The presenter wishes to thank
Dr. Vincent J. Carbone, BCBA
for significant contributions
to this presentation

In addition, special thanks to Eric Perez, Personal Trainer and Jordan Semevolos, Personal Trainer for contributions to this presentation

Parents want Social Skills!!

- Functional communication skills
- Reduction in problem behavior
- Happy and fulfilling life
  - Participate in school–succeed academically
  - Friends
- Conversation

"Social Interaction skills are critical to successful social, emotional, and cognitive development. Effective social skills allow us to elicit positive reactions and evaluations from peers as we perform socially approved behaviors" (Ladd & Mize, 1983)

Ladd, G. W., & Mize, J. (1983). A cognitive-social learning model of social skill training. *Psychological Review*, 90, 127-157.

Conversation

- A **conversation** is communication between multiple people. It is a social skill that is not difficult for most individuals. For a successful conversation, the partners must achieve a workable balance of contributions. A successful conversation includes mutually interesting connections between the speakers or things that the speakers know.

Speech ≠ Conversation

- Many parents and teachers know from experience that teaching children with autism to talk is no guarantee that they will engage in conversation (McClannahan & Krantz, 2005).
- Many children with autism will learn to request and they will learn to respond to the directions of others, but will lack the ability to engage in reciprocal conversations

McClannahan, L. E. & Krantz, P. J. (2005). *Teaching Conversation to Children with Autism: Scripts and Script Fading.* Bethesda, Maryland: Woodbine House.

"Communication for social interaction requires a fundamental desire to interact with others and obtain new information and perspectives" Mirenda, p. 248.

Mirenda, P. & Iacono, T. (2009). *Autism Spectrum Disorders and AAC*. Baltimore, Maryland: Paul H. Brookes Publishing Company.

Why do Children with Autism have difficulty with social interaction?

- Theory of Mind Deficit? (Astington & Baird, 2005)
- Reduced ability to understand perspective of others? (Tager-Flusberg, 1996)
- TOM deficits prevent internal motivation for social initiations? (Mundy and Stella, 2000).

Astington, J.W., & Baird, J. A. (2005). Introduction: Why language matters. In J.W. Astington & J. W. Baird (Eds.), Why language matters for Theory of Mind (pp. 3-25). New York: Oxford University Press.

Tager-Flusberg, H. (1994). Dissociation in form and function in the acquisition of language by autistic children. In H. Tager-Flusberg (Ed.), *Constraints on language acquisition: Studies of atypical children (pp.*175–194). Hillsdale, NJ: Erlbaum.

Mundy, P. & Stella, J. (2000). Joint attention, social orienting, and nonverbal communication in autism. In S.F. Warren & J. Reichle (Series *Eds.) & A.M. Wetherby & B.M. Prizant (Vol. Eds.), Communication and language intervention series. Vol. 9 Autism Spectrum Disorders: A transactional developmental perspective* (pp. 55-77). Baltimore: Paul H. Brookes Publishing Co.

Why do Children with Autism have difficulty with social interaction?

- Sharing attention with adults is less reinforcing? (Stone, Ousley, Yoder, Hogan, & Hepburn,1997) Request items, but not social interaction.
- Limited visual cues? Quill 1997 hypothesized that social contexts lack visual cues and children with ASDs are unable to extract relevant information in the absence of visual cues.

Why do Children with Autism have difficulty with social interaction?

- Bellini (2006) states that "we need to discard the long-held notion that individuals with ASDs lack an interest in developing social relationships. Many do… However, they typically lack the necessary skills"

Why do Children with Autism have difficulty with social interaction?

- "The difficult part is to try to disentangle the notion that emotional empathy merely gives you motivation, a reason to talk to somebody, versus an absolutely critical role in the emergence of language"
- Ramachandran suspects it's the latter because empathy is what allows people to understand the intention behind an action or a phrase.

Treatment of Social Skills Deficits

How do we choose an approach?

Strategies to Improve Social Skills

- Applied Behavior Analysis
- Cognitive Behavioral Therapy
- Social Stories
- Social Scripts
- Teaching the “Hidden Curriculum”
- Video Modeling

http://www.autismspeaks.org/news/news-item/ian-research-findings-social-skills-groups

The National Autism Center's and National Standards Project 2015

Findings and Conclusions

ADDRESSING THE NEED FOR EVIDENCE BASED PRACTICE GUIDELINES FOR AUTISM SPECTRUM DISORDERS

NAC PROJECT

- Goals:

1. To provide an update to the previous project, NSP1, published as the National Standards Report in 2009. Specifically, NSP2 reviews peer-reviewed intervention outcome studies for children/adolescents/young adults with autism spectrum disorder (ASD) since the publication of NSP1. The dates of peer-reviewed studies range from 2007 to 2012.
2. To extend the review of intervention outcome literature to include adults (22 years and older) with ASD.
3. To incorporate relevant feedback received regarding NSP1 categorization. The NSP2 report is intended to be more specific than the NSP1 report regarding the interventions it identifies as beneficial.
4. To assist parents, caregivers, educators, and service providers in understanding how to integrate evidence-based interventions into a well-rounded, individualized educational or behavioral program.

http://www.nationalautismcenter.org/resources/

Established Treatment

The following interventions have been identified as falling into the Established level of evidence:

- Behavioral Interventions
- Cognitive Behavioral Intervention Package
- Comprehensive Behavioral Treatment for Young Children
- Language Training (Production)
- Modeling
- Natural Teaching Strategies
- Parent Training
- Peer Training Package
- Pivotal Response Training
- Schedules
- Scripting
- Self-management
- Social Skills Package
- Story-based Intervention

Established Treatments

- Behavioral Interventions
- Cognitive Behavioral Intervention Package
- Modeling
- Peer Training
- Natural Teaching Strategies
- Parent Training
- Scripting
- Social Skills Package
- Story-based Intervention

Viewing Social Communication as a Behavior Analyst

B. F. Skinner

"Verbal Behavior"

MO/Sd→R→Sr

Understanding Behavior

Antecedent→Behavior→Consequence

MO=Motivative Operations

- Variables that change the value of the reinforcer

1. Establish the effectiveness of a reinforcer for a particular time/situation
2. Increase the likelihood that a behavior will occur

Characteristics of ABA

- All skill domains addressed
- Skills broken into small components, defined in observable, measurable terms
- Effective for building skills and reducing problem behaviors in people with and without disabilities
- Scientific demonstrations of effectiveness is essential
- Highly individualized

Characteristics of ABA

- Continuously evolving
- Individual needs are assessed by direct observation and measurement
- Each component skill taught through many learning opportunities
- Multiple learning opportunities contrived
- Simple skills built systematically into more complex repertoires

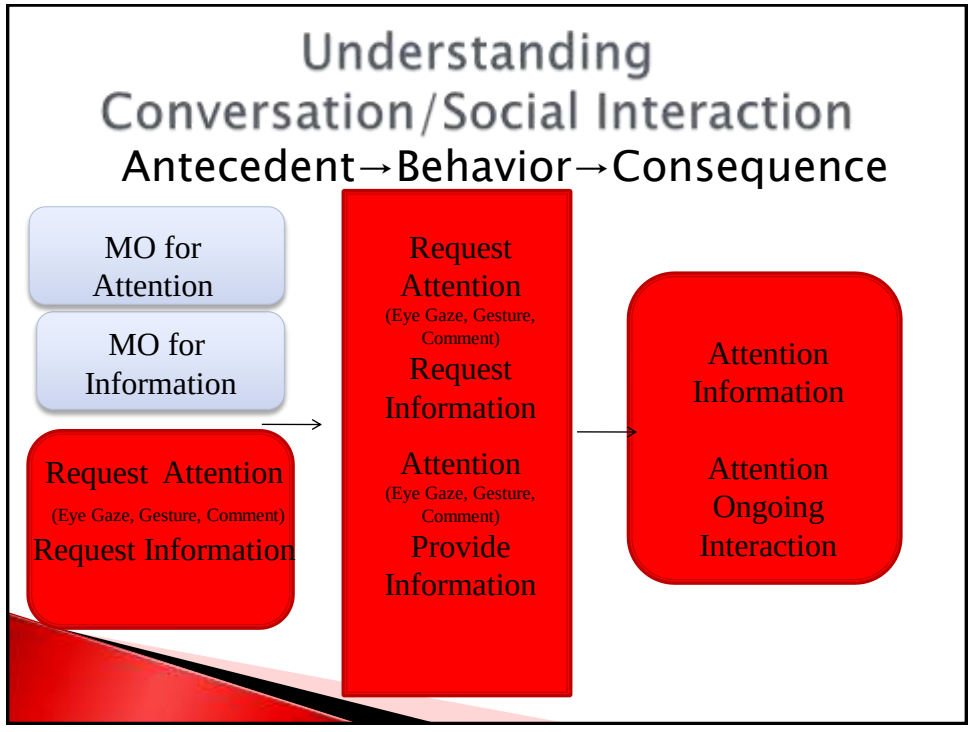
Teach missing components

- "Instead of assessing treatments across the spectrum, we need to focus on analyzing them within the spectrum" (Bellini, p. 101)
- Match instructional strategies to skills deficits
  - (Bellini, 2006)

What components are needed for social interaction?

