The Society for Clinical Child and Adolescent Psychology (SCCAP): Initiative for Dissemination of Evidence-based Treatments for Childhood and Adolescent Mental Health Problems

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DIVISION 53

American Psychological Association

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Workshop
JASPER: Targeted Treatment on Joint Attention, Symbolic Play, and Engagement Regulation for Children with Autism

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Part 1 of 8

Main points

- Engagement as an Intervention Target
  - What are the active ingredients of ‘engagement’
- Intervening on engagement
  - Important considerations
  - Example studies establishing the research base

Engagement as Critical Intervention Target

- Early signs, consistent across age…..
  - Engagement with others…..family members, peers
- What are behavioral signs of engagement?
  - Shared attention and affect
  - Joint attention
  - Social play with others
  - Conversation

Joint attention specific deficit for children with autism

Experimental Comparative Studies

- Matched samples of ASD, DD, Typical (MA or Language age)
  - ASD specifically deficient in JA, particularly IJA
  - Joint Attention correctly identifies 90% of children with ASD
  - Joint attention skills predict to concurrent and later language development (up to 16 years later)

Difference between SKILLS and STATES

- Initial focus on skills (pointing, showing, coordinated gaze)
- Skills occur during ENGAGEMENT with others
- States of engagement matter to skill development
  - Object and person engaged
  - **Supported joint (important to language learning in typical infants)**
  - Coordinated joint

Targeted Intervention Approach to Address Problems of Engagement

- To affect engagement, intervention needs to be targeted, dense and long term
- The targets of intervention change with development, and with amount of impairment in individual children
- To understand change in engagement (and the relevance to children's lives) OUTCOME measures of intervention must be meaningful
  - EIBI outcomes are IQ
  - High IQ can still be socially impaired

EXAMPLE

Comparative Efficacy Study: Focus on Core Deficits

Joint attention initiations

←Point to share

Show →

Symbolic Play →

Evidence of improving JA and Play with effects on Engagement

- **Kasari, Freeman, Paparella, 2006, JCPP**
- **Kasari, Paparella, Freeman, Jahromi, 2008, JCCP**
- RCT of 58 children, 3-4 years old
- Follow up 5 years later
- **Kasari, Gulsrud, Freeman, Paparella, Hellemann,JAACAP, in press**

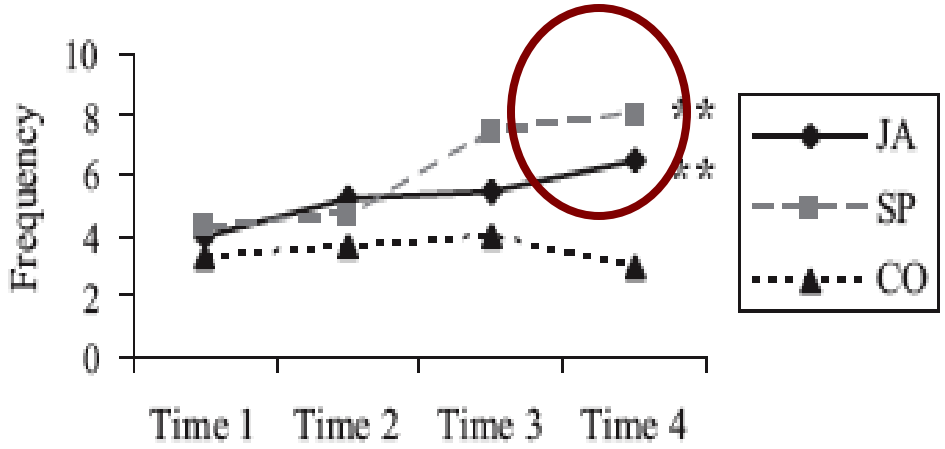
Joint Attention Intervention

Play Intervention

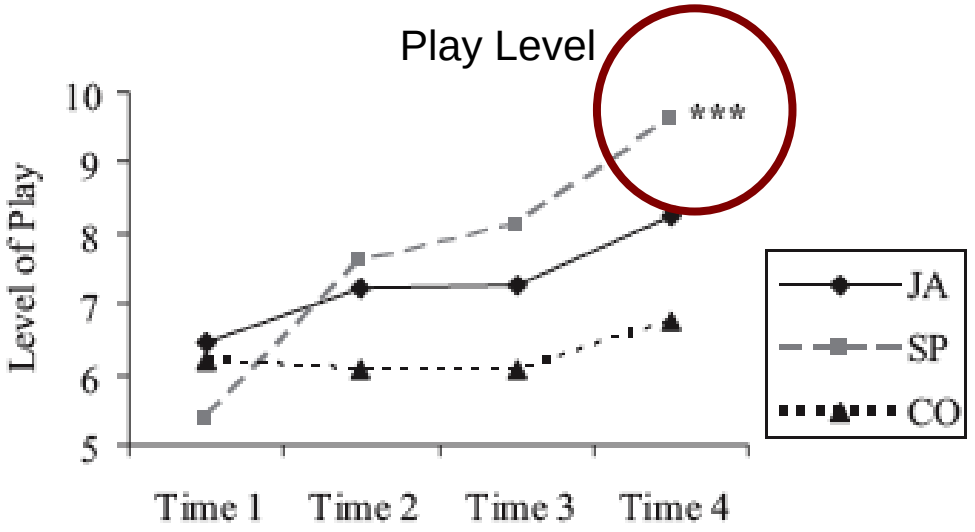
- All children receiving same 30 hrs per week of ABA
- Therapist led intervention
- 5-6 weeks daily for 30 minutes
- Combined developmental and behavioral approach
  - PRT….No
  - Floortime…..No
  - ☺….combination targeted

