Vocational Assessment and Training for Adults with Autism Spectrum Disorders: Some Examples from Research and Practice

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Overview

- Issues and Problems in Employment
- Vocational Targets
- Job-Related Social Skills Assessments
- Interventions
- Teaching Adults with ASD To Work With Children
Issues and Problems in Employment
Employment of Individuals with Disabilities

• Employment by disability (Shattuck, 2012)
  o 55% Autism Spectrum Disorder
  o 68% Intellectual Disabilities
  o 86% Speech Impairment
  o 93% Learning Disability

• Adults with ASD:
  o Earn less and work fewer hours (Burgess & Cimera, 2014)
  o Rely on other adults for support

• Outcomes flat/declined across 10 yrs; access to services had minimal impact (Taylor & Mailick, 2014)
Types of Employment Services

• Vocational Rehabilitative (VR) Services
  o Largest fed program to provide employment services
  o “State of the states report” (Burgess & Cimera, 2014)

• Sheltered Employment
  • “Train-then-place” approach
  • “Negative ‘value-added”’ service (Cimera, 2011)

• Supported Employment
  • “Place-then-train” approach
  • Individual / group

• Mixed Sheltered & Supported
Why Vocational Difficulties?

• Common Challenges of Individuals with ASD
  o Interpersonal skills
  o Restricted/repetitive interests or behaviors
  o Executive functioning (planning, self-monitoring)

• *Verbal report* of potential factors (Baldwin et al., 2014; Hurlbutt & Chalmers, 2004; Muller, Burton, & Yates, 2003)
  o Inadequate job training
  o Difficulty interacting with supervisors/co-workers
  o Unclear expectations
Research on Vocational Interventions for Individuals with Autism

- Greater focus on those with more severe disabilities
- Basic work tasks commonly targeted
- Reliance on indirect/correlation measures to evaluate outcomes (outside of behavior analysis)
- Even still.....
Key Barriers

- Training
- Dissemination
Potential Targets for Vocational Assessment and Intervention
Potential Targets: What Should We Teach?

Some Examples

• Securing Employment
  o Identifying desirable vocations
  o Completing applications
  o Interviewing
• Job-Specific Skills
• Job-Related Social Skills
  o Asking for assistance
  o Responding appropriately to feedback
• General Vocational Skills
  o Following instructions
  o Managing time
  o Navigating job site
• Hygiene/Grooming
Potential Targets: Some Examples

• Identifying Desirable Vocations
  • Job preference assessment (Lattimore 2002; Horracks & Morgan, 2009)
Job Preference Assessment - Video-Based Choice Format
Job Preference Assessment -- Choice Formats
(Horracks & Morgan, 2009)
Job Performance - Hi vs. Low Pref Jobs
(Horracks & Morgan, 2011)

Figure 1. Percentage of observations on-task for Diego in high preference (supermarket), low preference (AT lab), and choice conditions.

Figure 2. Percentage of observations on-task for Kyle in high preference (video rental center), low preference (agricultural center), and choice conditions (both video rental center and agricultural center).
Potential Targets: What Do Employers Care About Most?

**Surveys:**
- Follows instructions
- Shares information
- Respects others / Offers to help
- Requests assistance
- Clarifies instructions
- Responds appropriately to criticism
- Is dependable / On time
- Shows personal integrity / honesty

(e.g., Foss & Peterson 1981; Ju et al. 2012; McConaughy et al. 1989; Salzberg et al. 1986)
Potential Targets: What Do Employers Care About Most?

Reasons For Termination:
- Antisocial/irresponsible behavior
- Lack of social awareness
- Interpersonal relations
  (e.g., Butterworth & Strauch, 1994; Ford et al., 1984; Greenspan & Shoultz, 1981; Mueller, 1988)

Observation/Interviews About Problems:
- Interactions w/ supervisors & co-workers
- Disruptive/distractive behavior
  (e.g., Cheney & Foss, 1984)
Potential Targets: What Do Employers Care About Most?

Observation of Typical Employee Social Behavior:
- Follows directions
- Shares information
- Asks questions
- Teases/jokes with co-workers

(e.g., Chadsey-Rusch & Gonzalez, 1988)
Potential Targets: What Should We Teach?