- "Communication for social interaction requires a fundamental desire to interact with others and obtain new information and perspectives" Mirenda, p. 248
- A. Desire to interact/share attention
- B. Desire to obtain new information
- C. Desire to obtain new perspectives

Mirenda, P. & Iacono, T. (2009). *Autism Spectrum Disorders and AAC.* Baltimore, Maryland: Paul H. Brookes Publishing Company.



Social Skills Training

- Joint Attention Training With Adults
- Peer Play
- Party Club (Pairing with reinforcement with adult directed activities)
- Social Communication Therapy Class
- Friends and Fitness

Koegel (2010) notes Pivotal skills

- Motivation
- Multiple Cues
- Initiation
- Self Management
- Empathy (in progress)

Motivation for Attention

- In typically developing children, joint attention interactions first occur between a child and his or her caregiver (Bakeman & Adamson, 1984, 1986).
- Presumably, typically developing children find the social interaction with their caregiver that results from joint attention to be enjoyable and reinforcing and that this, at least in part, is what motivates the child to continue to engage in joint attention (Bates et al., 1975; Bruner, 1983).

Joint Attention

- Jones and Carr (2004)—Joint attention is an early developing social skills in which two people (usually a young child and an adult) use gesture and gaze to share attention with respect to interesting objects or events. Impairment in development of joint attention discriminates 80–90% of children with autism from those with other disabilities and it is important to develop this skill in early intervention efforts.

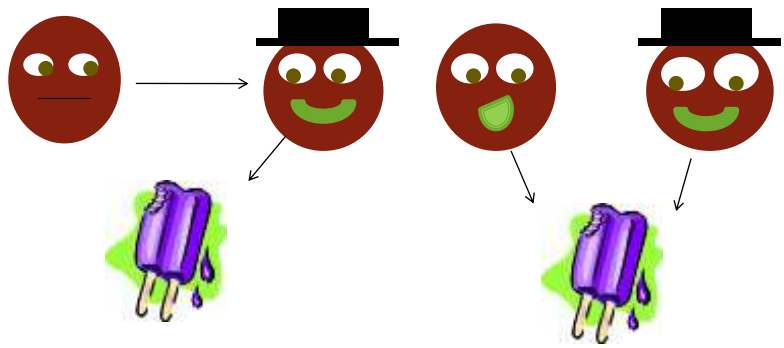
Joint Attention

- The important role that joint attention plays… skill often facilitate successful outcomes in children with autism (Drasgow and Halle, 1995; Durand, 1990).

Joint Attention

- There are two ways that a child engages in joint attention:

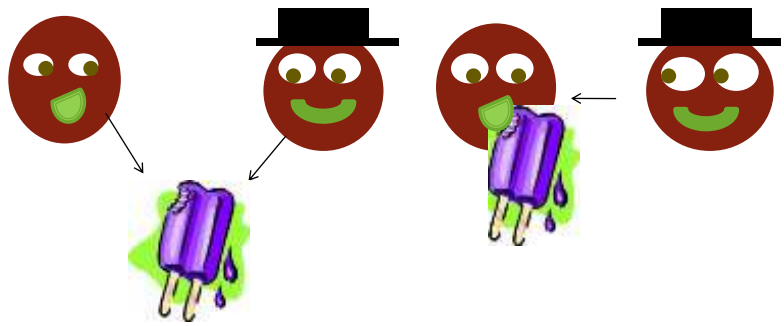
1. The child either responds to another person's attention directive (Receptive skill)
2. The child initiates joint attention with another person (Expressive skill)



Receptive Joint Attention May lead to Reinforcement via Tangibles

- When a child responds to other's bids for joint attention, he or she may have learned that looking where someone else is looking might likely be followed by reinforcing objects and events (Corkum and Moore, 1995, 1998; Matsuda & Omori, 2001; Moore & Corkum, 1994).

Corkum, V., & Moore, C. (1995). Development of joint visual attention in infants. In C. Moore & P. J. Dunham (Eds.), *Joint attention: Its origins and role in development* (pp. 61–84). Hillsdale, NJ: Erlbaum.



Receptive Joint Attention May lead to Reinforcement via Tangibles

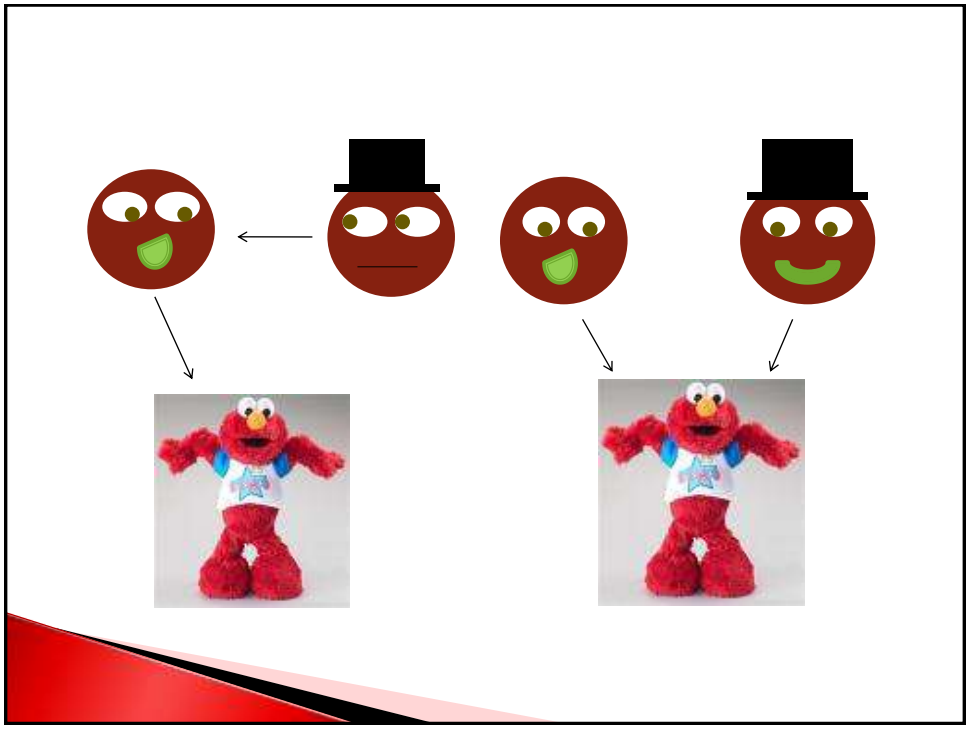
- Corkum and Moore (1995) demonstrated that responding to bids for joint attention could be taught using conditioning.
- We cannot assume that this skill would transfer to initiation of bids for attention (mands for attention).

Joint attention

There are two ways that a child engages in joint attention:

- The child either responds to another person's attention directive (Receptive skill)
- The child initiates joint attention with another person. Directing the other person to adopt the child's own attentional focus (Expressive skill–Mand or request for attention)

(Charman, 1997, 1998: Mundy & Gomes, 1998).



A. Desire to Interact/Share Attention (Joint Attention)

Motivation for Attention (Function)

- Teach Motivation for attention and ongoing interaction

Topography (Form)

- Method/Structure for gaining and maintaining attention and ongoing interaction

What are the necessary skill?