Change in proximal outcomes: Joint attention and play

Joint Attention Initiations



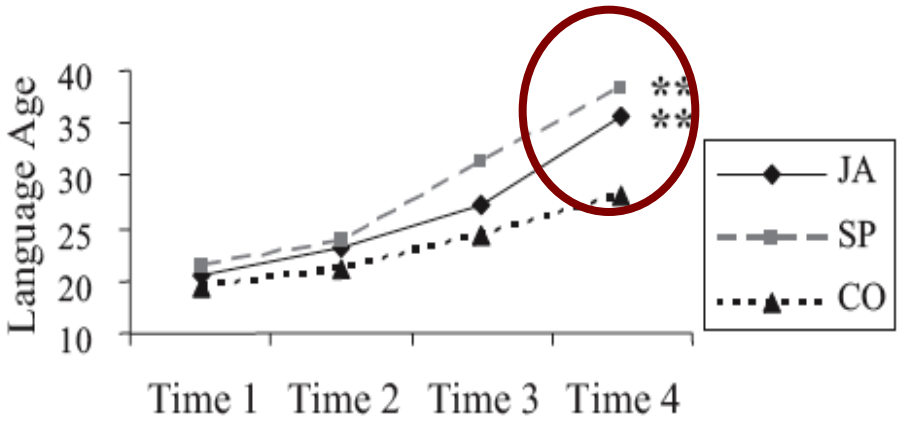
Play Level

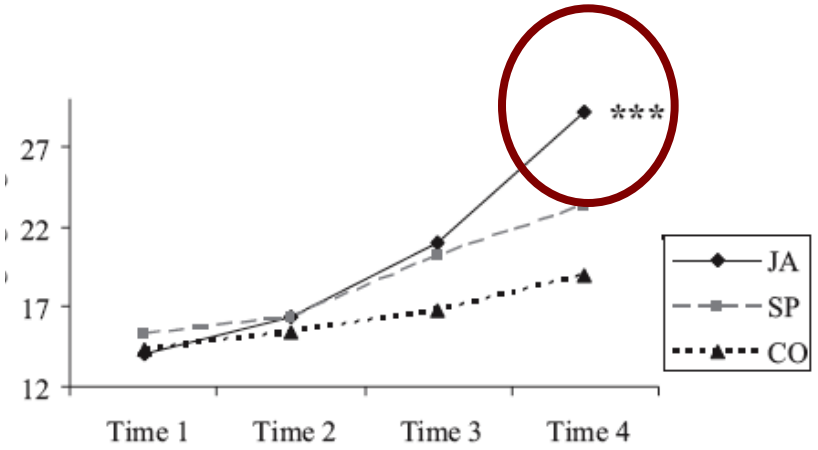


Why are these targets important? They predict to distal language outcomes

Follow up 1 year later: JA and SP groups better language

Follow up for Low Language Group: JA group best outcomes



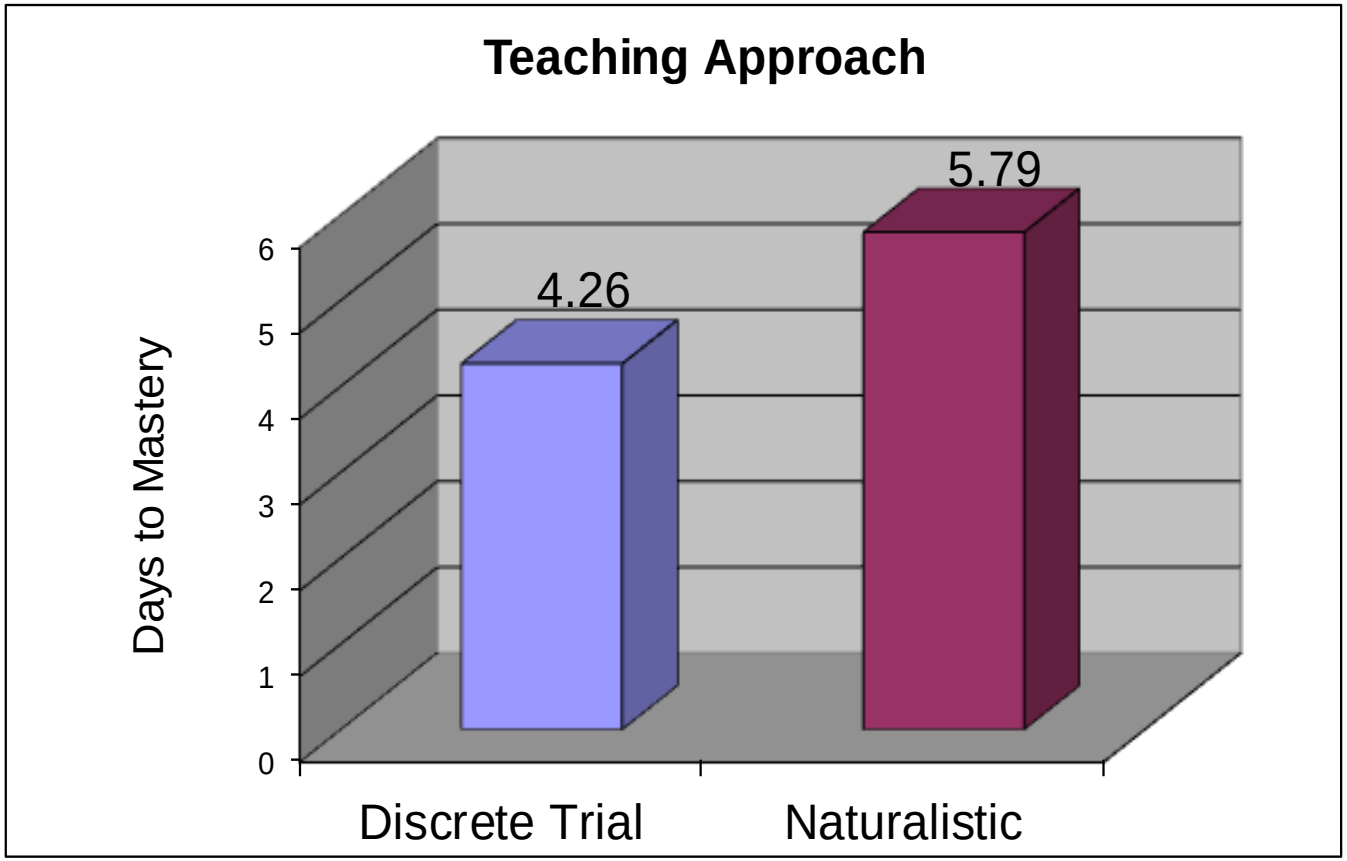


Kasari, Paparella, Freeman & Jahromi , 2008, JCCP

Does Approach Matter?

