

# Social Programming for School-age Students with Autism: Are We Doing All that We Can to Improve Long-Term Outcomes?

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## Outline for Today

- Social challenges and outcomes
- Selecting and measuring social goals
- Recommended social interventions
- Teaching social communication skills
  - Preschool
  - Elementary
- Questions



## Social Challenges



- Cardinal feature of autism (Volkmar et al., 2004)
- Deficit in **reciprocal** social interactions (Tremblay et al., 1981)
- **Pervasive** developmental disorder – leads to social isolation (McGovern & Sigman, 2005)
- Social competency gap widens across elementary years (Prizant et al., 1997)
- Priority for families, under addressed on IEP's

## Social Challenges



- Foundation for learning other critical skills – play, joint attention, language, pragmatics, social rules
- Social skills - strongest predictor for jobs, independent living, and relationships

(Strain and colleagues)

## In the last 25 to 30 years...



- 1970's and 80's - peers taught to initiate
- 1980's - PMI recommended practice in inclusive PS classrooms
- 2001 National Research Council
  - PMI an evidence-based communication intervention
- 2007-2009 Comprehensive Lit Reviews
  - PMI an empirically supported intervention with a **solid** research base (Bass & Mulick, 2007; Goldstein, et al., 2007; Chan et al., 2009)
- 2009 National Standards Project
  - Peer Training Package an **Established Intervention**  
[www.nationalautismcenter.org](http://www.nationalautismcenter.org)

## Outcomes Across Ages



- Most gains in cognitive and language skills from preschool to early elementary
- Significant decline from middle childhood to adolescence
  - Is there a 'sensitive' period in PS?
  - Do PS experiences bring about more change?
  - More social opportunities in preschool

(Sigman & Colleagues, 1999; 2005)

## Adolescent Outcomes



- Peer social engagement in middle childhood predict adaptive behaviors gains in high school (McGovern & Sigman, 2005)
- Individuals with ASD become more aware as they get older (Tantam, 2003)
- Young adults lack understanding of how to be a friend; report feeling lonely (Carrington et al., 2003)

## Peer-Mediated Interventions (PMI's) Can....



- Increase *reciprocal* social communication
- Influence peer perceptions of child as socially competent
- Decrease widening social gap
- Enhance longer term peer relations and friendships
- Provide meaningful access to regular ed curriculum: social and academic activities

## Findings Across Ages



- Improvements across **variety** of skills
  - Requests, comments, social niceties, suggestions, gain attention, be flexible, maintain topics, initiations, responses
- Marked changes baseline to treatment
  - BL avge 1-9 per 10-min; TX avge 11- 44 (Thiemann & Goldstein, 2001; 2004)
- Generalization of skill use across settings and communication skills

## Other Important Findings...



- Decrease in inappropriate social communication and behaviors
- Improvements in peer perceptions and friendship ratings
- Improvements in adult perceptions of social competencies (socially valid outcomes)
- Feasible and acceptable for teachers
  - Primary concern is time and resources

## A Parent's Perspective

Mike Wasmer



## Assessing Peer-Related Social Competence

- Multiple assessment strategies (e.g., direct observations, interviews, rating scales)
  - Social Interaction Teacher Impression Scale
  - Project Slide (Teacher Report)
  - Social Network Questionnaire – Parents
  - Pre-Treatment Teacher Survey of Social Priorities
- Standardized tests
  - Social Skills Rating System
  - Social Communication Questionnaire
  - Vineland Adaptive Behavior Scales
- Multiple sources of information – teachers, peers, parents



## Project Slide Items



**Takes cues** from peers and **imitates** their behavior during routine activities

**Recognizes transition** cue and stops ongoing activity

Uses established procedures to **request** assistance

**Engages** in appropriate activities following work completion

**Solicits attention** from peers and adults appropriately

Plays/works **cooperatively** with peers

## Peer-Peer and Child-Peer Observations



- Across multiple environments
- Natural unstructured social times
  - Centers, Recess, Lunch, Art, PE
- Structured settings (with 1-2 peers)
- Short time periods (10-min)
- Rates of specific communication skills (both initiations and responses)
- Rates of peer responses and initiations

## Measuring Social Progress



- Focus child initiations and responses
- Peer initiations and responses
- Multiple-turn verbal utterances/interactions
- Adult prompts vs. peer prompts
- Decreases in inappropriate social skills
- Use of skills across peers/school contexts
- Peer and focus child enjoyment
- Peer acceptance and friendship ratings

