Teaching Social Skills Using Peer-to-Peer Manding
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Who are we?
- Maureen Archer: Autism Support Teacher
- Tom Miller: Behavior Management Coordinator
- Amy Dilatush: Social Worker
- Rachel Kittenbrink: BCBA, PaTTAN Consultant

Activity
- Bring out your cell phones!!!!

Rationale
- Children with Autism frequently have difficulties with communication, specifically making spontaneous requests (Charlop, Schreibman, & Thibodeau, 1985; Higabee & Sellers, 2011; Carr & Kologinsky, 1983).
- Evidence supports that we can teach children with autism to mand (request) for desired items/actions through mand training (Hartman & Klatt, 2005; Taylor, Hoch, Potter, Rodriguez, Spinnato, & Kalaigan, 2005; Pellecchia & Hineline, 2007; Charlop, Schreibman, & Thibodeau, 1985).
- The National Autism Center’s meta-analysis investigating evidenced-based practices for children with Autism’s Standards Report (2009) noted “Mand training” as as one of eleven the “established” behavioral treatment packages (p. 45).
- For children with autism, the value of social interaction may not be established. Children with autism often show little interest in other people. They may not initiate social interactions as often as other children. Mand behavior is generally maintained by the delivery of a specific reinforcer. The delivery of the reinforcer is the result of the behavior of a listener. It is by definition, social. (Sundberg M.L.)
- Frequently noted barriers to functional mand use for children with Autism include difficulties with generalization of mands to different people/places/exemplars and the transference of skills to unprompted environments (Stokes & Baer, 1977; Prelock, Paul, Allen, 2011, pg. 125; Charlop et al., 1985).
- Issues with generalization could have effects on socialization, if mand targets taught by instructors do not generalize to peers (Pellecchia & Hineline, 2007; Higbee & Sellers, 372, 2011; Taylor et al., 2005).
Rationale

- Effective use of Motivating Operations/Establishing Operations is another key variable in mand training that can have a significant effect on the results of mand training (Sundberg, 1993; Sweeny-Kerwin, Carbone, O’Brien, Zecchin, & Janicky, 2007; Sundberg, 2005; Hartman & Klatt, 2005; Taylor, et al., 2005).
- Students with Autism can learn to mand for preferred items from their peers with careful manipulation of Establishing Operations (Hartman & Klatt, 2005; Taylor, et al., 2005).

In addition to the general preference levels of target mand items, and the recent interaction history with items (satiation and deprivation), the instructor prompt rate in communication training can also affect a participant’s mand rate in communication training (Falcomata, Ringdahl, Christensen, & Boelter, 2010; Sweeny-Kerwin et al., 2007; Hartman & Klatt, 2005; Charlop et al., 1985).

- A package designed to control common confounding variables is needed.

Participants

- Four students grades 2 - 4
- All students are enrolled in an Autistic Support Classroom in Western Pennsylvania that focuses on language development and principles of Applied Behavior Analysis.
- All students demonstrated language skills on the 2nd and 3rd levels of the Verbal Behavior Milestones Assessment and Placement Program (Sundberg, 2007)
- All four students were observed as having limited requests to their peers daily.

Video Baseline

- Reinforcer identification
- MO manipulation
- Basic Mand procedures
- Assessing student skills prior to implementation
- Selection of appropriate peer partners
- Use of differential reinforcement
- Conditioning peers are reinforcers
- Basic Peer manding procedures
Reinforcer Identification

- Basic methods for determining reinforcers to be used in mand training – it is critical to select items to be used as targets and have a variety of items to be used as reinforcers
- Preference inventory
- Observations
- Structured preference assessment
- Conditioned reinforcers

Reinforcer Identification

- Conducting a Preference Assessment – we can only identify reinforcers when we see how presentation of the item or event alters the frequency of the behavior it follows.
- Categories Commonly Included on Preference Assessment:
  - Consumables, food/drink
  - Tangible items, toys, materials
  - Activities that involve movement
  - Games
  - Social Interactions
  - Music