- Children in the study received both ABA discrete trials at table and developmental play therapy on the floor
- Did children learn joint attention or play skills faster using one approach or another?
  - Criteria for Performance Mastery
    - Focus on diversity not just frequency
    - More than one type of an unprompted initiation
    - 2 consecutive days
  - Days to Performance Mastery
    - Number of days to reach performance mastery criteria

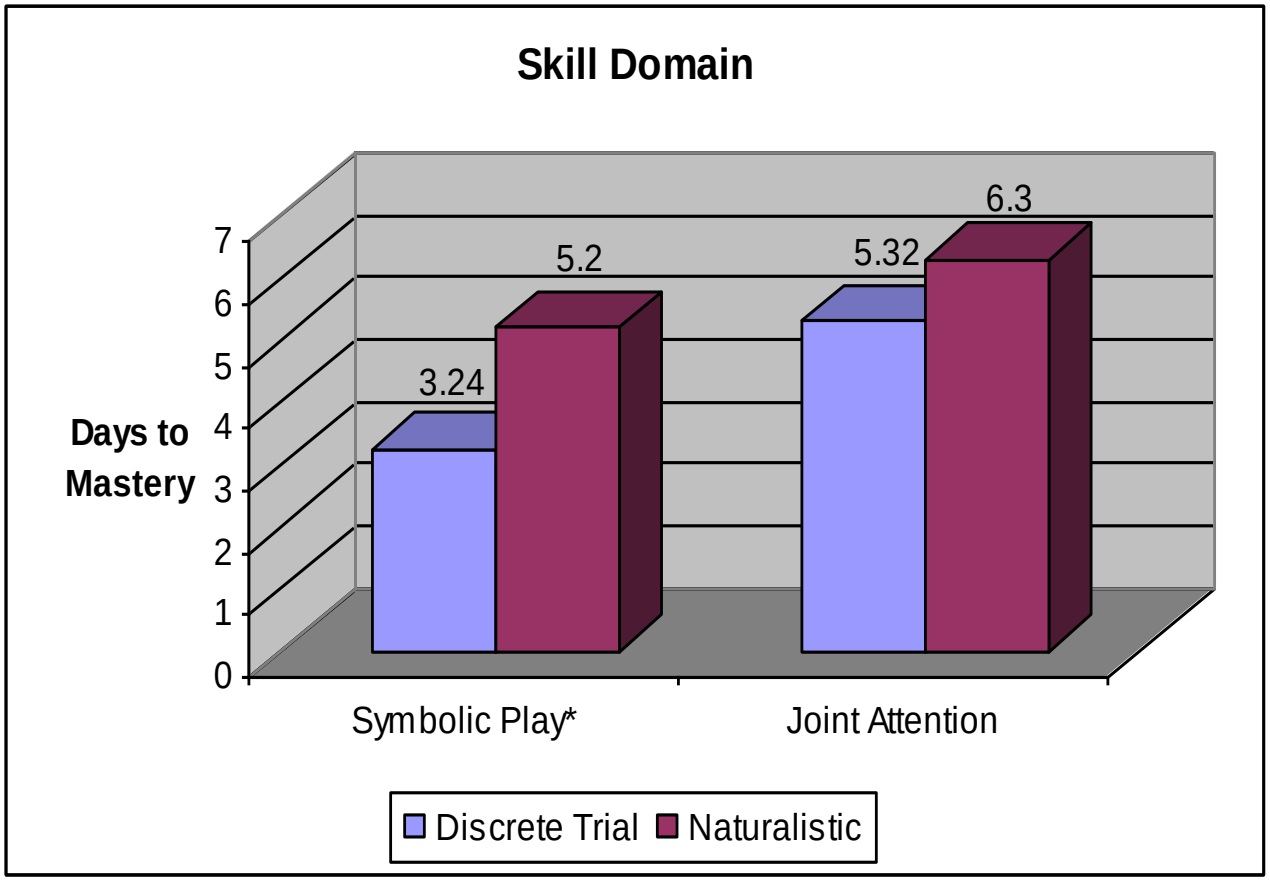
Results: Table vs. Floor



- Results indicate that children generally reach performance mastery criteria in the discrete trial setting before reaching criteria in the naturalistic floor setting ($Z = -2.18$, $p = 0.03$, two-tailed)

Wong, Kasari, Freeman & Paparella 2007

Results: Approach by Skill



- General results driven by play group: Play group faster in learning via discrete trials.
- For children learning joint attention skills--approach makes less difference: These children reach performance mastery criteria in both settings at about the same time

Wong, Kasari, Freeman & Paparella, 2007

Important points….

- Goal selected for each child was developmentally individualized
- Goals selected from 3 assessments---
  - Structured Play Assessment (SPA)
  - Early Social Communication Scales (ESCS)
  - Mother Child Interaction (and therapist child interaction)
- Selection based on emerging skills (or new skill if previous skill was mastered, and no new skill emerging)
- Typical developmental model followed

Studies on "Joint Attention"—Not all are the same

Study	N & Ages	Focus	Methodology	Findings
Jones, Carr, & Feeley (2006)	5 children, aged 2-3 yrs. Teachers, Parents	3 studies-- IJA and RJA--point only, "Look"	Multiple-baseline DTT, PRT	Respond mastery 19-78 sessions; Initiate mastery 26-157 sessions
Yoder & Stone (2006)	36 preschoolers Therapist mediated	PECS vs. RPMT; focus on RJA and IJA	RCT (3 therapy sessions/wk for 6 months)	NS group by time effect; moderator—some IJA increased more in RPMT
Schertz & Odom (2007)	3 children, under 3 years old Parent mediated	4 behaviors—faces, turn-taking, response, initiation JA	Multiple-baseline on behaviors—set order—duration of 2 to 6 months	1 child showed no change in RJA and IJA
Whalen & Schreibman (2003)	5 children, aged 2-4 Therapist mediated	RJA-- show, follow gaze/point; IJA--point ,coordinated gaze	Multiple-baseline, DTT, PRT	All 5 improved in responding; 4 of 5 improved in initiating; weaker generalization and maintenance

Importance of ‘development’ should not be underestimated

- Joint attention and play skills are uniquely developmental

- If taught at a point of the child’s developmental readiness, skills should
  - Appear in brief period of time, and not many sessions
    - (depends on some factors such as impairment, age, and history)
  - Once mastered, should not ‘go away’ and should generalize to other partners (given opportunity)

Pay off from early focus on joint attention/joint engagement

- Follow up of children in original study, 5 years later
- 40 out of the 58 children
- 32 became verbal and 8 minimally verbal
- Predicting Expressive Language:
  - Treatment group
  - CA
  - IJA
  - Play Level
  - Expressive Language
  - DQ
  - Gender

Pay off from early focus on joint attention/joint engagement

- Follow up of children in original study, 5 years later
- 40 out of the 58 children
- 32 became verbal and 8 remained minimally verbal
- Predicting Expressive Language:
  - **Treatment group**
  - **CA**
  - **Initiates joint attention**
  - **Play Level**
  - **Expressive Language**
  - DQ
  - Gender

Kasari, Gulsrud, Freeman, Paparella, Hellemann, 2012, JAACAP

What did we learn from this study?