## Pre-intervention: Kindy Recess

**Post-intervention: Recess**

**Memory Game: Baseline**

## Preschool Social Communication Targets



- Play organizers
- Sharing materials
- Helping others
- Compliments
- Rough and tumble play
- Group entry skills

*Strain & Colleagues*

## Elementary School-Age Social Communication Targets



- Share
- Comments: labels, describe actions
- Make suggestions: set-up, ideas for play, talk about rules, negotiate, solve conflicts
- Social niceties: cheer, give compliments
- Gain attention: name, tap on shoulder
- Requests: for objects and actions
- Talk about taking turns

*Thiemann-Bourque and Colleagues*

## **Data Collection Practice**

### ***Peer Networks Project: Improving Social Communication, Literacy, and Adaptive Behaviors for Young Children with ASD***



Kamps, D., Heitzman-Powell, L., Thiemann-Bourque, K., &  
Schwartz, I.  
IES, 2009-2013

## Peer Networks Project Social Communication Data Sources



- Treatment Sessions
  - Small group setting
  - High in structure- (preselected activity, targeted communication phrases/skills, adult and peer prompting)
- Social Probes
  - Small group setting
  - Less structure- (4 available activities, no adult prompting)
- Generalization probes
  - Large, naturalistic setting- (centers, recess, lunch, etc.)
- Interactions and opportunities *change* across these settings

## Communication Changes With Training



- What do peers do without training?
  - Talk about the focus child in third person
  - Question behaviors of focus child
  - Not inclusive of focus child
- In small group settings with training, peers make efforts to engage the focus child, use familiar phrases, include in activities.
- What do focus children do without training?
  - Sit and watch- not participating
  - Play alone
  - Disengaged with all play materials
  - Try but unsuccessful due to play skills, language skills, etc.
- In small group settings with training, focus children make increased efforts to communicate, rely on text cues or peer prompts to use specific phrases, remain engaged.

## What about in other settings?



- Generalization settings
  - Fast-paced with rapidly shifting topics, people, etc.
  - Large groups- easy to get “lost in the mix”
  - Not uncommon for 0 social initiations or responses with peers to be observed per 10 minute observation
- Difficult to identify social opportunities during the day
  - But these opportunities are there!
    - Transition times
    - While others are finishing individual work
    - Small group academic work
    - Often spontaneous, unplanned activities

## Data Collection Methods

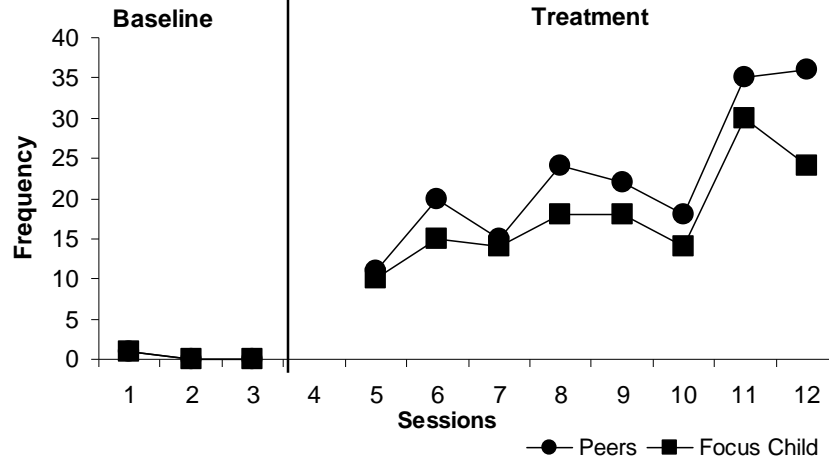


- Communicative acts include social initiations and responses between peers and a focus child.
  - Adult to focus child not included
  - Adult to peer not included
- 10-minute observation periods from throughout the first year of the Peer Networks Project
  - Treatment Sessions- continuous throughout academic year
  - Social Probes- pre, mid, post academic year
  - Generalization- pre, post academic year