Dawson, Meltzoff, Osterling, Rinaldi, and Brown (1998) pointed out that "unless children with autism are taught that social stimuli are interesting, rewarding, and meaningful, they may not be as likely to acquire more complex communicative or social skills" (p. 484).

Dawson, G., Meltzoff, A. N., Osterling, J., Rinaldi, J., & Brown, E. (1998). Children with autism fail to orient to naturally occurring social stimuli. *Journal of Autism and Developmental Disorders, 28, 479–485.*

Establish Attention as a Reinforcer

Carr and others suggest that part of building social motivation for joint attention and other social interaction skills "necessitates establishing the value, for the child, of interacting with a partner. One plausible way to increase the probability of interaction is to establish the partners of joint attention as generalized reinforcers" (Carr et al., 1994; Magito McLaughlin, 1999).

Pairing with Reinforcement

- By repeatedly pairing the presence of the adult (or peer) with a wide variety of preferred reinforcers, the adult is established as a generalized reinforcer (Skinner, 1953).
- Because the presence of the adult has now become a discriminative stimulus that signals the likely presence of preferred reinforcers, the child seeks proximity to and contact with the adult (Carr et al., 1994).

PAIRING

Neutral Stimulus ⟷ Reinforcing Stimulus

- Adult
- Peer

- Light-up Balls
- Thomas the Train
- Flaming Hot Cheetos
- Piggy Back Ride
- Cars Movie

After pairing many times, adult or peer presence or attention becomes a conditioned reinforcer.

Does Pairing lead to Joint Attention?

Joint Attention Training

- Researchers have begun to examine joint attention as one positive outcome of broader social skills intervention programs not directly targeted at joint attention.
- Bakeman and Adamson (1984) coded behaviors of supported joint engagement (in which the trainer manipulates the toy to support the target child's joint attention) and coordinated joint engagement (in which the child with autism is actively involved in playing with the object looking at both the object and the peer).

Joint Attention Training

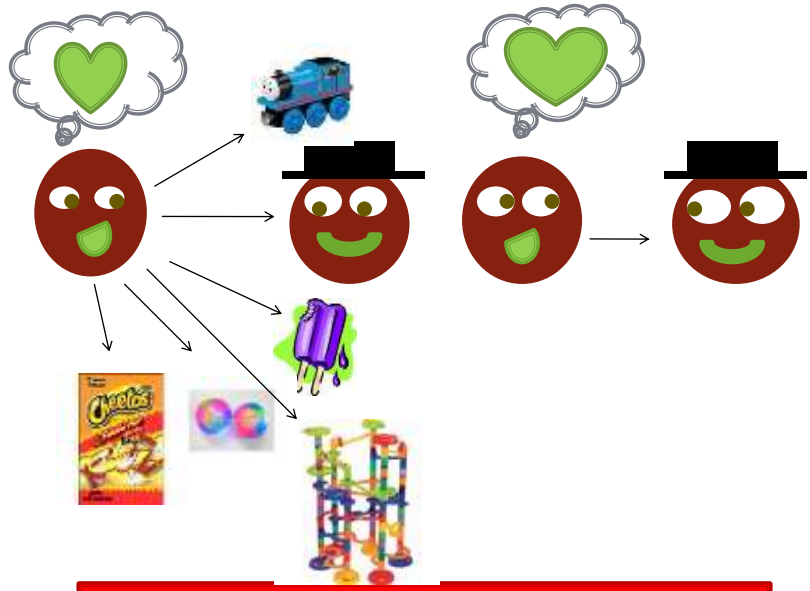
- During supported joint engagement, the child is primarily object-focused, while the partner "complements this engagement".
- The procedure resulted in an 80% increase in joint attention (supported and coordinated joint engagement combined) from pre- to post-intervention.

Joint Attention Training

- Further, Pierce and Schreibman (1995) and Baker (2000) demonstrated positive affect on joint attention even when the intervention strategy used did not specifically target joint attention.

Receptive Joint Attention May lead to Reinforcement via Tangibles

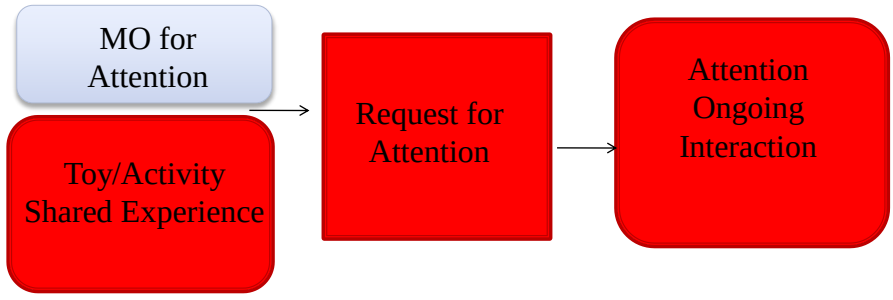
- Corkum and Moore (1995) demonstrated that responding to bids for joint attention could be taught using conditioning.



After pairing many times, adult presence or attention becomes a conditioned reinforcer.

Understanding Requests for Attention

Antecedent→Behavior→Consequence



Receptive Joint Attention May lead to Reinforcement via Tangibles

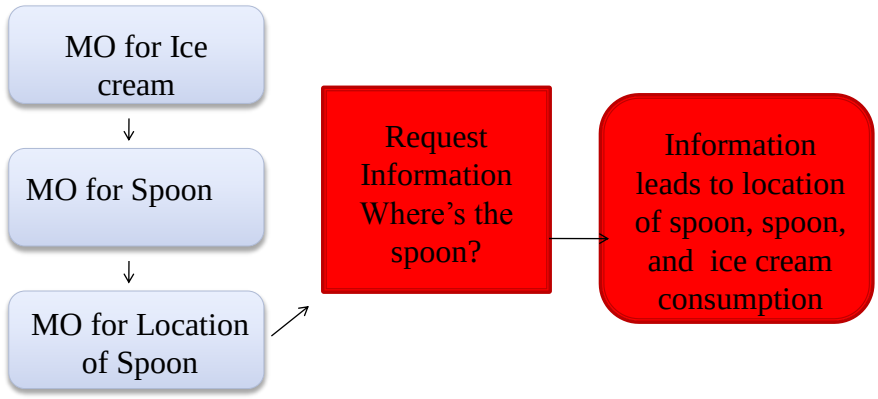
- We cannot assume that receptive joint attention or responding to bids for attention will lead to development of initiation of bids for attention (mands for attention).
- Requests for attention and information can also be conditioned. What are the language and learning prerequisites necessary to teach verbal requests for attention or information?

Procedure

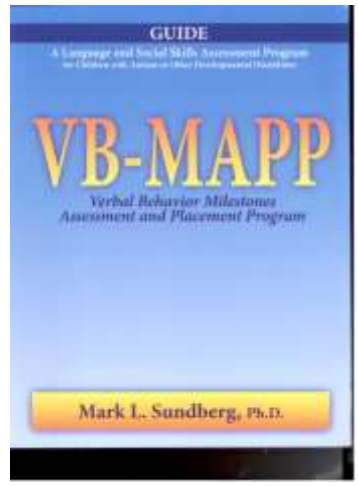
- Contrive MO for attention (parent withdraws)
- Trainer prompt the learner to use selected form to request attention (Look! Watch me!)
- Parent provides lavish attention and additional reinforcement
- Many training trials are conducted
- Fade reinforcement to natural consequences
- Ensure that attention is not followed by "work" in the form of additional questions or requests

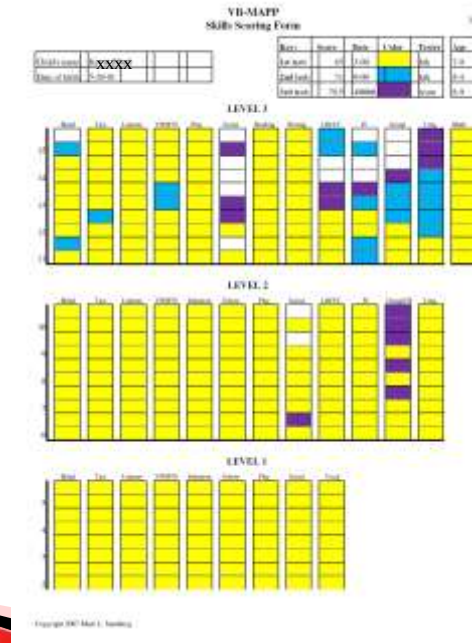
Asking Questions

Antecedent→Behavior→Consequence



Verbal Behavior Milestones Assessment and Placement Program





VB MAPP Social Milestones (18-30 month level)

- Spontaneously participates in activities with other children and spontaneously verbally interacts with them (initiates physical interactions, requests, sustained social play, follows peer instruction, request peer participation)

VB MAPP Prerequisites Level 2 (18-30 month level)

- Frequent and spontaneous requests and multiword requests primarily controlled by motivation
- Labels items and actions and combine nouns and verbs to label with minimum of 200-300 word expressive vocabulary
- Receptive language skills include receptive identification of items in a variety of situations, ability to follow instructions to do a motor task and ability to follow noun-verb instructions.