- Active ingredient to early intervention is a focus on early developing core deficits
  - Joint attention
  - Play
- Results suggest the mechanism is likely engagement as JA and SP interventions led to similar outcome
- Suggestion that APPROACH also matters---the fusion of developmental and behavioral approaches
  - What is evidence for approach?
  - Generalizes to caregivers, maintains, predicts---both proximal and distal outcomes
  - Not found in other studies using other approaches

Evolved Intervention Model--JASPER

Followed with several other studies

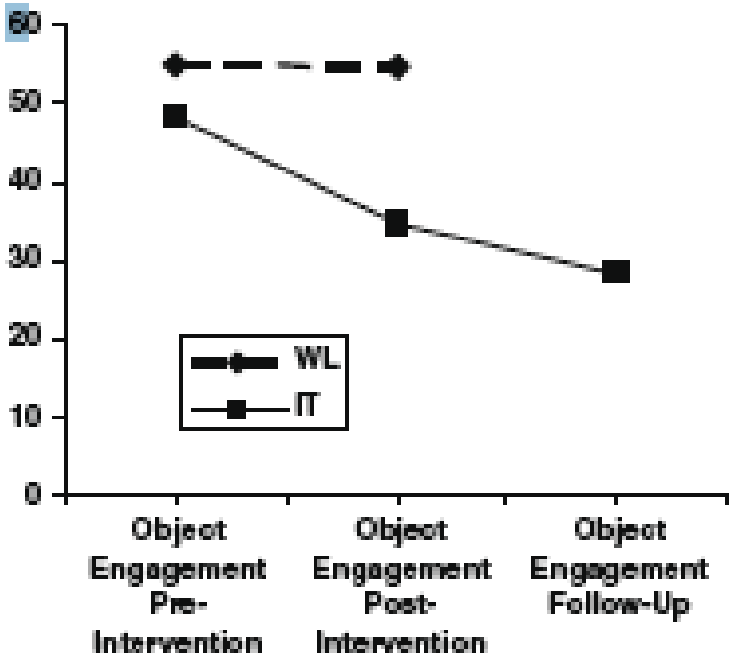
- Parent mediated interventions
  - 1) Toddlers—pilot with wait list control design (evolved JA/SPER model) n=38
  - 2) Toddlers—comparative efficacy---parent mediated (hands on) versus parent education n=86
  - 3) In home underserved, under-represented families and preschoolers n=120
- School based interventions
  - 1) Pilot preschool wait list control (teaching teachers) n=16
  - 2) Pilot preschool nonverbal (expert therapists) n=15

Example from parent mediated study

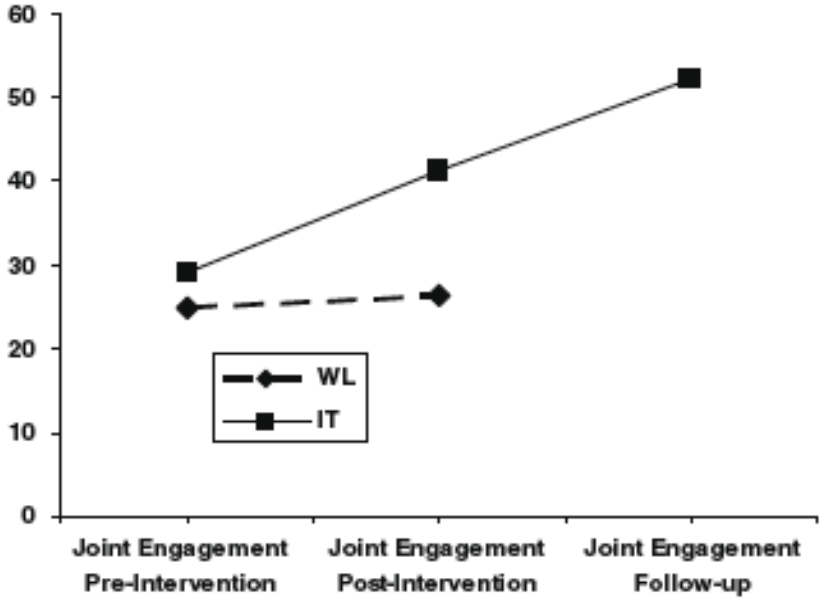
- Wait list control
- Taught parents one module at a time, individualized to parent
  - Based on strategies they used when playing with their child prior to intervention
- 3 sessions per week for 8 weeks with a one year follow up
- Focus on joint engagement states and play to teach joint attention