# Treatment Sessions



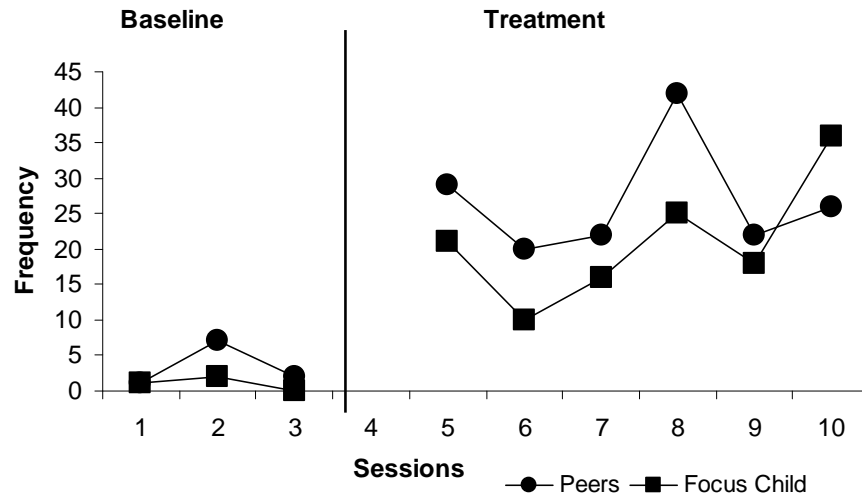
102 Social Networks Data



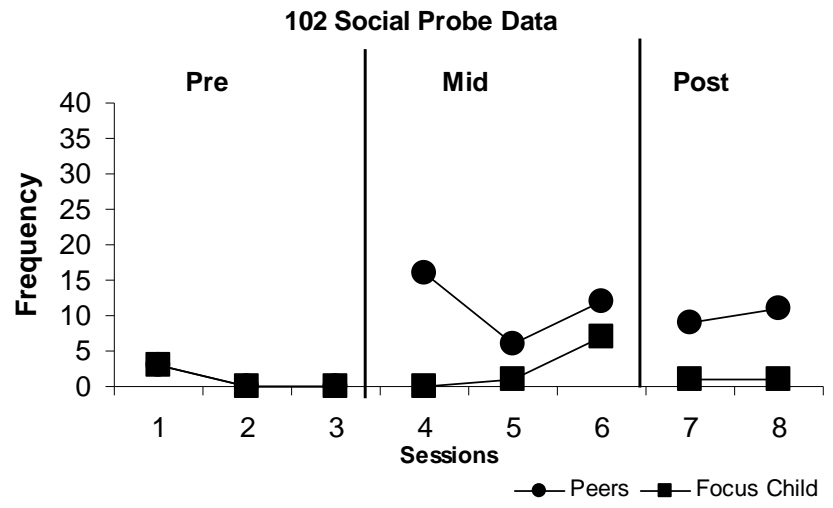
# Treatment Sessions



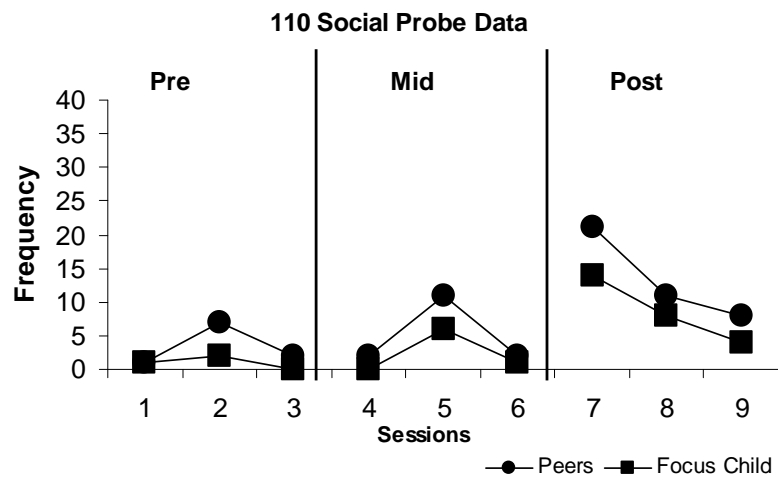
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# Social Probe Sessions