VB MAPP Prerequisites (18-30 month level)

- Imitates novel actions and specific words and phrases
- Selects or names items from a book or group of items when told feature, function, class for greater than 50 items and can respond to Who? What? and Which? questions regarding feature, function, or class of items presented

VB MAPP Prerequisites (18-30 month level)

- Verbally responds to more than 90 phrases or questions including what, who or where questions without items present. (The Center--mutual interests with peers)
- Clear articulation and beginning to emit 2-3 word utterances

Prior Intervention Motivation for the Group

- Establish Motivation for Social Interaction
- Extensive Language Training
- Social Skills Training
- Recess Intervention with established game/activity with simple rules
- Suggestion of Facilitated Recess/Prompting
- Frustration

Motivation for the Group

- Onlooker, observes briefly
- Occasional, brief, unsuccessful attempts at joining play
- Wandering
- Self-stimulatory Behavior

- Deficits in social communication/social skills and motor skills in children with autism spectrum disorder restrict access to the social and health benefits of group exercise provided by participation in recess, gym class, community sponsored sports offerings and games played at family gatherings.

Motivation for the Group

- Personal experience/Interest as a fitness enthusiast
- Eric Perez
- FABA Convention
- Fitness community at the IABA conference

Motivation for Group-Eric

- Longstanding love of working with children and fitness dating back to YMCA employment as a youth sports coach and director of afterschool program
- Director of Sport Program selected Eric's group for children with special needs because of abilities in the areas of; differentiating instruction, motivation, and persistence.
- After leaving YMCA, established adult-oriented business but never lost interest in working with children
- Excited for opportunity to partner for this class

Physical Activity Facts

- Regular physical activity in childhood and adolescence improves strength and endurance, helps build healthy bones and muscles, helps control weight, reduces anxiety and stress, increases self-esteem, and may improve blood pressure and cholesterol levels.

- Physical Activity Guidelines Advisory Committee. *Physical Activity Guidelines Advisory Committee Report, 2008.* Washington, DC: U.S. Department of Health and Human Services; 2008.

Physical Activity Facts

- The U.S. Department of Health and Human Services recommends that young people aged 6–17 years participate in at least 60 minutes of physical activity daily.
- Collingwood TR, Sunderlin J, Reynolds R, Kohl HW 3rd. Physical training as a substance abuse prevention intervention for youth. *Journal of Drug Education* 2000;30(4):435–451.

Physical Exercise Facts

- When children and adolescents participate in the recommended level of physical activity—at least 60 minutes daily of Moderate Vigorous —multiple health benefits accrue.

Physical Exercise Facts

- There is substantial evidence that physical activity can help improve academic achievement, including grades and standardized test scores.
- The articles in this review suggest that physical activity can have an impact on cognitive skills and attitudes and academic behavior, all of which are important components of improved academic performance. These include enhanced concentration and attention as well as improved classroom behavior.
- Increasing or maintaining time dedicated to physical education may help, and does not appear to adversely impact, academic performance.

Moderate Vigorous Physical Exercise Reduces Stereotypy

- "…experimental literature indicates that physical exercise can positively influence both appropriate and inappropriate behaviors, including stereotypy.."
- According to Kern, Koegel and Dunlap (1984) .."15 minutes of continuous vigorous physical activity was always followed by a reduction in stereotypy.

- Kern, Koegel, & Dunlap (1984). The influence of vigorous versus mild exercise on autistic stereotyped behaviors Journal of Autism and Developmental Disorders, 14(1).

Component Analysis

- What are the missing skills needed to participate in athletic activities and reap the social and physical benefits?

What component skills are needed for Recess play?

- Peers are Paired with Reinforcement
- Motivation for attention and ongoing interaction
- Physical skills to execute sport/activity
- Tact rules and ability to follow rules
- Tact the ongoing activity
- Social Skills
  - Intermediate Level Social Skills
  - Ability to Join Activity
  - Simple Negotiation
  - Emotional Regulation (Good Sport)

Goals

- Specific skills in three domains: social communication/social skills, logical inferencing, and motor skills were selected for treatment.

Social Skills Selection

- The Assessment of Basic Language and Learning Skills-Revised (Partington, and/or the Verbal Behavior Milestones Assessment and Placement Program (Sundberg, 2008) were used as a guide for selection of social skills
- Other resources consulted

SOCIAL INTERACTION

GOAL	OBJECTIVE	CRITERIA	NOTES
L10 Returns greetings	The student will return greetings from others	Student returns greetings from peers without prompts	Count also independent greetings /farewells in group
L18 Asks peers for items (single)	The student will ask peers for (single) items	Spontaneously and frequently asks peers for items without prompts	
VBM S6: The student will initiate a physical interaction with a peer	The student will physically initiate (push a wagon, throw a ball)	2 times in a 60 minute observation in community setting	
VBM S9: The student will spontaneously respond to the mands or physical approaches and attempts to engage by peers	The student will independently respond to requests such as "my turn", "push me", "come on" or grasping, puling, guiding of peers.	5 times in a 60 minute observation in a community setting	
VBMA 12M Responds to 5 different group instructions or questions without direct prompts in a group	Independently or using observation of peers, the student will respond to group instructions or questions.	5 times in a 60 minute observation in a community setting.	
VBMA 12 M2 Responds chorally	When provided a signal, responds by repeating word/phrase	5 times in 60 minute observation	
L2 Takes offered items	When offered a preferred item, the student will take the item from both peers and adults.	2= Will usually take walk to and take the preferred item from peers and adults who are more than 8 feet away	
VBMS 11M Spontaneously cooperates with peer to accomplish a specific outcome.	The student will work with another student without adult prompting (one child holding a bucket while the other child pours water.)	5 times in a 60 minute observation	

THE CENTER FOR AUTISM TREATMENT

Daily Progress Notes

(Please complete at every session.)

Child's Name: _____

Therapist: Time: Date:

Behaviors	Problem Behavior Number of Instances	Comments	Time Met	
Greeting	1 2 3 4 5			
Mands to Peers	1 2 3 4 5			
Responds Phys	1 2 3 4 5			
Initiates Phys	1 2 3 4 5			
Group Instruction	1 2 3 4 5			
Accepts Items	1 2 3 4 5			
Coop Peer	1 2 3 4 5			
Choral Respond	1 2 3 4 5			
Self Stim Circle	1 2 3 4 5			
Self Stim Active	1 2 3 4 5			

General Comments:

