Teaching Social Skills to Individuals Diagnosed with Autism

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Introduction

• Autism
  – Marked impairments in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body posture, and gestures to regulate social interaction
  – Failure to develop peer relationships appropriate to developmental level
  – A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people
  – Lack of social or emotional reciprocity

Social Skills

• Social skills are goal-oriented, verbally-governed behaviors that are situational specific and vary according to social context.
• A person who is “skillful” in social settings exhibits skills that typically evoke both neutral and positive responses and avoiding negative responses from others.

Social Skills

• Given that social skills are “situational specific and very according to social context,” it makes them difficult for practitioners to teach. Perhaps the better solution is to ask, “What equips the learner with strategies that work best in specific social settings?”

Social Skills

• Social skills can be divided into two categories, “social nonverbal behaviors” and “social verbal behaviors.” Social nonverbal behaviors can be identified as a set of responses that are mediated by another person as the result of past social reinforcement history.

Social Skills

• Social nonverbal behaviors maybe shaped by past event-governed contingencies. However, the social rules that control social nonverbal behaviors may not be verbally mediated by the verbal community.
• For example, social skills such as keeping a specific distance while talking to another person can be considered as a social nonverbal behavior.
## Social Skills

- Social verbal behaviors can be identified as a set of responses shaped by past contingencies but controlled by the immediate verbal community. Skinner’s analysis of verbal behavior will be applied to the analysis of social verbal behavior.

## Critical Components of A Social Skills Group

- **Entrance Criteria**
  - Chronological age
  - Similar behavior repertoire (e.g. they scored at least 3 or above on H14 of the ABLLS, which means they can state at least ten classes giving multiple examplers)

## Implementation of Social Skills Group

- Used shaping, fading, and prompting techniques
- Structured schedule
- Example:
  - 15 minutes of arrival/play
  - 15 minutes of art project
  - 20 minutes of turn taking/interactive play
  - 20 minutes of large group activity

## Social Skills Group

- Social Skills Group should take place at least 1-2 times per week.
- At least 1-2 hours per session
- 1:1 staff/student ratio at beginning
- Ratio should gradually thinned
- One group leader
- 1-2 peer models

## Implementation of Social Skills Group

- Turn taking/Interactive play:
  - Games (most critical)
  - Conversation
  - Observational learning
Implementation of Social Skills Group

- Large Group Activities
  - Circle time
  - Calendar
  - Snack
  - Arts and crafts

Implementation of Social Skills Group

- Clearly defined the following:
  - Objectives for each activity
  - Level and types of prompting/fading
  - Mastery criteria
  - Individualized programs

Implementation of Social Skills Group

- Target Skills:
  - Eye contact
  - Raising hand for attention
  - Initiation
  - Reciprocation
  - Question/Statement

Implementation of Social Skills Group

- It is important to target these skills using natural stimulus and consequences
  - For example, for eye contact, it is important NOT to say, “Look at me” to the participants!
  - Eye contact should be required when conversing with peers, or when initiating/reciprocating social interactions

Implementation of Social Skills Group

- Targeting “appropriate attention seeking” (Initiation)
  - Verbalizing, looking at, or touching appropriately the body of a peer (e.g., tap shoulder)
  - Greet peer, ask question, request item from peer

Implementation of Social Skills Group

- Targeting “reciprocation”
  - Verbal or physical behavior following initiation by a peer
  - For example, saying “hi,” nodding, accepting item
Implementation of Social Skills Group

• Targeting “Conversational Skills”
  – Question/Statement of similar topics of interests
  – Involves initiation and reciprocation

• Joint activity scheduling increases peer interaction in children with autism (Betz, Higbee, & Reagon, 2008)

• “Free for all” type of social groups does not benefit children with autism

Recommended future readings:

– Pivotal response training relating to social skills
– Stimulus/Response generalization relating to social skills

Social Stories

• Gray and Garand (1993)
  – Short story describes social situation
  – Provide information on social cues and appropriate social responses

• Gray (1994)
  – Sentence types
  – Ratio
Social Stories

• Gray (1994): “Talking in a Restaurant”
  – Sometimes my parents or relatives like to go out to eat.
  – Sometimes they take me along. It can be fun to eat in a restaurant.
  – My parents or relatives will let me know what kind or restaurant we will go to. If it is a fancy restaurant, I may be asked to wear nice clothes. Mom or Dad can help me choose what to wear.
  – In a restaurant, I will try to talk quietly. Other people like to talk to the people at their table without interruptions.
  – When I talk softly, the other people I am sitting with can usually hear me.
  – I will try my best to talk quietly.