Findings: Engagement

Decrease Object Engagement



Increase Joint Engagement



Kasari, Gulsrud, Wong, Kwon, & Locke, 2010

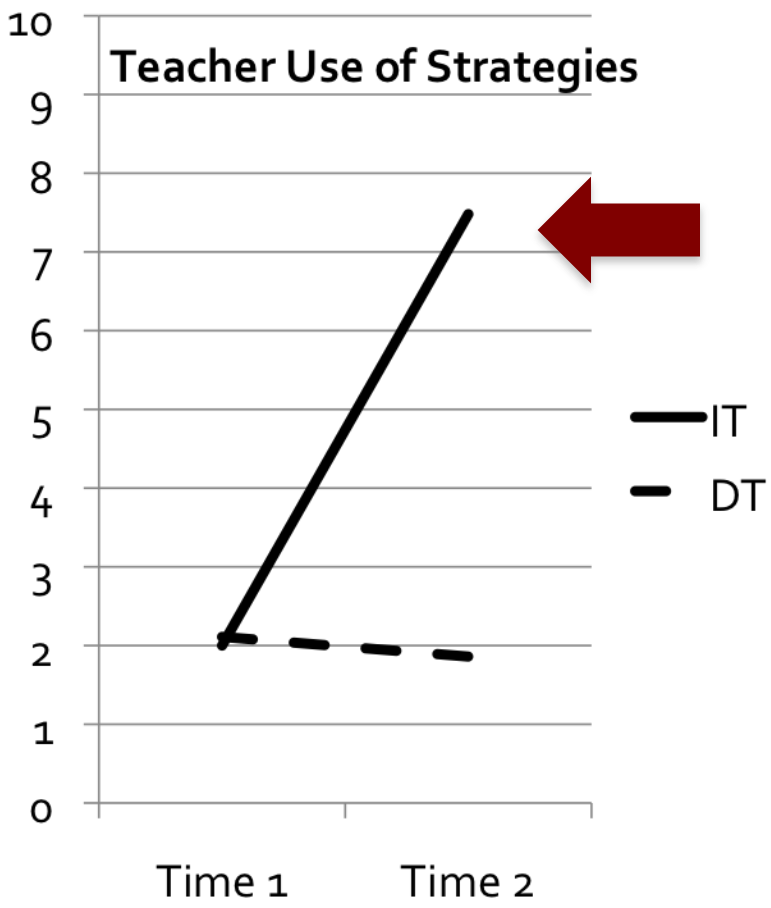
Child Outcomes and Maintenance

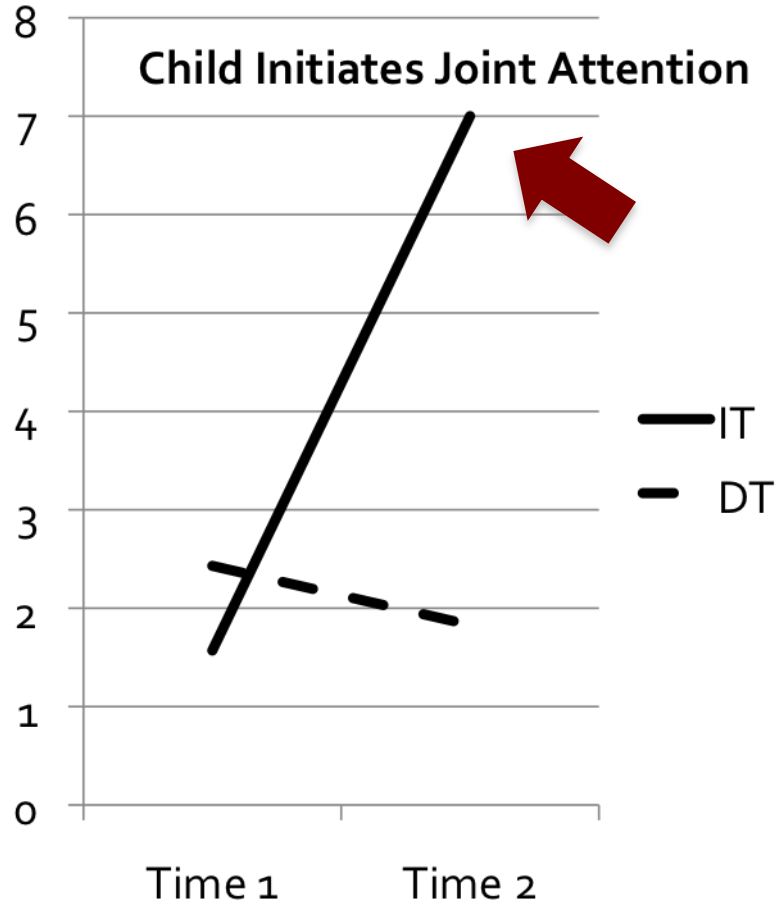
- Functional play types increased and maintained with growth over time
- Responds to joint attention increased and maintained over time
- IJA and symbolic play did not……probably due to young age of children, and short term treatment
- Caregiver factors associated with outcome…..quality of parent involvement (higher quality better child engagement)

Teacher Mediated JASPER Pilot Study

- Teachers taught modules similar to parent-mediated model
- Taught 1:1 to work with child in the class
- Blinded observer coded teacher and child behaviors in class
- 6 week intervention (2 sessions per week)

Targeted JASPER Intervention with Teachers as the Mediators (pilot with 16 teachers)





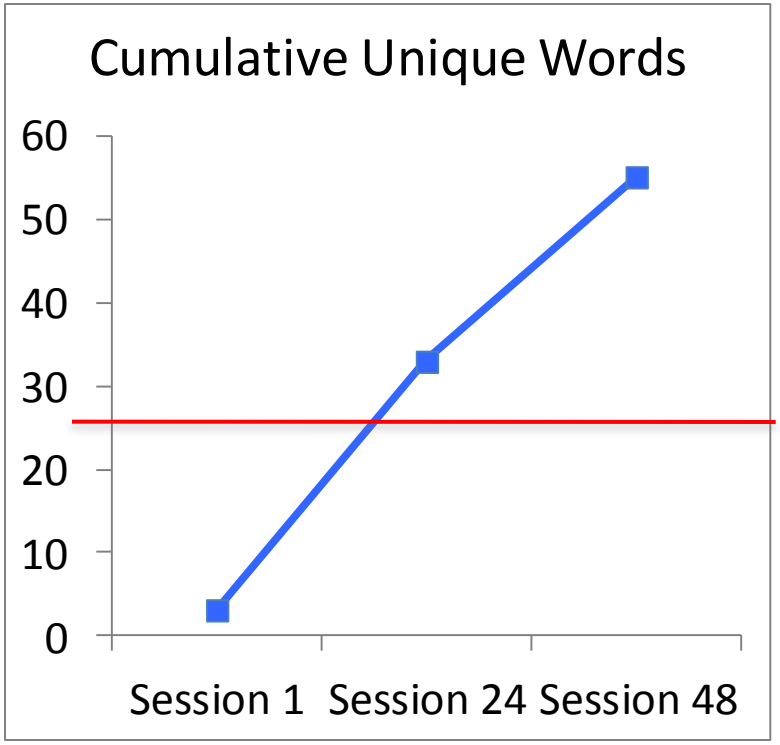
Lawton & Kasari, in press, JCCP

Difference between preverbal and nonverbal children

- Most young children are preverbal…..we can get them to talk
- Concern is for the children who remain nonverbal at age 5---entering kindergarten (about 30% of all children)
- Best social and adaptive outcomes are often found for children who are verbal by school age
- These children also represent children who have had access to early interventions but have not gained the requisite prelinguistic skills (play and joint attention)