SOCIAL INTERACTION

GOAL	OBJECTIVE	CRITERIA	NOTES
The student will negotiate with a peer	The student will "work it out" with a peer who has desires that differ from his own	2/3 obligatory contexts.1/3 independently	
The student will identify and use facial expressions and body language	The student will use his body to depict a level of a 5 point scale or receptively identify a level based on the response of another.	4/5 opportunities. Achieved for extremes	
The student will independently identify 3 potential solutions to a problem (and receive support to assess and predict success of each choice)	The student will independently identify solutions.	Three solutions to 2/3 contrived or actual problems. Able to identify one.	
L25 Adjusts behavior based on changes in peer's actions in 2/3 obligatory contexts. NEW CRITERIA	The learner will adjust behavior based on changes in peer's actions	2/3 obligatory contexts without prompts for ¾ sessions FOR MORE COMPLEX SOCIAL SITUATIONS. Adjusts personal space when checks are made. Remains inactive if a basic fix is ineffective.	
VBMS: 10 The student will spontaneously join a structured or unstructured peer activity.	The student will independently use strategies for structured and unstructured joining	2/3 obligatory contexts for each type of joining. Needs prompting to get started with complex play. Does not ask peer questions without prompting.	
L21 The student will increase independent greetings and farewells	The student will initiate greetings or farewells to peers or respond to their greeting or farewell in a novel situation	3 different peers when appropriate in a0 minute observation in a community setting in ¾ sessions. Limited opportunity as usually late.	
The student will: observe and label why a peer's emotion	The student will independently demonstrate	2/3 of obligatory contexts of social skills group IN MORE	

and predict what a peer will do next. NEW CRITERIA	skill in 2/3 obligatory contexts.	COMPLEX SOCIAL SITUATIONS. Can identify in videos for simples situations.	
The student will: correctly identify big, little, and medium-sized problems.	The student will independently demonstrate ¾ opportunities.	3/4 opportunities at social skills group with problems in which he is a player. Can identify in others.	
The student will demonstrate understanding of figures of speech "tricky talk"	The student will respond to 5 new figures of speech	in group and via posttest. 20 mastered. Tracking those applied.7	
Offer assistance	The student will independently recognize when help is needed and offer	2/3 obligatory contexts. 1/3 needs prompts in groups. Will help an adult consistently.	
The student will independently rate or produce a level of skill utilizing a 5 point scale. NEW CRITERIA	Identify or demonstrate levels on 2/3 scales and in others	100% accuracy for 2/3 of the following during posttest. Fatigue. Like. Anxiety	
The student will recognize and play games	Recognize game, identify rules, and actively participate	5 new games or by posttest. (10 GAMES MASTERED)	
The student will engage appropriately with people in his environment based on his relationship with these people.	The student will appropriately initiate or respond to peers and adults using his Social Circles.	5/5 during role play 89% IN FEBRUARY	
The student will master the three step fix it strategy	Ask once nicely, once strongly and then get an adult for help	2/3 contrived situations.	
L27 States what others like/dislike	The student will be able to state items and activities that are enjoyed by others and state which people like a particular item or activity.	2= knows at least 2 specific things enjoyed or not enjoyed by at least 4 people	
L28 Direct others attention to something of interest to them	The student will be able to know what activities, news, or items would be of interest to	2= frequently directs several different peers and adults to items and activities that	

	specific individuals and will direct their attention to those items.	would be of interest to each person	
L31 Waits for break in conversation to interrupt	The student will be able to wait for a break in an on-going conversation before attempting to speak with one of the people involved in the conversation.	2= When others are talking, usually waits for a person to look at him before speaking or appropriately attempts to catch the speakers' attention ("excuse me")	
L24 Feedback from peers	The student will be able to follow directions from peers to adjust his behavior to be more socially acceptable.	4= Follows implied directions from peers in at least four play activities. Achieved for stated.	
The student will: observe and label why a peer's emotion and predict what a peer will do next.	The student will independently demonstrate skill in 2/3 obligatory contexts.	2/3 of obligatory contexts at social skills group. Limited opportunity	
The student will recognize and play games	Recognize game, identify rules, and actively participate	5 new games.	
The student will maintain appropriate personal space with peers and adults.	Will maintain personal space while seated in group.	5 consecutive space invader checks during group.	
The student will invite two peers to join him in an activity.	Will invite two peers to form a group of three.	On post-test probe.	
The student will learn 10 concepts in group format	Receptive, tact or iv	On probe	

CENTER FOR AUTISM TREATMENT

Daily Progress Notes Friends and Fitness

Advanced

Child's Name: _____

Therapist: _____ Time: _____ Date: _____

Behaviors	Target Behavior Number of Instances					Comments			
Cool greetings	1	2	3	4	5				
Eye gaze use	1	2	3	4	5				
Game Facts	1	2	3	4	5				
Emotions/Rate	1	2	3	4	5				
Adjust behavior	1	2	3	4	5				
Offer assistance	1	2	3	4	5				
Problem-solving	1	2	3	4	5				
Join appro	1	2	3	4	5				
Coaching	1	2	3	4	5				

General Comments:

Therapist Signature: _____

THE CENTER FOR AUTISM TREATMENT

Daily Progress Notes Friends and Fitness — Advanced

Child's Name: _____

Therapist: _____ Time: _____ Date: _____

Behaviors	Target Behavior Number of Instances					Comments			
Cool greetings	1	2	3	4	5				
Eye gaze use	1	2	3	4	5				
Game Facts	1	2	3	4	5				
Emotions/Rate	1	2	3	4	5				
Adjust behavior	1	2	3	4	5				
Offer assistance	1	2	3	4	5				
Problem-solving	1	2	3	4	5				
Join appro	1	2	3	4	5				
Coaching	1	2	3	4	5				
General Comments:									

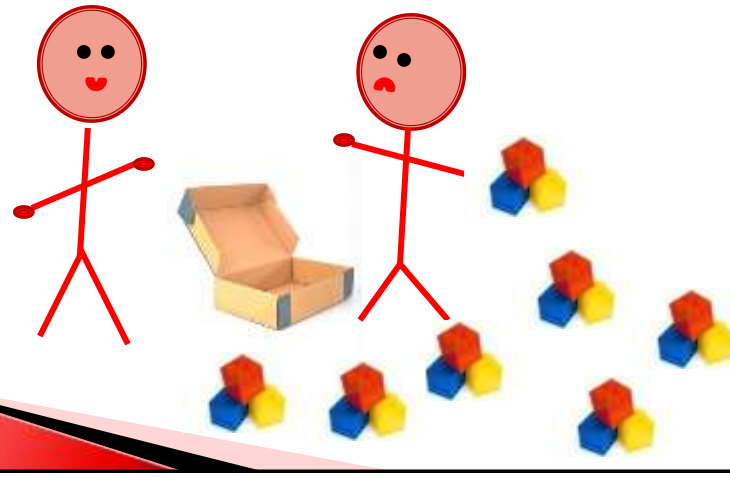
Therapist Signature: _____

Session Format

- Social Skills Warm up/Lesson
- Physical Warm up
- Rating
- Game/Fitness Circuit
- Mini Lesson
- Game/Fitness Circuit
- Closing

Offering Help

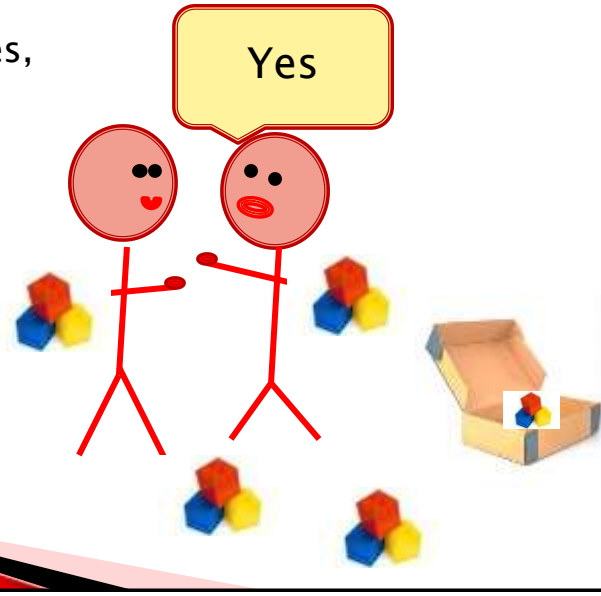
Offering Help
1. Decide if Someone needs help



2. Ask "Do you need Help?"

3. Do it!

If they say Yes,
Do it!