• Chan and O’Reilly (2008)
  – Social story, reading comprehension, and role play
  – Decrease of inappropriate social interaction behavior
  – Increase in appropriate social initiations

• Thiemann and Goldstein (2001)
  – Social stories, pictorial and written text cues, and supplemental video feedback
  – Effective in increasing social communication skills
  – Lower rates of inappropriate communication behavior
  – Improved conversational skills

• Delano and Snell (2006)
  – Social story is the only intervention
  – Social stories with children with autism may lead to benefits of increase social engagement with peers

• Scattone, Wilczynski, Edwards, & Rabin (2002)
  – Constructed social stories, read story, comprehension questions, read again before targeted situation (i.e., recess)
  – Reduction in disruptive behaviors

Something to Consider About Social Stories

• What if social stories by themselves are not enough to change behavior?
  – Skill deficit “reading”
  – Role play
  – Generalization of skills
  – Correspondence Training

Correspondence Training

• Correspondence training is defined as a person giving a verbal report “saying” is followed by actual behavior “doing,” and the behavior is reinforced only when saying and doing is observed (Lima & Abreu-Rodrigues, 2010)
  – Two basic behavioral sequences
    • Say-do
    • Do-say
Correspondence Training

- Luciano, Herruzo & Barnes-Homes (2010) suggested that mediating responses may control variables in correspondence training.
  - Two groups of children ranging from 3-5 years old
  - Results: children in symbolic group were more likely to generalize skills than those in the verbal group.

- Taylor & O’Reilly (1997) analyzed the function of mediating responses.
  - Used a self-instructional procedure, in which the only programmed consequence for doing was delivered by the participant him or herself.
  - Results: continuous repetition of verbal mediating responses promoted acquisition and generalization, only when it was task related.

Correspondence Training

- Steps
  - 1. Identify target behavior
  - 2. Participant reads social story
  - 3. Answering questions about social story
  - 4. Role play
  - 5. Generalization
  - 6. Correspondence Training
  - 7. Generalization

- “I Do What I Said”
  - 1. Discuss rules
  - 2. Participant writes down rules
  - 3. Participant collects his own data (if he follows the rules and performs the tasks)
  - 4. Parent collects same data (if the participant follows the rules and performs the tasks)
  - 5. Experimenter compares participant’s and parent’s data
  - 6. If the two data corresponds, the experimenter scored as “+,” if not, it is scored as “-.”

Correspondence Training

- Correspondence training promotes generalization.
- Encourages individuals to produce verbal cues.
- Limitations
  - Correspondence training depended on the participant’s verbal skills.
  - Difficult to implement with individuals with low or none verbal skills.

Video Modeling
Video Modeling

- Video modeling defined as “showing a videotape of a person providing an exact version of a behavior for a child to imitate” (LeBlanc, Coates, Daneshvar, Charlop-Christy, Morris, & Lancaster, 2003)
- “Video modeling may be effective because television is an engaging medium...that does not require social interaction during learning” (Charlop-Christy, Le, & Freeman, 2001)
- “Videotape modeling is more effective than live models” (Stephens & Ludy, 1975)

- Video also permits accentuation of certain stimulus features and minimization of distracting or irrelevant features to help combat the problem of stimulus overselectivity” (Spradlin & Brady, 1999)

- Charlop and Milstein (1989) show that children with autism “learned through video modeling, generalized their conversational skills, and maintained conversational speech over a 15-month period”
- Children with autism “acquired the sequences of scripted verbalizations and play actions quickly and maintained this performance during follow-up probes” (Sacramone, Wiltz, & Ahearn, 2009)

- Video modeling teaches “social initiation and reciprocal play skills, which were maintained at 1- and 3-month follow-ups.” (Nikopoulos & Keenan, 2004)
- LeBlanc et al. (2003) state that video modeling “may be an effective technology for teaching perspective taking if researchers can continue to develop strategies for enhancing the generalization of...new skills.”

Video Modeling

- Procedure:
  - 1. Baseline/functional analysis
  - 2. Show video to participant
  - 3. Generalization Test 1
  - 4. Show video + role play (e.g., “mock hair cut”)
  - 5. Generalization Test 2

- Effective when:
  - Video modeling is only effective when it is done in combination with role play
  - Video modeling can be used as another mode of teaching how to cope with everyday activities
  - Demonstrated not just completion of sequence of tasks but address problem behaviors
Social Verbal Behavior

Skinner (1957) defined verbal behavior as: “behavior which is effective only through the mediation of other persons.”
- Mand
- Tact
- Intraverbal
- Autoclitics

Autoclitic

- Autoclitics are secondary verbal operants, which are dependent upon other verbal behavior, that is, they are always emitted along with some other primary verbal operants (Skinner, 1957).
- Autoclitics do NOT, however, change the function of primary verbal operants.
- Autoclitics prepare listeners for what speakers are about to say (verbal behavior describing the speaker’s impending verbal behavior) and increase the probability of appropriate listener responses.