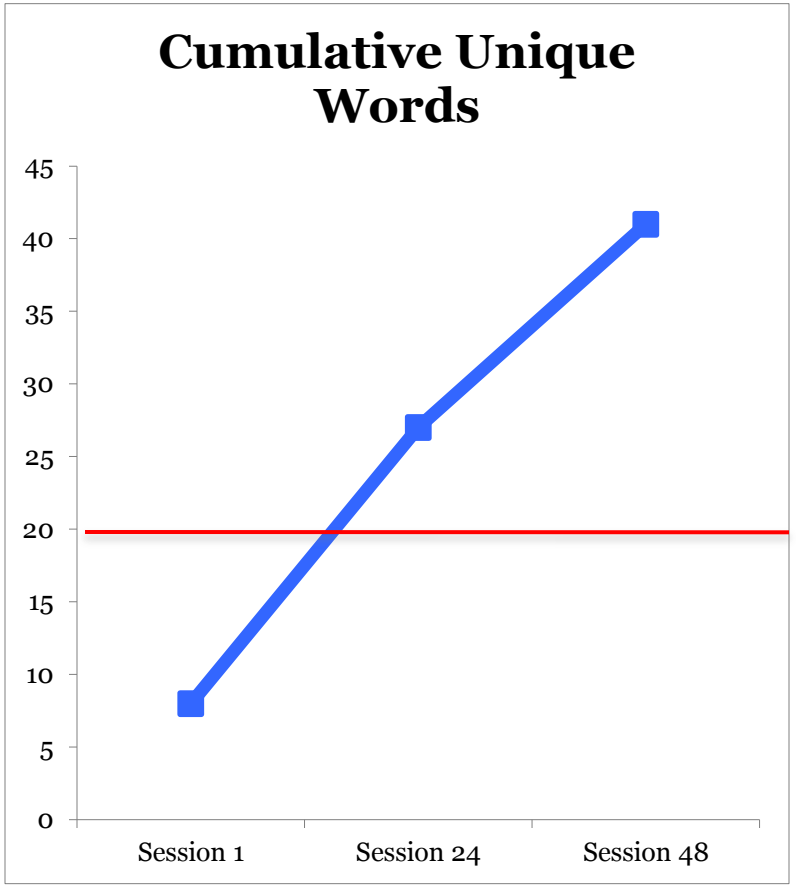
Access to Communication Important (combined JASPER and EMT intervention)

Boy 5 ½ years; No words or sounds



Regulation of Behavior First (Combined JASPER and EMT intervention)

Boy 7 years old; few words, scripted



PRIOR TO INTERVENTION

Assessments to determine treatment targets:

- Structured Play Assessment
  - PLAY LEVEL
- ESCS

  JOINT ATTENTION/BEHAVIOR REGULATION SKILLS

Structure Play Assessment (SPA)

Set 1

Set 4

Set 2

Set 5

Set 3

Early Social Communication Scale (ESCS)

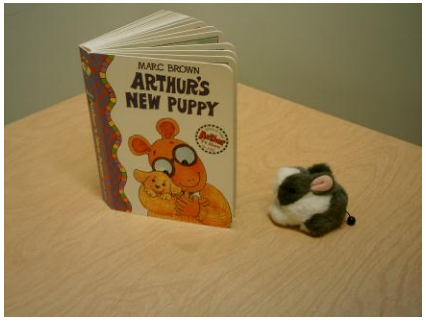
Wind up mechanical toys #1, 2, & 3

Plastic jar task

Hat, ball, car, sunglasses, comb

Pictures on wall

Book and furry rabbit



Note: Parts 2 and 3 just consist of the videos.

Part 4 of 8

PROGRESSION OF THE INTERVENTION

PHASE 1: FOUNDATIONS OF ENGAGEMENT

- Introduction to Engagement States, Play Levels
- Setting up the Environment and Understanding My Child's Behavior
- Following Your Child's Lead
- Establishing Routines

PHASE 2: IMPROVING ENGAGEMENT AND ROUTINES

- The Balance Between Imitating and Modeling
- Building More Meaningful Everyday Routines
- Introduction to Joint Attention
- Occasioning Joint Attention

PHASE 3: IMPROVING LANGUAGE

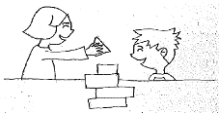
- Encouraging More Communication
- Jump-Starting Speech

JOINT ENGAGEMENT STATES

COORDINATED

You and your child are interacting with an object.
Your child is driving the interaction.

SUPPORTED



You and your child are interacting with an object.
YOU are driving the interaction.

OBJECT ENGAGED

Your child is focused on an object by him/herself

PERSON ENGAGED

Your child is interacting with you.
There are no toys

ONLOOKING

Your child is watching other people

UNENGAGED

Your child is not focused on a toy or person

Setting up the Environment

- Consideration of the context
  - Lab, Home, School
  - Distractions
    - Home (e.g., TV)
    - Inappropriate toys (i.e., highly preferred)
    - Limited space

- Physical Environment
  - People
    - Sitting in front of child
    - At the child's eye level
  - Toys (toy choice)
    - Developmentally appropriate
    - Routines/ Clean up

FOLLOWING THE CHILD'S LEAD

- Play with the toy the child wants.
  - Notice where the child's eyes are focused
- Wait to see how the child is playing with the toy and IMITATE.
- The child may quickly decide to play with different toys. Follow the child's interest

ESTABLISHING A ROUTINE

- **Work with the parent and child** to build a routine for how to play with the toy

- A play routine has
  - A few predictable sequences of events
  - Clearly defined roles
  - Consistent words or phrases at each step of the routine

PLAY EXPANSION

- Think of each part of the play routine
- Add ONE more step to the play routine
  - Make sure that the new routine matches the child's play level

MODEL JOINT ATTENTION SKILLS

- Model joint attention skills while you play with the child.
  - Within child's attentional focus

- Modeling joint attention skills will help the child initiate joint attention.

IMITATING AND EXPANDING LANGUAGE

- Use clear language that matches the child's level of language development
- Provide language contingent on the child's focus of attention
- Label and comment on the items the child plays with and/or sees
- Expand on the child's communication

UNENGAGED PROTOCOL

1. Wait
2. Evaluate the environment
   - Move toys closer to child
   - If wandering, least to most directive
3. Offer choices
   - Imitating and modeling
4. Person engaged
   - Bring in a toy once engaged

Review: Treatment Targets

- **CHILD 1**
  - Joint Attention: Points
  - Play: Simple Play
  - Engagement: People and Object Engaged
- Toys
  - Puppets
  - Rockets
  - Bubbles
  - Pig
  - Puzzles
  - Songs

- **CHILD 2**
  - Joint Attention: Points
  - Play: Combination/ Pre-Symbolic
  - Engagement: Supported/ Coordinated
- Toys
  - Magnatiles
  - Blocks
  - Dolls
  - Bus
  - Rollercoaster

Note: Parts 5 and 6 just consist of the videos.

