subjects generalized new found play skills across settings and environments, and maintained them post-intervention (at least in short term)

Case Study – Further Research Suggestions

- examine how well gains maintained over time
- examine how generalized to home environment
- examine relative progress of matched pairs where one group receives instruction that is developmentally appropriate and one group receives instruction at fixed levels

Targeting Play in Therapy

- when developing goals think about all areas of communication.
- match your language or speech goal with the child's current level of play
- think “how can I target my client's play goal at the same time I target their speech or language goal”

Example of Integrating Play in Therapy

Using Video Modeling to Teach Conversation Skills

Using Video Modeling to Teach Pronouns

Trying to Use Flash Cards to Teach WH
Questions and then Video Model

Teaching Other Wh Questions

Using Video Modeling in Individual and Group Setting

Using Video Modeling to Teach Prepositions

Using Video Modeling to Teach Children How Other Children Talk

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