Autoclitic

- Skinner described several types of autoclitics: Descriptive, qualifying, quantifying, manipulative, and relational
- Applied verbal behavior research involving autoclitics in the literature is very limited. One study has been conducted on qualifying autoclitics.
  - Howard & Rice (1988) conducted autoclitic training with preschoolers to emit the autoclitic “like" to stimuli similar to those they had earlier learned to tact.
    - All preschoolers acquired generalized autoclitic behavior, including response topography generalization (e.g., “not a very good")

Autoclitic

- They hypothesized that autoclitic use by children with autism “is particularly difficult because they are are minimally influenced by listeners” (Bondy & Frost, 1992).
  - They compared autoclitic use by typically developing children to those with MR and autism.
  - MR students used “three times as many different autoclitics as did autistic students, including greater variety within each class.”
  - Both used far fewer different autoclitics than did the normal children.
  - The children with autism used “few autoclitics and rarely used more than one type of autoclitic within any class of autoclitics.”

Autoclitic

- In a review of verbal behavior research, Sautter & LeBlanc (2006) found that there were no new studies published solely on autoclitics since 1988. Two studies were found that examined autoclitics in combination with other verbal operants, either as:
  - One of many dependent variables (Lodhi & Greer, 1989), or
  - Part of a comprehensive verbal behavior curriculum for children with autism (Williams & Greer, 1993).
Descriptive Autoclitic

• Modify the strength of a verbal response
  – Saying, "I guess you can come inside," versus "I insist you come inside." In this example, a sense of "urgency" is imposed upon the listener, thus increasing the probability of changing the rate of response.

I guess  I believe
I can't say  I suggest
I insist  I swear
I know

• Describe relations between a verbal response and other verbal behavior of a speaker (or listener) (Skinner, p. 316, 1957)
  – These permit the listener to relate the response which follows it to other aspects of the current situation, and hence to react to it more efficiently and successfully.

  – For example, "I agree that you no longer need my help."

I confess  I expect
I predict  I must say
I admit  I meant to say

Descriptive Autoclitic

• Indicate the emotional or motivational condition of the speaker & affect the listener by emphasizing his personal relation to the speaker (Skinner, p. 316, 1957)
  – For example, "I am happy to say that you passed the exam!"

  - I am happy to say
  - I regret to inform you
  - I hate to say
  - I must tell you (that I don’t agree with you)

Autoclitic

• Exploratory research questions:
  – Can a child with autism with a basic repertoire of mands, tacts, intraverbals, and echoic and textual behavior learn spontaneous use of descriptive autoclitics in conversations with adults?
  – What teaching strategies will evoke spontaneous emission of autoclitics?

Autoclitic Training

• Three teaching methods:
  1. *Modeling the autoclitic in a statement or question
     • Do you think I should grow a mustache?
     • I hate to say this, but something smells funny in here.
     • I swear I saw you eat my cake!
     • Do you expect to beat my score? (in a video game)
     *When modeling did not evoke an autoclitic, verbal prompting was used.

  2. Setting the occasion for the autoclitic:
     – Talking about reinforcers (e.g., "Are you going to play the jungle level?" [in a video game])
     – Joking about observable events or preferred topics (e.g., "What’s that smell? Do you have to confess something?")
     – Making nonsensical statements (e.g., "When offered a pink car, I think you’re trying to be gender specific and I don’t care for pink. What do you think about that?")
     – Asking the opinion about everyday events (e.g., "What do you think will happen if I take my sweater off?")

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Autoclitic Training

2. When the participants’ response was predictable, the trainer verbally prompted the autoclitic before a verbal response was emitted.
   - Do you think I should buy a Range Rover or a Ford? (I think you should buy a Range Rover)
   - Who do you expect to walk through the door right now? (I expect that it’s Cindy)
   - I swear you did it! (I swear I did not do it!)

*When anticipatory prompting did not evoke an autoclitic, feedback was delivered (e.g., try again), and the autoclitic was verbally prompted.

Autoclitic Training

3. When the participant’s response was not known, the trainer verbally prompting the autoclitic after the participant responded.
   - Should we play angry birds or go outside? (“outside”) Say, “I think we should go outside.”
   - I believe that Superman is faster than Spiderman (“Spiderman is faster!”) Say, “I believe that Superman is faster!”

*When verbal prompting did not evoke an autoclitic, feedback was delivered (e.g., try again), and the autoclitic was verbally prompted.