Some Examples

- Securing Employment
  - Identifying desirable vocations
  - Completing applications
  - Interviewing
- Job-Specific Skills
- Job-Related Social Skills
  - Asking for assistance
  - Responding appropriately to feedback
- General Vocational Skills
  - Following instructions
  - Managing time
  - Navigating job site
- Hygiene/Grooming
How Do We Identify Targets?
Assessment of Job-Related Social Skills
## Assessing Job-Related Social Skills

- Caregiver or Staff Interviews/Checklists
  - Scale of Job-Related Social Skill Performance (SSSP; Bullis et al., 1993)
  - “Situational Assessments” (Carter & Wehby, 2003)

### Positive Social Behavior

<table>
<thead>
<tr>
<th>Positive Social Behavior</th>
<th>Proficient</th>
<th>Somewhat Proficient</th>
<th>Fair</th>
<th>Somewhat Inept</th>
<th>Inept</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ask for assistance from work supervisor if problems are encountered with work materials or tools?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Ask for assistance from co-workers to complete a work task?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. Ask work supervisor for clarification in completing a new job?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. Ask work supervisor for assistance after encountering problems in his or her job?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Assessing Job-Related Social Skills

- Client Verbal Report (Self-report/Knowledge-based tests)
Assessing Job-Related Social Skills

Test for Interpersonal Competence for Employment (TICE; Bullis & Foss, 1986)

Number 25. If your supervisor gives you several instructions and you forget one, you should:

   a. ask another worker for help.

   b. ask him to repeat the instructions.

   c. ask for a different job.

Repeat the item.

Number 26. If you are unhappy because your supervisor told you to do a new job, you should:

   a. ask why you have to do it.

   b. say you want to do your old job.

   c. ask your supervisor to explain the new job.
Assessing Job-Related Social Skills

Scale of Job-Related Social Skill Knowledge (SSSK; Bullis et al., 1993)

7. Mary’s boss corrected her for mistakes in her work. Mary was very concerned and wanted to keep the boss happy. She asked him several times during the day if her work was OK. Finally the boss got angry and said “Mary you’re really bothering me!”

Effective 3
- Apologize and explain to the boss that you were just checking to be sure that you did your work correctly.

Fair 2
- Don’t say a word to the boss: just go back to work before s/he really gets angry.
- Go back to work and let the boss know how upset you are by giving him/her dirty looks.
- Become upset and cry to show the boss how sincere you are in working hard.
- Become physically sick in response to the comment by the boss.
- Wait till the boss turns around and give him/her the finger.
- Complain loudly to your co-workers about the boss.
- Get angry at the boss and yell at him/her because you were only trying to do your job properly.
Assessing Job-Related Social Skills

• Role Play
  - Occupational Skills Assessment (Mathews, Whang, & Fawcett, 1980)

Social interaction skills
1. Getting a job lead from a friend
2. Telephoning a potential employer to arrange a job interview (when there is a job opening)
3. Telephoning a potential employer to arrange a job interview (when there is not a job opening)
4. Participating in a job interview*
5. Accepting a suggestion from an employer
6. Accepting criticism from an employer*
7. Providing constructive criticism to a co-worker*
8. Explaining a problem to a supervisor*
9. Complimenting a co-worker on a job done well
10. Accepting a compliment from a co-worker
Assessing Job-Related Social Skills

- What About Analog???
Pilot Clinic-Based Vocational Social Skills Assessment

Sarah Lechago, Ph.D., BCBA
Jennifer Fritz, Ph.D., BCBA

Students
- Trena Rouse
- Amy Terrell
- Loukia Tsami
- Molly Shireman
- Daniel Wright
- Courtney Laudont
Pilot Clinic-Based Vocational Social Skills Assessment

- Goal: Assess skills efficiently under more naturalistic conditions

- Employee “workroom,” “supervisor’s office,” “break room.”

- Sessions videotaped.

- Participant unaware of true purpose of conditions “evaluation of job skills”
Pilot Clinic-Based Vocational Social Skills Assessment

Skills/Behaviors Evaluated:

- Following directions
- Asking for assistance / Accepting help
- Asking questions
- Requesting clarification of a work task
- Responding to corrective feedback
- Explaining a problem
- Problem solving
- Monitoring time
- Navigating job site
- Inappropriate comments/behavior
Pilot Clinic-Based Vocational Social Skills Assessment

Situations:
- Vague Instructions
- Task component not in employee’s repertoire
- Missing materials, malfunctioning equipment
- Too much work for time allocated
- Not enough work for time allocated
- Task requires time monitoring
- Task requires self-monitoring
- Supervisor corrects work
- Supervisor pressures employee
- Supervisor unavailable or busy
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #1 – Larry (age 19; lived with parents)

- Fired from job at large box store (exceeded scheduled breaks, fell asleep)

- Interview:
  - Little to no supervision
  - On-site job coach not permitted
  - Larry hated job!
    - Too much work
    - Shifts too long
    - Constantly changing, inflexible schedule
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #1 -- Larry

Behaviors Assessed:

Following directions
Asking for assistance
Asking questions
Requesting clarification of a work task
Responding to corrective feedback
Explaining a problem
Monitoring time
Navigating job site
Inappropriate comments/behavior
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #1 -- Larry

Conditions:

Vague Instructions  
Corrective Feedback  
Too Much Work  
Materials Missing  
Required Skill Not in Repertoire  
Break Time
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #1 -- Larry

Results

Highly cooperative; completed/attempted all tasks.