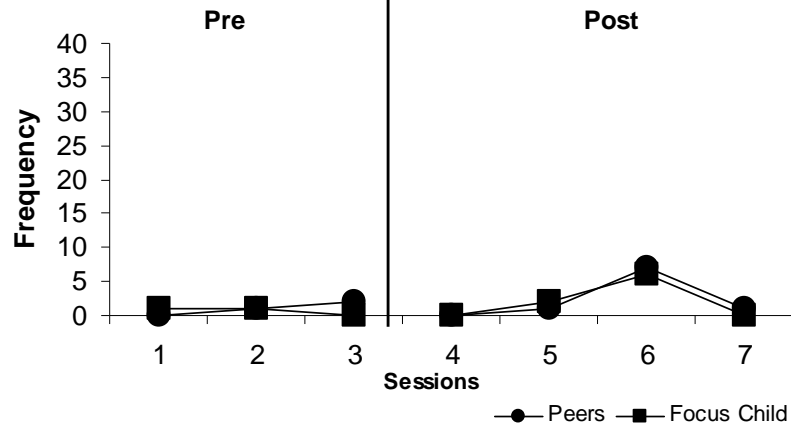
# Social Probe Sessions



# Generalization Sessions



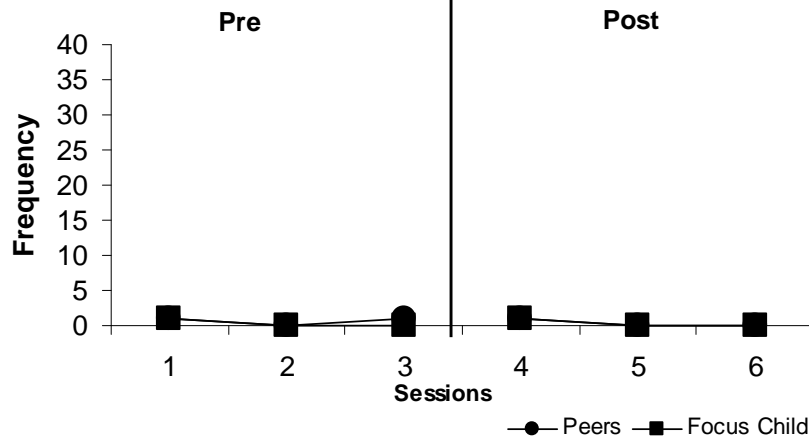
102 Generalization Data



# Generalization Sessions



110 Generalization Data



## What does this all mean?



- Peers and focus children respond to training in a small group setting
  - Social communication increased across treatment sessions
  - Limited social change when structure is low and prompting does not occur
- What we typically think of as “social” times during the day may actually provide limited opportunities for social communication for focus children
  - Need to modify and make environmental adjustments to improve social communication in these settings
  - Take advantage of these times to improve outcomes

## Simple Strategies to Consider



- Provide more opportunities, or recognize the ones that are already there
- In generalization settings, if no interaction is occurring, prompt a peer first, then the focus child
- Teach specific language skills to
  - Get someone’s attention
  - Ask for an object
  - Comment
  - Ask for help
  - Be socially polite

## Simple Strategies to Consider



- Have social opportunities built into your routines
- Provide the right level of support
  - Initial prompting- then fade away
  - Visual supports, social cues available in the classroom
  - Set up a successful environment, activity selection, etc.
- Notice and react when children are playing alone, and make it a BIG deal when they're engaged with others
- *Peer training and the right setting improves social communication, but we need to be sure we are providing these opportunities for everyone*

## Recommendation: Peer-Mediated Interventions (PMI)



- Social interactions and relationships are **reciprocal**: *MUTUAL...GIVE-AND-TAKE...JOINT...SHARED*
- Peers model social communication targets
- Peers provide natural reinforcement and feedback
- Motivation for engaging and learning skills
- View student as more socially competent

## Nuts and Bolts of PMI's



- Recruit 4 to 6 peers without disabilities
  - Rotate in dyads with student with ASD
- Natural social learning opportunities 3 to 4 times per week, 20-30 min, across the day
- Supportive social environment (e.g., game preferences, small groups, same peers)
- Systematic adult-guided social skill instruction
  - Prompt through the peers
- Structured and unstructured social times

## Recommendation: Written-Text and Picture Cues



- Help children organize social information
- Continuous access to ideas, comments, questions directly related to activity
- Help children learn social rules
- Decreases adult dependency
- Peers use the scripts – provide models
- Peers aware of what child is trying to communicate and respond appropriately

## Examples Social Cues used in PECS books



## Text and Picture Cues: Two Communication Skills



## Written text and picture cues



- Controlled, short phrases written at child's level (reading and vocabulary)
- Choice of 2 (or more) cues that directly relate to a target skill
- Assume some decoding or sight word skills; but not always
- General phrases to allow for many practice opportunities (e.g., "Here you go")
- Available to student throughout activity and can be made portable (e.g., lanyards)