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Autoclitic Training

- **Target response:** Use of an autoclitic anywhere in a complete sentence.
- **Consequences for emission of autoclitics**
  - **Independent responses:** Over the top enthusiastic reactions and praise which typically included repeating his statement
  - **Independent responses in response to statements/questions that included the same autoclitic:** Enthusiastic praise
  - **Verbally prompted autoclitics:** Verbal feedback

Autoclitic Training

- Training resulted in emission of autoclitics across a variety of persons, activities, and situations.
  - Mean autoclitic emission per session was 3.2 (range= 1 to 22)

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Descriptive Autoclitic

[Graph showing autoclitic emission over time]

Results

Generalization

[Graph showing percentage of autoclitics emitted without model over time]
Generalization Examples

• “Do you want anything?” “I think I want a snack”

• “Put those pants in the second pile” (while folding pants) “I expect this (pile) to be higher.”

• “Are you going to finally beat that level?” (while playing video game) “I think I can.”

• Sister outside without a jacket: “You should get a jacket because I think its gonna rain.”

• “My foot hurts” “I think you need to go to the doctor.”

Discussion

• Preliminary data suggest:
  – When verbal repertoires of mands, tacts, echoics, intraverbals, and echoic and textual behavior are present, autoclitics may be trained in young children with autism.
  – ~70% of autoclitics emitted occurred after a speaker used the same autoclitic in his/her own statement first. This suggests that modeling the autoclitic in a sentence may be one effective method for evoking autoclitics.
  – The effects of verbal prompts (anticipatory or verbal prompts) on emission of autoclitics was inconclusive (e.g., effects may have been delayed)

Limitations

• Some of the autoclitics trained may not have been age-appropriate.

• Number of trials per session varied
  – Autoclitic trials:
    • Ranged from 1-to 37/session (mean=9)
    • Ranged from 4-to 12 in 84% of sessions.

• Technicians ran autoclitics with which they were more familiar/comfortable more frequently.

• Number of trials run was strongly correlated with the % of independent autoclitics emitted, \( r(15) = .73, p < .01 \)

Future Directions for Research

• Consider an ABAB design across participants: To examine if autoclitic use maintains despite withdraw of reinforcement from the verbal community or results in a decrease in autoclitic use

• Examine effective methods for promoting generalization across persons, settings, and time
  – Using more controlled designs, compare different methods of training: modeling vs. modeling + verbal prompting vs. games

• Differentiate types of autoclitics:
  – Negative autoclitics

• Other qualifying autoclitics such as negation, assertion, different kinds or degrees of extension of a tact

• Relational autoclitics (such as in grammar and syntax) and more….
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Review Questions

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1. A person who is “skillful” in social settings exhibits skills that typically evoke:
   a. Neutral responses from others
   b. Both neutral and positive responses and avoiding negative responses from others
   c. Only the positive responses from others
   d. Escape and Avoidance

2. A good question for teachers prior to teaching social skills:
   a. What social skills to teach?
   b. How to identify peers?
   c. What equips the learner with strategies that work best in specific social settings?
   d. What stimulus conditions should the learner identify before exhibiting the appropriate social skills?

3. What are some critical components for a successful social skills group?
   a. Small student to adult ratio at the beginning of the program
   b. Match students who have similar skill repertoires
   c. Select peer model
   d. Social skills group should take place at least 1-2 times per week
   e. All of the above

4. What are some skills to be targeted in a social skills group?
   a. Visual and auditory discrimination
   b. Obtain attention, eye contact, initiation, and conversation
   c. Arts and crafts, calendar, and circle time
   d. Matching and action imitation

5. According to the lecture, when social stories failed to teach targeted social skills, what are other strategies can be used to change behaviors in addition to social stories?
   a. Peer model
   b. Scripting
   c. Correspondence training
   d. Imitation
6. Video modeling is defined as:
   a. Showing a videotape of a person providing an exact version of a behavior for a child to imitate
   b. Showing a videotape of a person providing instructions of how to complete specific tasks
   c. Showing a videotape of a group of people engage in appropriate social skills
   d. Showing a videotape of a task analysis of a task to be completed by the child

7. Autoclitic changes the function of primary verbal operant
   a. True
   b. False

8. Descriptive autoclitics:
   a. Modify the strength of a verbal response
   b. Modify the speaker's behavior
   c. Modify the motivational operation
   d. Modify the listener

9. This lecture indicates that the best way to teach descriptive autoclitics to children with autism is:
   a. Using verbal prompts
   b. Modeling the autoclitic in a statement or question
   c. Using peer model
   d. Using written/visual prompts