Part 7 of 8

Potential Road Blocks

- Disinterest in toys
  - People games w/ toys (e.g., puppets)
  - Songs with matching toy (e.g., wheels on the bus)

- Hyper-sensory
  - Visual
    - Person engagement
    - Sensory activities (e.g., water, beans)
  - Tactile (e.g., different textured blocks)

Potential Road Blocks (cont'd)

- Rigidity
  - Wait and watch
  - Assess play environment
  - Verbal prompt
  - Model a different appropriate play action
  - Try another model
  - Person engagement
  - Remove the toy (last resort)

Parent Coaching

- The interventionist presents the module content to the caregiver.

- To teach the specific module content, the interventionist provides caregivers with
  - 1) an overview of the specific module
  - 2) explanations of the content while playing
  - 3) a summary of the module content

Level of Support

- Correct judgment regarding the level of support the caregiver requires
  - Self reflection
  - Verbal suggestion
  - Model

Weekly Parent Modules

1. Introduction to Engagement States and Play Levels
2. Setting up the Environment and Understanding My Child's Behavior
3. Following Your Child's Lead
4. Establishing Routines
5. The Balance Between Imitating and Modeling
6. Building More Meaningful Everyday Routines: Expansions, Violations, Showing Your Enjoyment, Eye Contact
7. Introduction to Joint Attention: Recognizing, Responding, Modeling
8. Occasioning Joint Attention: Setting up Opportunities and Prompting
9. Waiting for Communication
10. Jump-Starting Speech

Introduction to Engagement States and Play Levels

How is your child connected?

You need to know how you and your child are connected during activities.

★ COORDINATED

You and your child are interacting with an object.
Your child is driving the interaction.

SUPPORTED

You and your child are interacting with an object.
YOU are driving the interaction.

OBJECT ENGAGED

Your child is focused on an object by him/herself

PERSON ENGAGED

Your child is interacting with you.
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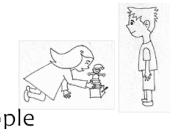
ONLOOKING



Your child is watching other people

UNENGAGED

Your child is not focused on a toy or person

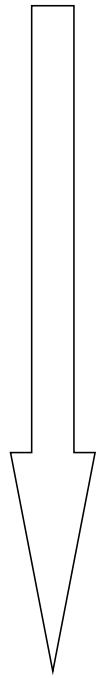
- Your child is mostly in _____ when you two play
- Our Goal: To Increase Supported and Coordinated Engagement

Understanding Play

Before you begin to play, know your child's level of play

*** How Does Play Develop? ***

At first



Later on

- **Simple Play**
  Rolling a ball
  Squeezing a Stuffed Animal

- **Combinations**
  Putting objects together
  Taking Objects Apart

- **Almost Symbolic Play**
  Bringing cup to mouth
  Bringing cup to doll's mouth

- **Symbolic Play**
  The doll has life
  Pretending one thing is another

Setting up the Environment

Do these five things before you start to play or engage in everyday activities:

Face your child

- This will make it easier for your child to connect with you

Remove Distractions

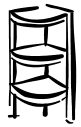
- Put away the keys, keep the telephone out of reach

Notice Your Child's Feelings and Behavior

- If your child is being fussy, use fewer demands
- If your child is happy, push for a better connection

Set-up the room

- Make the toys and objects easy to get to
  - ⇨Arrange objects on a shelf within your child's reach
  - ⇨Put a few toys out on the floor
- Use only a few toys when you play
  - ⇨Too many toys may make your child too excited



Know your child

TOYS

- Pick toys that are at your child's play level
  - ⇨Toys that are too hard can be frustrating
  - ⇨Toys that are too easy can be boring
- Pick your child's favorite toys
  - ⇨Your child will want to play with toys he/she likes

ACTIVITIES

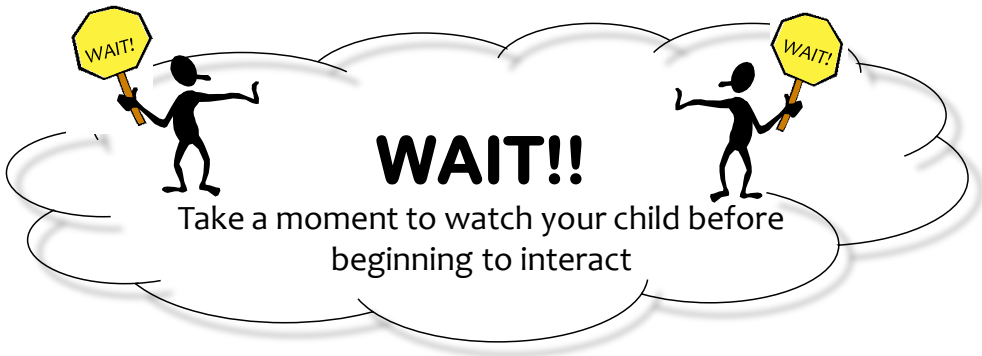
⑩ Pick activities that your child can learn to do better

⇨Activities that are too hard can be frustrating

⇨Activities that are too easy can be boring

Following Your Child's Lead

Encouraging Your Child to Initiate



- First, **Notice**
  - What is your child looking at?
  - What is your child holding in his/her hand?
  - What is your child doing with the toy/object?
- Then, **Follow**
  - Be excited about how your child is playing with the toy or using the object!
  - During PLAY… Imitate what your child does with the toy
  - During OTHER ACTIVITIES… Do the next step of the activity

What if My Child Isn't Focused on a Toy or an Object?

- First, offer a **Choice**
  - Offer your child one or two toys or objects s/he likes
  - If your child chooses a toy or an object, use the object your child wants
- If your child does not want to play with toys, **Connect**
  - Have fun without toys. You can sing a song or play a tickle game.
  - It is okay if you are not playing with toys all of the time. The most important thing is that you ***connect*** with your child as much as possible!
  - Play these games until your child connects with you. You can then bring in toys.

Establishing Routines

- A routine is a script for how to play with a toy or how to use objects in an activity
  - A play routine is built by following your child's lead
  - An activity routine is also built by helping your child understand the steps needed to do the activity (e.g., washing hands)
- All children need routines with toys and objects

- A play/activity routine has:
  - A few predictable things that happen

1) Put the toy figure in the car	1) Turn water on
2) Drive the car home	2) Scrub with soap
3) Take toy figures out of the car	3) Rinse hands
4) Put the toy figures in the bed	4) Turn water off

  - Clear roles for you and your child

1) Your child puts a figure in	1) Your child turns on water
2) You put a figure in	2) You give your child soap

  - The same words for each part of the routine

1) Man IN	1) Water ON
2) DRIVE	2) Scrub SOAP
3) Man OUT	3) WASH hands
4) GOODNIGHT	4) Water OFF

- Repeat the routine once it is established
  - All children repeat routines
  - It is fun for children to repeat routines!