## Pics and Pals: A Peer-Mediated PECS Intervention for Preschoolers with Autism



Funded by Kansas Center for Autism Research  
and Training (K-CART, 2009 – 2011)

## Rationale for Study



- PECS most common in preschool
- Classmates and siblings not using PECS
- No studies found - train peers to use PECS
- Behavior regulation acts – predict severity of autism and communication (Wetherby et al., 2007)
- Communication systems should provide opportunities for reciprocal social interactions
- PECS geared for communication with adults

## Research Questions



- (1) What are the effects of combining a buddy skills training program and PECS instruction on communicative exchanges between preschoolers with autism and their peers?
- (2) Does the intervention lead to collateral increases in receptive vocabulary?

## Participants



- Four preschoolers with autism (2;11 to 5;0)
- Moderate to severe autism
- PLS-4 Standard Score range 51 to 70
- Nonverbal or minimally verbal (less than 15 spontaneous, functional words; echoic)
- Attend a center for children with autism – integrated therapies (1:1, SLP, OT, PECS)
- Five preschoolers (peers) from a neighborhood daycare center (age 3;4 to 4;11)

## Overview of PS Intervention



- Observe child-peer social interactions over 4 to 5 days – have PECS available
- Buddy training – STAY-PLAY-TALK – for all peers over 5 days
- Pair peer with focus child in social activity – daily opportunities (10 min)
- Brief 2-3 min review of expectations prior to each social group
- Measure changes in social skill use  
(English, Goldstein, and Colleagues 1997)

## Buddy Training: Stay-Play-Talk

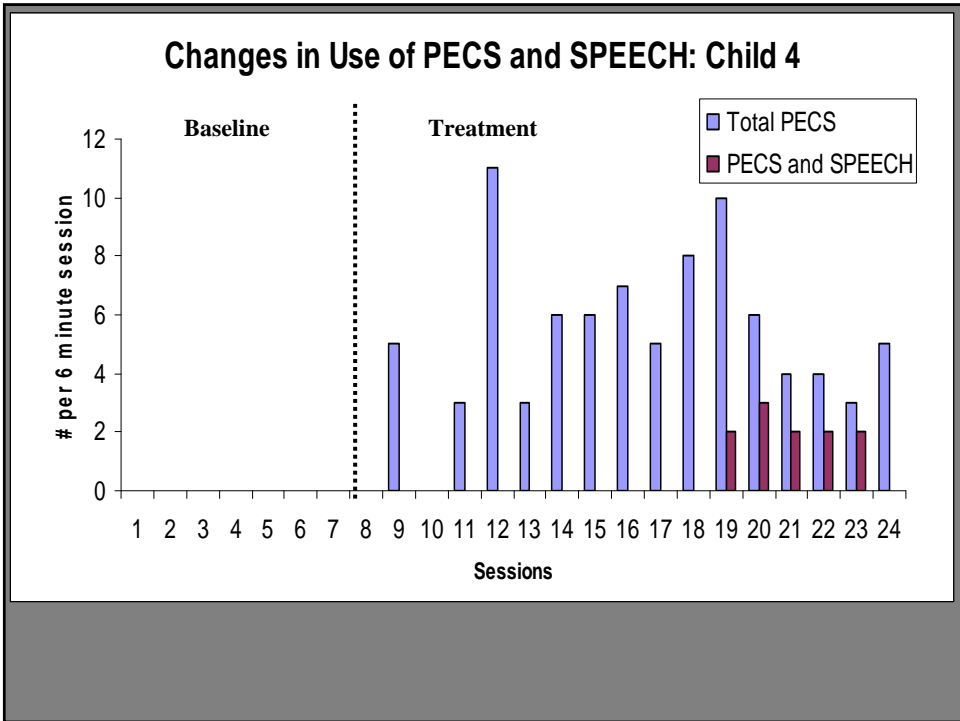
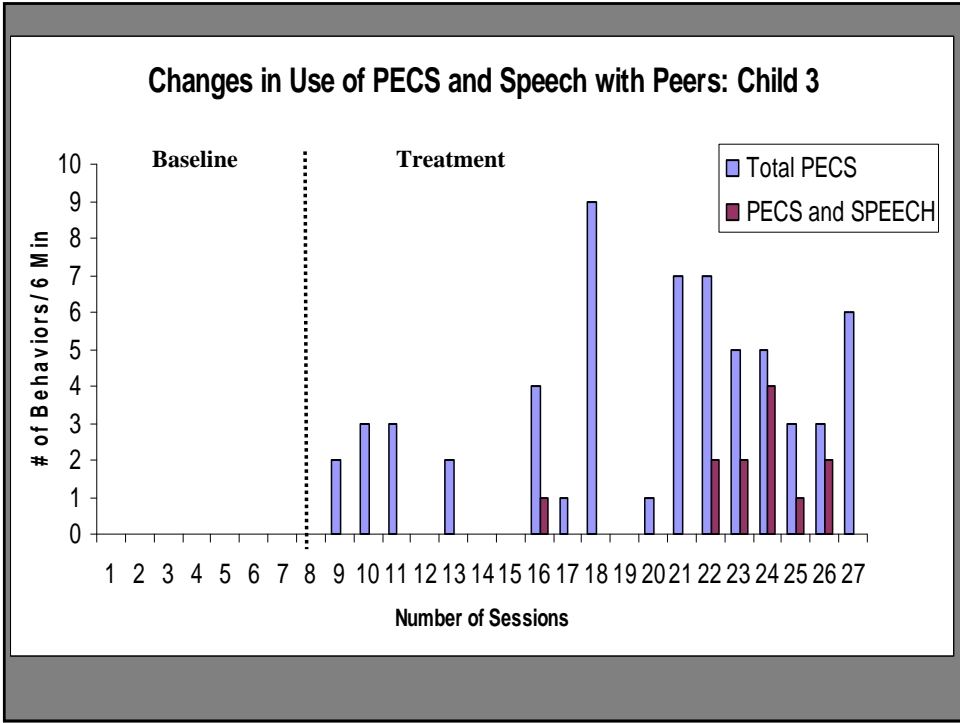