Corrective Feedback – apologized/offered to redo tasks

Materials Missing– sought assistance immediately

Break Time – monitored time accurately, even when distracted
Pilot Clinic-Based Vocational Social Skills Assessment

Case #1 -- Larry

Results

Vague Instructions → no clarification; questions brief, incomplete, conveyed at low volume, inadequate to complete tasks correctly

Required Skill Not In Repertoire → see above

Too Much Work → did not identify problem/request assistance

Inappropriate Comments → perseverative; ignored cues of disinterest; swear words
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #1 – Larry -- Recommendations

Behaviors/Skills to Target
- Asking for assistance
- Asking questions/ Requesting clarification of work task
- Explaining a problem
- Engaging in appropriate conversation
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #2 – Mary (age 24 years; lived with parents)

- Problem obtaining employment
- Anxious/inappropriate social behavior

- Interview:
  - Inappropriate social behavior when
    - Asked to converse about jobs
    - Must wait in line
    - Hears profanity
    - Items break
    - People talk about her
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #2 -- Mary

Behaviors Assessed: Same as Larry plus

“Overt anxiety”: Turning away from speaker, repeatedly placing finger on temple, running fingers through hair, wringing hands, negative vocalizations (e.g., “Oh, man,” “This is bad,” “Oh, dear,” etc.)
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #2 -- Mary

Conditions:

Vague Instructions
Corrective Feedback
Too Much Work
Materials Missing
Work-Related Conversation
Waiting in Line
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #2 -- Mary

Results:
Highly cooperative; completed/attempted all tasks.

Corrective Feedback – apologized/offered to redo tasks

Materials Missing – sought assistance immediately
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #2 -- Mary

Results

Vague Instructions -- no clarification or questions; tasks completed incorrectly

Too Much Work – did not identify problem or request assistance

Work-related Conversation/Wait in Line – "overt anxiety“ (escape behavior)

Inappropriate Comments – perseverative; ignored cues of disinterest; self-talk during tasks
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #2 – Mary--Recommendations

Behaviors/Skills to Target
- Interviewing/conversing about jobs
- Asking for assistance
- Asking questions / requesting clarification of a work task
- Explaining a problem
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #3 – Susan

• Age 23 years; Asperger’s and Schizophrenia diagnoses; lives with parents
• Fired from several previous jobs
• Behaviors Assessed: Same as Larry
Pilot Clinic-Based (Analog) Vocational Social Skills Assessment

Case #3 -- Susan

Situations:
- Vague Instructions
- Corrective Feedback
- Too Much Work
- Not Enough Work (Peer Present)
- Materials Missing
- Social Distraction
- BreakTime
Pilot Clinic-Based Vocational Social Skills Assessment

Case #3 -- Susan

Results
Highly cooperative; completed/attempted all tasks

Vague Instructions → requested clarification; asked questions

Corrective Feedback → apologized/offered to redo tasks

Materials Missing → sought assistance immediately
Case #3 -- Susan

Results

Easily distracted by co-worker; did not seek assistance appropriately

Inappropriate Touching

Inappropriate Comments
Pilot Clinic-Based Vocational Social Skills Assessment

Case #3 – Susan – Recommendations

Behaviors/Skills to Target

- Seeking assistance from supervisor appropriately
- Appropriate social interactions (touch and conversation)
Vocational Skills Intervention: Some Case Examples
Types of Interventions

- Reinforcement
- Stimulus Fading
- Behavioral Skills Training (BST)
- Prompting via Portable Devices (ipods, headsets)
  - Auditory Prompts
  - Text Prompts
  - Video Models/Prompts
- Web-based Training
Reinforcement

• Natural consequences often inadequate to maintain job performance (i.e., infrequent pay days)

• Possible reinforcers
  o Food/Drink
  o Social Interaction
  o Leisure Materials/Activities
  o Breaks
Reinforcement: Case Example

• Brian, 19 years, lived with parents
  o ASD, obsessive compulsive disorder, speech disorder
  o Recent high-school graduate; no employment history
  o Assists with household chores, lawn maintenance