MO Manipulation

- “Many children with Autism have an extremely limited range of items and events that serve as reinforcers.” (Sundberg, M. L. (2005), pg 31)
- Use items from the preference assessment that score high, this way students will want the items badly enough to ask their peer to get the item
- Use a variety of items during sessions so students have opportunities to mand and do not get satiated on one or two items

Assessing student skills prior to implementation

- Select the response form: vocal, signing, written, picture exchange, communication board, electronic device
- Does the student respond socially when instructor pairs social interactions with the delivery of reinforcements
- Does the student display mand techniques across multiple conditions, people, and exemplars
- Does the student have a broad repertoire of mastered mands that can be used in peer to peer sessions
- Does the student have MO for the items selected for peer to peer sessions

Basic Mand Procedures

- Mand Training in a Nutshell
  - Check for motivation (MO)
  - Use of 2-second time delay
  - Use of 2nd trial prompt transfer procedures
  - What is considered to be an error?

Selection of appropriate peers as partners

- When possible, target students that have previously shown interest in each other
- Select students who have differing interests in reinforcers, in other words, try to find reinforcers that both students will not both want to have
Use of differential reinforcement

- Reinforce responses that meet the goal you are trying to achieve: frequency of responses, duration of peer interactions, latency, etc.
- Use differential reinforcement to shape student behavior during peer-to-peer manding sessions
- Provide high levels reinforcement for desired responses:
  - Low level reinforcer response = Student gives reinforcer to other student with hand over hand from adult
  - Mid level reinforcer response = Student gives reinforcer to other student with physical prompt
  - High level reinforcer response = Student gives reinforcer to other student when student mands for it without needing adult assistance

Conditioning peers as reinforcers

- Peer to Peer pairing procedure
  - The goal of peer to peer pairing is to condition peers as reinforcers
  - An important piece for students when developing social skills is recognizing that other people in their environment can be of value to them

Basic peer to peer manding procedures

- Complete preference assessment: choose items students have high MO for and will want during sessions
- Control environment:
  - Place students so they have access to each others items, but cannot access their own
  - Students should face each other
  - Sanitize environment
- Reinforce students at a high rate for requesting and delivering items – fade instructor reinforcement as student behavior is shaped

Data Forms

- Preference Assessment
  - Ranks reinforcers
  - Used to choose items to be used for sessions
  - Choose items the student currently likes and new items

Data Forms

- Peer to Peer session data collection forms
  - Mands to peer, delivery to peer (prompted/unprompted/spontaneous)

Data Forms

- Graphs – mands, delivery, initiation
Data Forms
- Graphs – mands, delivery, initiation

Data Forms
- Graphs – mands, delivery, initiation

Results/Outcomes
- Students see peers as being reinforcing
- Increase in social play skills
- Increase in initiation of interaction with peers
- Increase in awareness of peers
- Less parallel play, more cooperative play
- Students share reinforcers with peers
- Students are observed as enjoying the company of their peers

Results/Outcomes
Unprompted Mands/Deliveries

<table>
<thead>
<tr>
<th>Participant</th>
<th>Baseline Mands/min</th>
<th>Intervention Mands/min</th>
<th>Baseline Deliveries/min</th>
<th>Intervention Deliveries/min</th>
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Post Intervention Video

Post Intervention Video

Pit Falls

- Peer directed mands result in a slightly longer delay to reinforcement
  - HOW TO HELP: Reinforce students for manding or delivering to stay on their reinforcement schedule, as the students get faster, fade adult reinforcement
- Peers are situated in close proximity to each other, in the natural environment they may have to approach each other to mand for what they want
  - HOW TO HELP: Set up situations in NET to help students generalize these skills at different times throughout the school day
- Preferred items are typically given for a short duration and do not require reciprocal play
  - HOW TO HELP: Try to find preferred toys that require multiple parts to get multiple mands from one reinforcer! As peers continue through peer to peer programming their desire for social reinforcers become more prevalent than their desire for toys/foods

Questions

References

- Florida Institute for Self Injury, Paired Stimulus Preference Assessment.
References