- Always think about the following:
  - What toys or objects are you going to use?
  - What is your child's play level?
  - How is your child already using the toy or object?
  - How many steps should the routine have?

Imitating and Modeling

THE BALANCE BETWEEN IMITATING & MODELING

- Sometimes you should **imitate** your child

  When?
  - Your child already has an idea of how to play with the toy
  - Your child already knows how to use an object during an activity

- Other times you should **model** for your child

  When?
  - Your child does not know how to play with the toy or use an object
  - Your child will lose interest in the toy if you don't add a new step to the routine

Try to IMITATE MORE than MODEL

Building More Meaningful Everyday Routines

Make your routines even better by doing these 4 things:

Add New Steps

- Add ONE more step to the routine
- Make sure the new step is at your child's level

Surprise

- **AFTER** you and your child build a routine, **ADD** a "surprise"

How??

- **Pick one** part of the routine to change
- CHANGE this **one** part
- Change it in a fun way. Surprises are silly and unexpected!

Be excited

- Smile
- Raise your arms in excitement
- Use happy words like "Wow!" and "Yay!"

Make eye contact

- Get down to your child's eye level. You might need to lay on the floor!
- Bring toys within child's attentional focus
- A few friendly tips:
  - Don't sacrifice the connection with your child to do this
  - Try to not use phrases like "look at me"

Introduction to Joint Attention

What is Joint Attention?

- Using gestures to SHARE objects and events with OTHER PEOPLE
- Children use the following joint attention gestures before they learn to talk:

Pointing

Shared Eye Contact

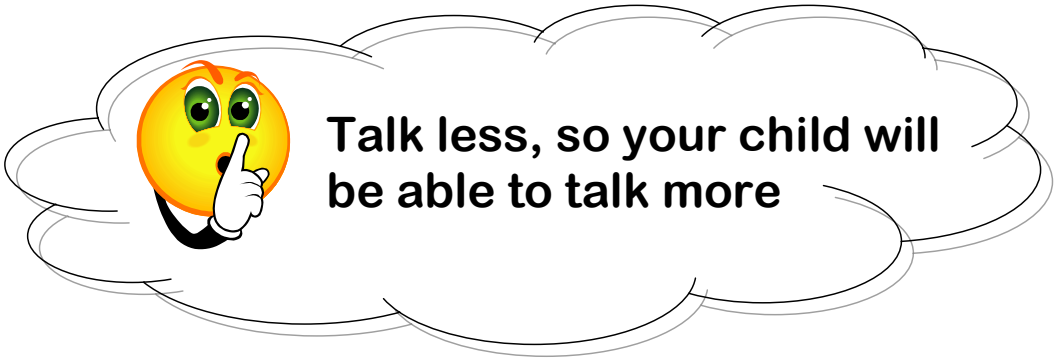
Giving to Share an Object

Showing

- **BE EXCITED if you notice your child using these gestures!**
- **USE these gestures whenever you can**
  - –Your child will use more joint attention if you do
- **Your child may use some of these gestures to REQUEST**
  - –Also get excited about these skills! They come before joint attention gestures.

Encouraging More Communication

Waiting for Communication



- Don't feel like you need to talk all the time
  - Talking less will give your child more room to communicate
- WAIT for your child to communicate
  - If your child needs help, WAIT… and let your child tell you
  - If your child wants to share something with you, WAIT… and let your child tell you
- Try not to ask too many questions
  - When you ask questions, your child can only respond
  - You want your child to INITIATE communication
- Look excited while waiting for your child to communicate

Jump-Starting Speech

The Right Words

Help your child talk and understand more by doing these 4 things:

Use language at your child's level

- If your child talks with one word, use one word
- If your child talks with two words, use two words

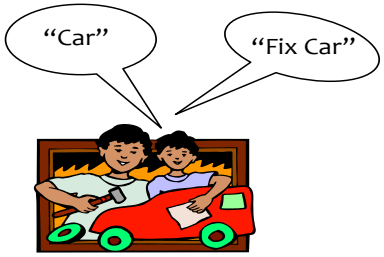
Use simple labels

- Use simple words to mark steps in a routine ("In", "Go", "Wake up")
- Name the object your child is looking at

Talk about what your child is doing

- Talk about objects you two are using together
- Talk about what your child is looking at
- Stay away from "third-person" language ("Mommy and Sally make a Castle")

Imitate and add to your child's speech



- Repeat what your child says and add extra words
- Imitate your child's actions and add a word

Kasari Lab 2010

Note: Part 8 just consists of the video.

- For additional training please contact Dr. Kasari at :

The Center for Autism Research & Treatment
http://www.semel.ucla.edu/autism

For more information, please go to the main website and browse for workshops on this topic or check out our additional resources.

Additional Resources

Online resources:

1. Center for Autism Research and Treatment: http://www.semel.ucla.edu/autism/resources
2. Society of Clinical Child & Adolescent Psychology: http://effectivechildtherapy.com/sccap/

Selected Peer-reviewed Journal Articles:

1. Lawton, K. & Kasari, C. (2012). Teacher-implemented joint attention intervention: Pilot randomized controlled study for preschoolers with autism. *Journal of Consulting and Clinical Psychology,* 1939-2117.
2. Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: a randomized controlled intervention study. *Journal of Child Psychology and Psychiatry, 47*(6), 611-620.
3. Kasari, C., Gulsrud, A. C., Wong, C., Kwon, S., & Locke, J. (2010). Randomized controlled caregiver mediated joint engagement intervention for toddlers with autism. *J. Autism Dev. Disorder, 40*, 1045-1056.
4. Kasari, C., Gulsrud, A., Freeman, S., Paparella, T., & Hellemann, G. (2012). Longitudinal follow-up of children with autism receiving targeted interventions on joint attention and play. *Journal of the American Academy of Child & Adolescent Psychiatry, 51(5*), 487-495.
5. Kasari, C., Paparella, T., Freeman, S., & Jahromi, L. B. (2008). Language outcome in autism: Randomized comparison of joint attention and play interventions. *Journal of Consulting and Clinical Psychology, 25*, 125-137.
6. Wong, C.S., Kasari, C., Freeman, S., & Paparella, T. (2007). The acquisition and generalization of joint attention and symbolic play skills in young children with autism. *Research and Practice for Persons with Severe Disabilities, 32*, 101-109.

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