Session Format

- Rules/Greeting/Introduction of Skills up/Lesson
- Circuit 1
- Sports Facts/Examples
- Social Skills/Facts/Video Model/Role Play
- Application Game/Activity
- Discussion/Rating
- Application Game/Activity

Selection of Exercises

Circuit 1 Advanced

- ABLLS-R motor skills assessment
- Ongoing assessment of athletic skills
- Incorporated simple and complex skills
- Establish basic exercises which they might encounter in multiple venues
- Specific skills/moves associated with target sport/activity

Selection of Exercises

Shorties

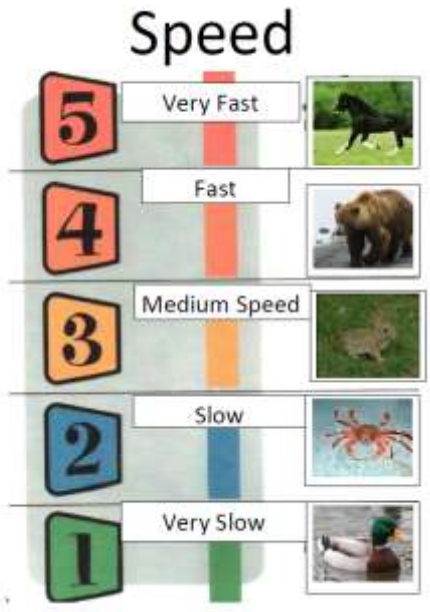
- ABLLS-R motor skills assessment
- Ongoing informal assessment of skills
- Basic Yoga Poses
- Basic Cardio and Functional Strength Training

Game Selection

- Combination of Games
- Games that involve finding a partner, deciding on roles, negotiating
- Cooperative games that involve peer interaction
- Cooperative Obstacle Courses
- Games and Sports that would be encountered in the community


Love it-Hate it
5
Love it
4
Like it
3
Don't care
2
Don't like it
1
Hate it


Tired
5
Exhausted-Nap
4
Very Tired
3
A Little Tired
2
Breathing Hard
1
Energetic-Ready



Additional Lessons Learned

- Start Immediately/minimize wait time
- Language-use concrete language
- Tricky talk-teach slang and figures of speech associated with sports
- Pre-teach Receptive instructions
- Kids readily imitated Trainer
- Use caution with "fooling around" and teach

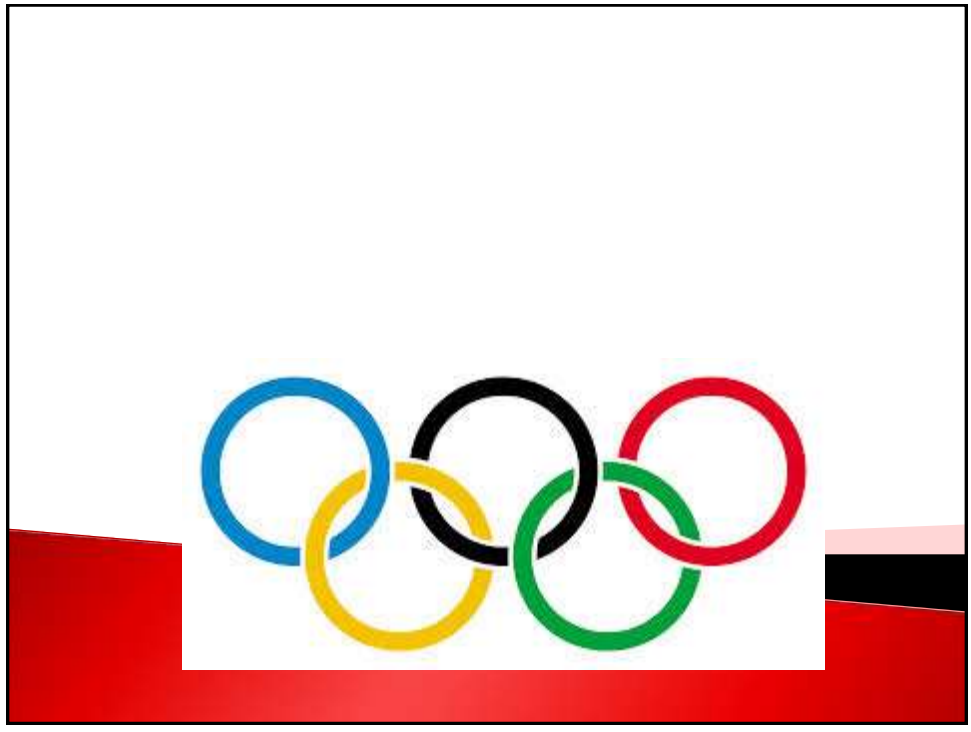
- Minimizing/Simplify language and maximizing modeling of exercises for Shorties
- Rely on Center staff to prompt
- Center staff specially trained

Figures of speech

- Give me some love
- Bring it in
- Push it back
- Sista
- Bro
- Shades
- Lid
- Eyes on Me
- Jumping the gun
- Shifting it into high gear
- Running out gas
- Breaking the record
- Killed it
- Nailed it
- You're killing me

Winter Olympics

Unit Example
8-10 sessions



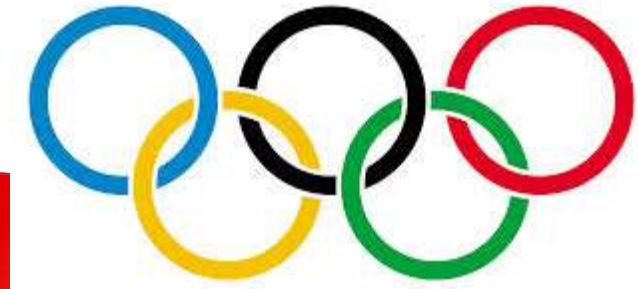

USA

http://www.youtube.com/watch?v=qLuDVRz868E

Events

- Alpine skiing
- Biathlon
- Bobsleigh
- Cross Country Skiing
- Curling
- Figure Skating
- Freestyle Skiing

Winter Olympic Games



- **Winter** Olympic Games is a major international sporting event that occurs once every four years
- This month, the Winter games begin.

Sochi, Russia

- The Winter Olympic Games are taking place in Sochi, Russia

Events

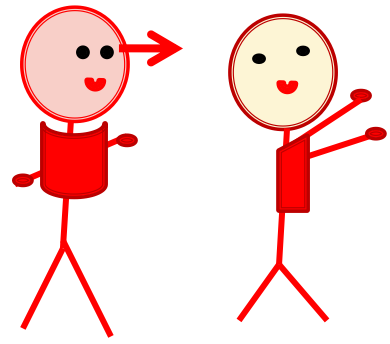
- Alpine skiing
- Biathlon
- Bobsleigh
- Cross Country Skiing
- Curling
- Figure Skating
- Freestyle Skiing

What sport?
Skiing

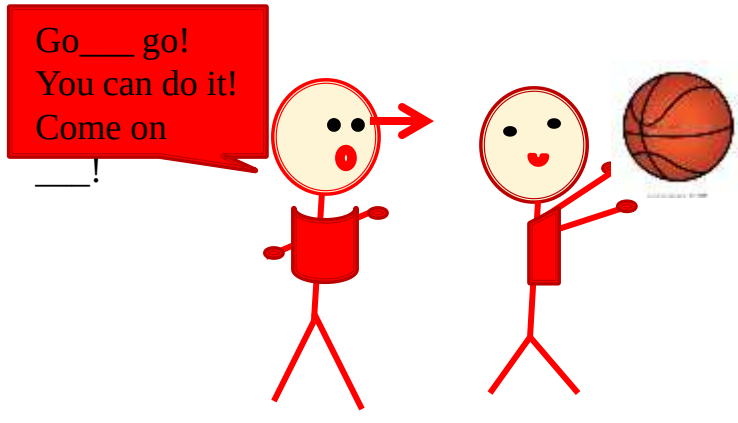
Being A Good Sport

Being a Good teammate

1. Watch your teammate



2. Cheer when your teammate takes his turn



2. Cheer when your teammate does a great job

You did it!
Great Job!
Sweet!
Awesome!

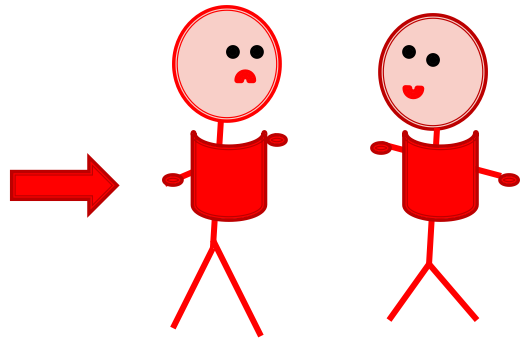
If your teammate can't do it Use Encouraging Words

Nice Try!
Good Try!
You'll do it next time!