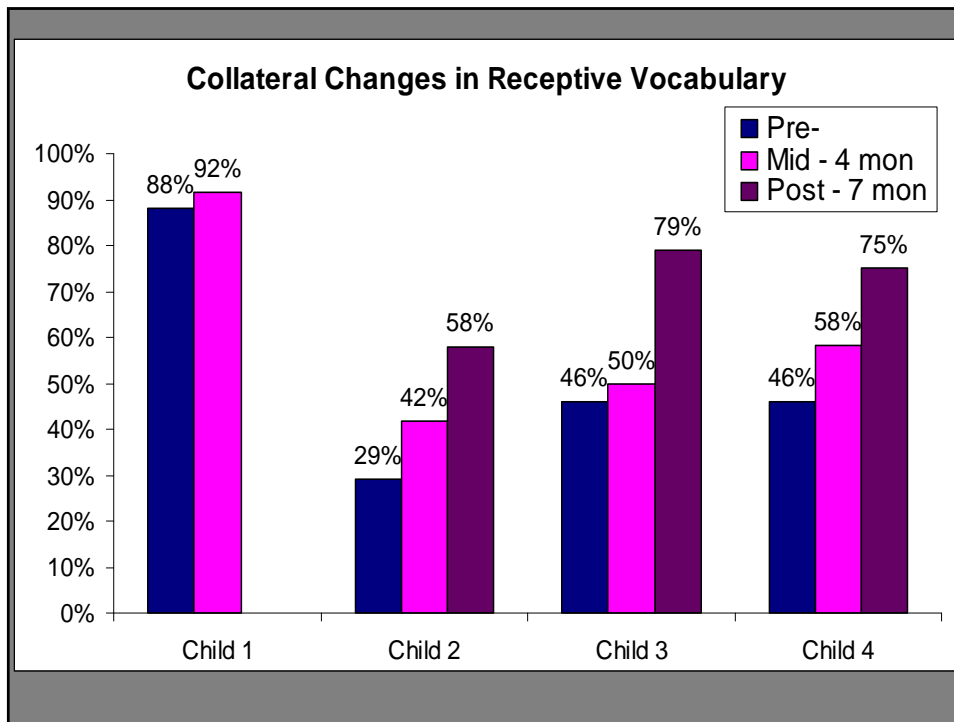
Five 30-45 min sessions with peers only

1. Sensitization Training - video examples of different ways to communicate
2. Stay – sit close; move when buddy moves
3. Play – share and take turns
4. Talk with pictures –  
“Pick and put”  
“Take, say, and give”
5. More ways to talk – say name, comments
6. Review of all skills