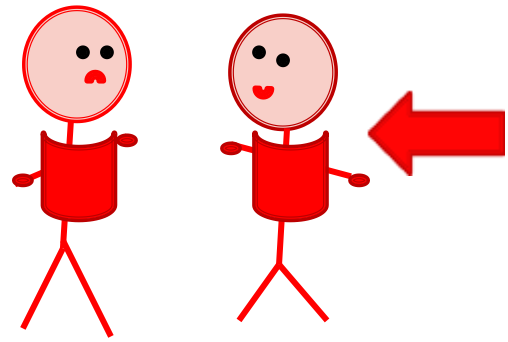
Being A Good Sport

Being a good loser

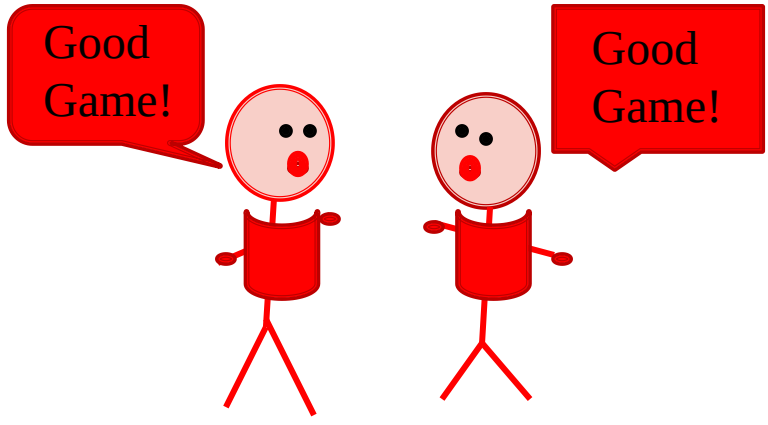
If you Lose, it's ok to feel a little sad.



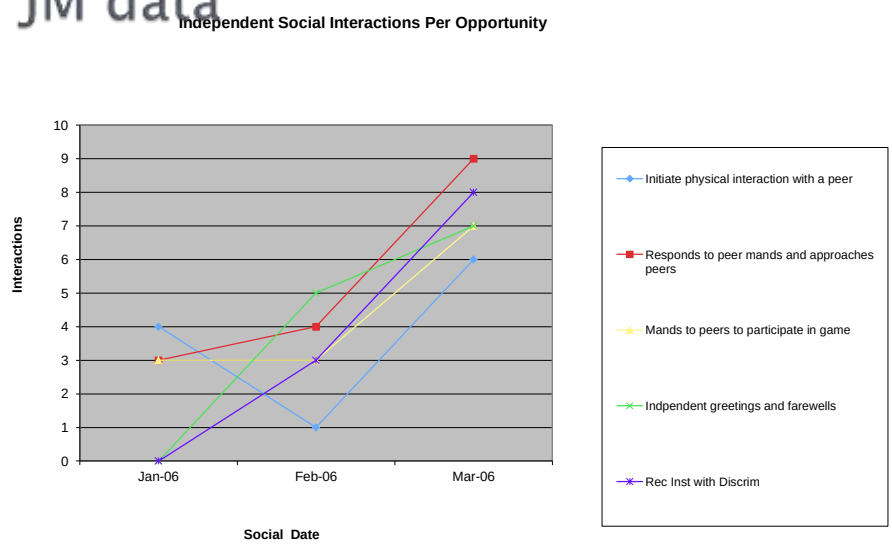
If you Win, it's ok to feel Happy!



If you win or lose, Say "Good game"



JM data



RESEARCH and RESULTS

Camp

- Eric's interest in a Speed and Agility camp
- The Center had been conducting Friendship Camp (Social Skills) for several years
- The Recess Dilemma
- Why not combine forces?

Camp

- Theme: Social Detective/Sport Detective/Food Detective
- Week 1: Friendship Camp: Sports Edition
- Fundamental skills that were teachable and could translate easily to basic sports
- Soccer, Track and Field, Kickball
- Week 2: Friendship Camp: Recess Edition
- Recess Activities: Four Square, Tag, Freeze Tag, Monkey in the Middle, Red Light/Green Light
- Simple Negotiation

Introduction

- Deficits in social communication/social skills and motor skills in children with autism spectrum disorder restrict access to the social and health benefits of group exercise provided by participation in recess, gym class, community sponsored sports offerings and games played at family gatherings.

- The literature clearly identifies Behavioral Skills Training as an effective training package for teaching multiple step skills (Johnson et al., 2005, Gross, Miltenberger, Knudson, Bosch, & Breitwieser, 2007, Lumley, Miltenberger, Long, Rapp& Roberts, 1998, Wallace, Doney, Mintz-Resudek, & Tarbbox, 2004, Sarokoff and Sturmey, 2004).

- Several studies have effectively addressed socially valid behaviors, focusing on peer groups, promoting entrapment (Magg 2006) and multiple exemplar training across teachers, stimuli, and environments (Stokes & Baer, 1977) to enhance generalization.

Purpose

- The purpose of this study was to examine the effects of a behaviorally-based treatment package to improve social skills, inferencing, and motor skills for children with autism spectrum disorder age 6-11 within the context of a fitness based social communication group.

- Specific skills in three domains: social communication/social skills, logical inferencing, and motor skills were selected for treatment.
- Maintenance of effects at a three months follow up was probed.

Method

Participants

- Seven children with a diagnosis of autism spectrum disorder ages six to eleven with Intermediate or Advanced learner profiles according the Assessment of Basic Language and Learning Skills-Revised (Partington, 2006), or the Verbal Behavior Milestones Assessment and Placement Program (Sundberg, 2008)

- Typically developing peers who received four hours of training in interacting and promoting social and motor skills in children with autism spectrum disorder, entrapment and self-reinforcement via a token system

Peer Training

Peers taught strategies

- Gaining attention
- Prompting requests
- Gaining attention and persisting until a child responds to a question or direction
- Reinforcing social attempts
- The primary intervention targets involved pairing with reinforcement, manding and initiating and maintaining interactions with the peer.
- Reinforcement System

Setting

- Local community center comprised of indoor meeting room with PowerPoint capabilities, kitchen area, and outdoor playing field

Procedures

- Each participant with autism spectrum disorder received treatment in a group format for 3 hours, 5 days per week for two weeks.

- Behavioral Skills Training including a brief explanation of the target skill with choral responding, modeling, guided practice, and feedback during application exercises was conducted.

- Video models were included for social skills and inferencing.
- Role play was included for social skills only.
- Each child with autism spectrum disorder was provided with a shadow who was an employee of The Center and received 4 hours of training on facilitation of the goals of the study as well as probe procedures and scoring criteria. Staff engaged in role play until proficiency was demonstrated and until a score of 80% or higher was achieved on a quiz containing the training content.

- Corrective feedback was provided to staff if needed by the lead instructor during training and throughout the study.

Measurement

- Baseline: Baseline cold probe data were collected for each skill for each participant during the initial session

- ***Measurement***
  - For social skills, the lead instructor would alert staff and peer models that a probe was about to be conducted. An instruction would be provided to the group and no prompting occurred. Shadows scored participant responses as Y or N for correct and incorrect/no response respectively. Some social skills contained several components (e.g. Finding a partner: get close, eye contact, mand) and each component was scored individually.

- Baseline for motor skills consisted of the personal trainer modeling each skill individually for each participant who was then asked to perform the skill. Personal trainer and lead instructor and/or shadow scored the response according to criteria as detailed above.

- Baseline for Inferencing consisted of viewing a 1-2 minute video of children engaging in a recess game and each participant was asked to tact the game. Probe data was collected as detailed above.