**Child 1: Baseline Centers**

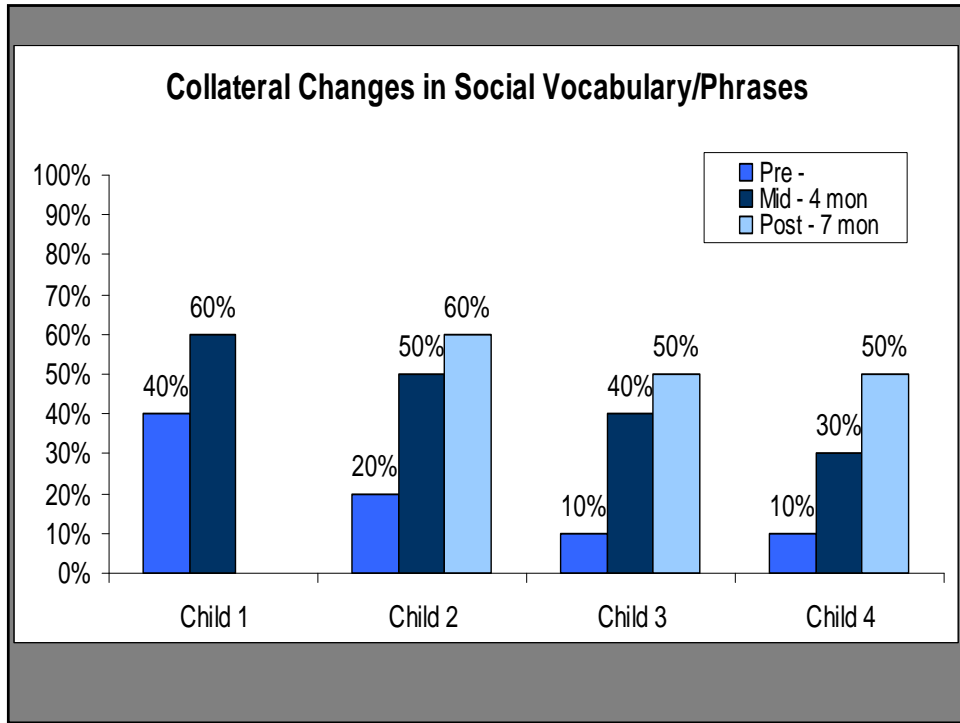
**Child 1: Treatment #5 Centers**





## Examples of Social Phrases





**Questions?**



*15 MINUTE BREAK*

## Elementary Social Intervention



- Recruit peers based on teacher input
- Observe child-peer social interactions in triads - structured and unstructured
- Adult provides direct instruction on targeted social communication skill(s) to all students
- Adult **sits back** and observes, prompts peer
- Set up natural social routines across-the-day
- Measure changes in social skill use

## Direct Instruction Steps



- Adult introduces and defines target skill (using text and picture cue cards)
- Adult models and role plays skill use with students
- Student-student role play and rehearsal
- Adult reviews reinforcement system
- Game play - 6 to 10 min activity
- Prompt skill use through peers
- Adult provides feedback on skill use

## Example Activities and Games



- Board games/cards (free time, indoor recess)
- Blocks and building
- Math games and manipulatives
- Early phonics and reading games
- Money and time (clock) games
- Art and PE – in dyads with trained peer
- Recess – tag, four square, obstacle course
- Lunch – placemats, pictures, restaurant cards

## Recruiting Peers



- Age-appropriate social skills
- Similar interests
- Similar class schedules or groupings
- Well-liked by classmates
- Expressed interest
- Parent permission

## Creating Text Cues to Match Games



- Memory game
- Building a train set
- Creating valentines cards
- Gear toy – gears spin on base
- Other??

## Tips for adapting text cues and increasing engagement



- Keep it simple to start – 1 cue, 1 skill
- Use only parts of games
- Incorporate child interests (monitor perseverative behaviors)
- Clear roles and rules
- Bins with lids to hold materials
- Create opportunities for communication turns
- Keep turns moving quickly: peer-child-peer-child

## Navigating the Transition to MS: Peer Network Programming



- Recruit 4-6 peers: same elementary school
- Observe student-student social interactions - structured and unstructured times
- Meet with peer group only two 30 min sessions
- Adult provides guidance to peers, and direct instruction to focus child as necessary
- Peers select appropriate social skills, monitor
- End of week meeting to discuss, review, and brainstorm social issues and plan for next week

## Content of First 30-min Peer Network Meeting



- Explain what a *Peer Network* is
- Discuss how groups will work
  - Map schedules, activity preferences, suggestions for skills to target, review data sheets, take pictures for books
- Review schedule for meetings (2x /wk)
- Commitment from students
- Commitment from staff/adults

## Content of Second 30-min Peer Network Meeting



- Discuss social skill to start with
- Talk about strategies to work on target skill
  - Social stories, comic conversation starter sheets, pictures on preferred topics, text and pictures cues
- Discuss importance of Weekly Data Sheets
- Train peers how to rate social interactions on weekly data sheet – model and role play different skills
- Discuss Weekly Meeting Report format

## Peer Data Sheet Example Questions



1. Who said Hi or started talking first? Me My Buddy

2. The number of times my buddy **STARTED** talking first or asked me a question to **START** a conversation was \_\_\_\_\_.

Not very often (0 to 2 Starts)    Sometimes (3 to 4 Starts)    Most of the time (5 to 6 Starts)    A lot of the time (7 or more Starts)

3. The total number of times my buddy **WAS FRIENDLY** and said nice things, shared, or was polite (gave you a compliment, cheered, let someone go first, said “please”, “thank-you”, or “sorry”) was \_\_\_\_\_.

Not very often (0 to 2 nice words)    Sometimes (3 to 4 Nice words)    Most of the time (5 to 6 Nice words)    A lot of time (7 or more)

4. My buddy seemed to be having fun and enjoyed hanging out with me (smiled, said nice words, laughed appropriately, stayed with me).

1                      2                      3                      4  
Not Really    A little bit    Most of the time    Very Much!!

## Content of First Group Session with Focus Child (Triad)



- Introduce students, show/take pictures, generate group name
- Schedule and what groups are about
- Ask focus student to choose strategies – social story, cue card examples, lanyards, books??
- Read social story, text cues re: target skill
- Practice using target skill and text cues in game situation for 10-15 min
- Peers fill out **Weekly Data Sheet** at end of session (and during unstructured hallway time)

## Content of weekly meeting at end of week with all students - 30 min



- Nominate a peer to take notes
- Discuss social strategies used during week
- Successful and unsuccessful?
- Facilitate discussion of social problems/issues
- Guide discussion to appropriate replacement behaviors or strategies to solve problems
- Schedule and what groups are about
- Collect data **Weekly Data Sheets** from peers

### Weekly Meeting with *T.A.C.K.S Club*

Issues	Strategies
<ul style="list-style-type: none"> <li>● Keeps talking about the same thing</li> <li>● Uses bad words</li>   <li>● Tells us goodbye too soon</li>   <li>● Not knowing what to talk about</li> </ul>	<ul style="list-style-type: none"> <li>● Use cue cards (to help with other topics)</li> <li>● Positive reinforcement; not give up</li> <li>● Remind to only say goodbye at end of time</li> <li>● Talk to new people</li> <li>● Write words in bubbles; use topic cards; magazines</li> </ul>

### Weekly Meeting with *Build It Up Club*

Issues	Strategies
<ul style="list-style-type: none"> <li>● Hard time starting a conversation</li> <li>● Doesn't pay attention</li>   <li>● Talks about the same things</li> <li>● Saying goodbye too early</li> <li>● Doesn't want to talk to us or his friends</li> </ul>	<ul style="list-style-type: none"> <li>● Ask him to ask a question first</li> <li>● Ask, "What do you want to talk about?"</li> <li>● Use words we were taught (e.g., "You already know that answer"; "Time to move on")</li> <li>● Stay positive</li> </ul>

## Interesting Outcomes: MS



- Peer and focus child responses increased in both peer networks (compared to initiations)
- Greater responsiveness observed in generalization settings (behaviors tripled) than in structured small group games
- Peers reliably able to collect data on changes in social communication skills using rating scales
- Peers able to lead groups and discussions independently

## Are we doing all we can to...



- Learn PMI and direct teaching strategies
- Observe changes in social reciprocity, social competency, and peer acceptance
- Put in many hours, possibly over years
- Create brief, frequent, and successful social opportunities across the day
- Focus on balancing costs and benefits to both
- Develop school-wide level programs to impact long-term social relationships

***Thank you  
for coming!!***

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