Single Item Daily Probe for _____

	Date →	7/15	7/19	7/22	7/26	10/26					7/15	7/19	7/22	7/26	
	Therapist →														
1	Hands on head	Y N	Y N	Y N	Y N		1	Four Square			Y N	Y N	Y N	Y N	Y N
2	Choral response	Y N	Y N	Y N	Y N		2	Tag			Y N	Y N	Y N	Y N	Y N
	Find a partner						3	Simon Says			Y N	Y N	Y N	Y N	Y N
3	Get close	Y N	Y N	Y N	Y N		4	Race			Y N	Y N	Y N	Y N	Y N
4	Eye contact	Y N	Y N	Y N	Y N		5	FreezeTag/stuckmud			Y N	Y N	Y N	Y N	Y N
5	Ask	Y N	Y N	Y N	Y N		6	Keep Away			Y N	Y N	Y N	Y N	Y N
	Ask to Play						7	Soccer			Y N	Y N	Y N	Y N	Y N
6	Get close	Y N	Y N	Y N	Y N		8	Kickball			Y N	Y N	Y N	Y N	Y N
7	Eye contact	Y N	Y N	Y N	Y N		9	Sharks/Minnows			Y N	Y N	Y N	Y N	Y N
8	Say name	Y N	Y N	Y N	Y N						Y N	Y N	Y N	Y N	Y N
9	Ask	Y N	Y N	Y N	Y N		1	Pass the ball			Y N	Y N	Y N	Y N	Y N
	Persist						2	Foot on the ball			Y N	Y N	Y N	Y N	Y N
10	Tap shoulder	Y N	Y N	Y N	Y N		3	Jump the Hurdle			Y N	Y N	Y N	Y N	Y N
11	Say name	Y N	Y N	Y N	Y N		4	Throw the ball			Y N	Y N	Y N	Y N	Y N
	Offer assistance						5	Pitch the ball			Y N	Y N	Y N	Y N	Y N
12	Notice need	Y N	Y N	Y N	Y N		6	Catch the ball			Y N	Y N	Y N	Y N	Y N
13	Ask in a nice way	Y N	Y N	Y N	Y N		7	Run the bases			Y N	Y N	Y N	Y N	Y N
14	Cheer	Y N	Y N	Y N	Y N										
15	Getting in line	Y N	Y N	Y N	Y N						Y N	Y N	Y N	Y N	Y N
16	Smoothie	Y N	Y N	Y N	Y N						Y N	Y N	Y N	Y N	Y N
											Y N	Y N	Y N	Y N	Y N
											Y N	Y N	Y N	Y N	Y N

- Post Treatment data at the end of the second week and follow up data three months after the treatment ended were collected in a manner identical to the initial probe. One subject was not available for follow up probe.

Teaching Lateral Squats

- Improving Form
  - Accept Approximations
  - Physically Guide
  - Slowing the squat motion and telling them when to stop
  - Breaking it down and slowing it down so that they were performing one squat at a time

Sport Detective/Smart Guesses

- Video models
- Teaching Rules
- Play with Prompting
- Planned opportunities to guess the game

Food Detective/Smart Guesses

- Detective Exploration
- Expanding Expressions
- Making a Smart Guess About the contents of the Smoothie

Task: Sentence completion/Cloze task

Name: _____
Date: _____

Putting it all together

Cocunut Banana Strawberry Spinach Pineapple

Group	_____ is a kind of _____. It is also a kind of _____.
Do	You can _____ it and _____it and _____ it.
	It looks _____ and _____.
Made of	It grows from or on a _____.
Parts	Its parts are _____ and _____ and _____.
Where	You can find it at a_____ or a _____.
?	I _____ it. It is _____

Monkey in Spongebob's House Smoothie

- 6 bananas

- 6 cups frozen pineapple

- 1 ½ cups shredded coconut

- Water

Experimental Design

- AB design with maintenance probe across subjects
- IOA calculated using: Agreements/ (Agreements + Disagreements and was greater than 80%.

Results

- Analysis of results reveal that all but one participant (who achieved a perfect score on social skills in baseline) demonstrated improvement in social skills and inferencing at the end of treatment and maintained higher levels of accuracy over baseline at the three month follow up.

- Results of motor skills probe were less consistent with 4/7 participants demonstrated improvement at the study's end and maintained at follow up; one subject achieving a perfect score on probe and maintaining, and two subjects exhibiting lower accuracy at study completion, but improvement at the three month follow up probe.

- Parent report indicated generalization of skills to other environments.
- Three participants are currently participating in community offered athletic activities.

Discussion

- Results suggest that this treatment package may be effective in improving social skills, inferencing, and fitness, and may promote greater community integration in athletically-oriented social activities.
- A major limitation is the complex treatment package which prohibits identification of critical independent variables.

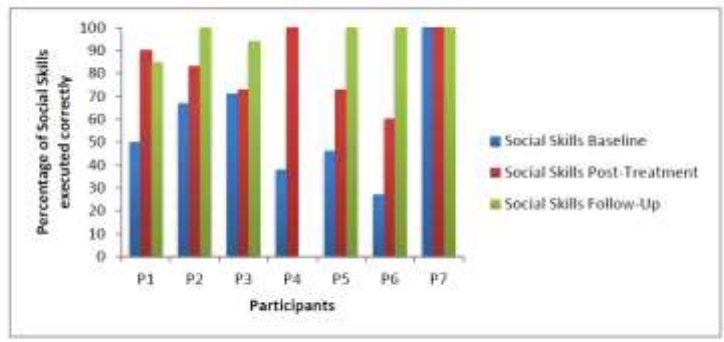


Figure 1. Percentage of social skills executed correctly by participants in baseline, post-treatment, and at three month follow-up.

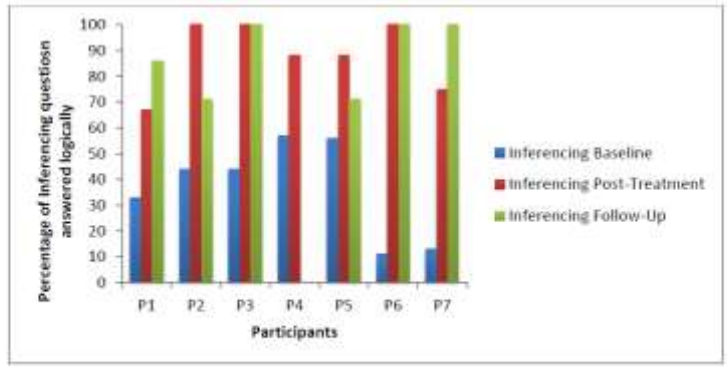


Figure 2. Percentage of inferencing questions answered logically by participants in baseline, post-treatment and at three month follow up.

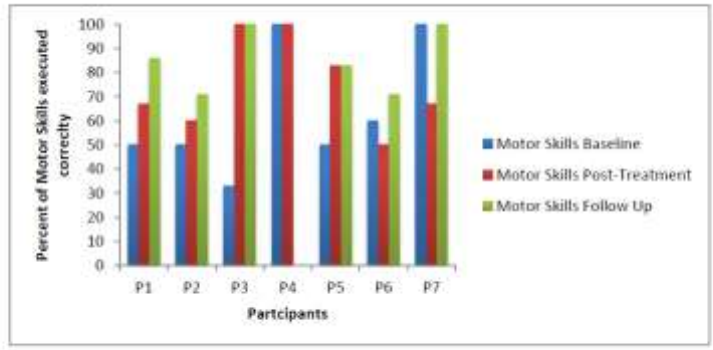


Figure 3. Percentage of motor skills executed correctly by participants in baseline, post –treatment, and at three month follow up.

Benefits of Physical Fitness

- Increase in physical fitness/athletic abilities
  - leads to confidence
  - Increased willingness to attempt new activities
  - Increase in interest and performance of outdoor activities
  - Increased ability to participate in community sponsored athletic opportunities
  - Opportunity to be a leader
  - Increased motivations for competition, desire to improve skills
  - Increase in energy
  - Improvement in general mood, focus, academic achievement

Life Long Skills

- In facilitated peer interaction, children are provided with guided practice in social skills, such as how to communicate, cooperate, and solve problems. They practice controlling their emotions and responding to the emotions of others. They develop the ability to negotiate.
- These are life long skills that will impact their quality of life.

"Social Interaction skills are critical to successful social, emotional, and cognitive development. Effective social skills allow us to elicit positive reactions and evaluations from peers as we perform socially approved behaviors" (Ladd & Mize, 1983)

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