• Assessment Results
  o Required a lot of support to stay on task
  o Engaged in high levels of motor and vocal stereotypic behavior
  o Left work area with task incomplete
  o Preference Assessment: Mr. Pibb/Coca-cola; breaks
Reinforcement: Case Example

• Intervention

- $X$ amount of time without stereotypic behavior $\rightarrow$ Offered short break (DRO)
- Completion of $X$ silverware rolls (FR) $\rightarrow$ soda
- Stereotypic behavior $\rightarrow$ Reminder (“We don’t flap our hands when we work”); timer reset.
- Stopped working for more than 10 s $\rightarrow$ vocal prompt (“Do your work”)
- Incorrect response $\rightarrow$ asked to correct work
Reinforcement: Case Example

- Intervention (continued)
  - Amount of work and length of time before break gradually increased
  - End goal – 30 silverware; 10 min w/o stereotypic behavior
  - Amount of soda increased as work amount increased (final, 8 oz)
  - Prompts to work removed
Reinforcement: Case Example

• Intervention Extension to Possible Community Job

  ○ Worked with horticulturist in assistant position
  ○ Evaluated performance with and w/o intervention
  ○ 5 min without stereotypic behavior → Break
  ○ On-task 90% of the time → 8 oz soda
  ○ Final session – worked with maintenance crew; horticulturist implemented intervention
<table>
<thead>
<tr>
<th>Baseline</th>
<th>Treatment</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>BL</td>
<td>(grounds)</td>
<td></td>
</tr>
<tr>
<td>BL</td>
<td>(grounds)</td>
<td></td>
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</table>
Stimulus Fading: Case Example

Case #2 – Mary--Recommendations

Behaviors/Skills to Target

Interviewing/conversing about jobs
Asking for assistance
Asking questions / requesting clarification of a work task
Explaining a problem
Stimulus Fading: Case Example

Case #2 – Mary—Intervention

• Stimulus (Question) Fading
• Differential Reinforcement
• Habit Reversal Training
Behavioral Skills Training

• Typical Components
  o Written/Spoken Instruction
  o Examples / Modeling
  o Practice (Role Play)
  o Feedback

• Effective for a variety of job-related skills:
  o Office, application, & interview skills
  o Interacting with supervisor  (Argan, Salzberg, & Stowischek, 1987; Gear et al., 2011)
  o Providing/receiving criticism or compliments  (Whang, Fawcett, & Mathews, 1984)
  o Accepting instructions  (Whang, Fawcett, & Mathews, 1984)
  o Decreasing off-task behavior  (Palmen & Didden, 2012)
Behavioral Skills Training: Case Example

• Case #3 – Susan

• Assessment Results
  - Inappropriate interactions with co-workers & supervisors
  - Initial Skill: Requesting assistance from supervisor in response to difficulty with co-worker

• BST package:
  - Instructions (power point slides)
  - Cue card
  - Discrimination training (video and written examples)
  - Practice with feedback
Behavioral Skills Training: Case Example

1. Excuse yourself from co-worker
2. Find supervisor
3. Ask politely if he/she has a minute to talk with you
4. Report the issue with co-worker:
   -- Describe co-worker’s action without blame words
   -- Describe your situation
5. Politely ask supervisor for help
   -- Don’t tell supervisor what to do
EXAMPLES: Discrimination Training

- Andrea doesn’t know what she’s doing and I can’t get my work done. Do I need to help her or what?
- Andrea is asking for help with her task. I like helping but need time to finish my work. What would you like me to do?

- Jacob is distracting me with small talk. You need to do something about it.
- Jacob wants to talk to me about what he did this weekend. I can’t finish my work if I talk to him. It is important to me to finish my work. Can you help me?
Intervention Evaluation

Percentage of Links Correct

Reporting Co-Worker Issue to Supervisor
Portable Devices

- Smart phones, iPods, headphones to deliver prompts/video models
  - Discrete, naturalistic
  - Flexible
  - Promotes generalization
  - Reduces reliance on others
  - Socially acceptable (Kellems & Morningstar, 2012)
Auditory Prompts

- Bennett, Ramasamy, & Honsberger (2013)
  - 3 high school students with ASD
  - Taught to fold shirts
  - Prompts/feedback delivered via headsets ("covert audio coaching")
Bennett et al. (2013)
Text Prompts

• Burke, Anderson, Bowen, Howard, & Allen (2010)

  o Six adults with ASD
  o Firepal WalkAround costume
  o Sequence of 63 scripted responses during presentation
  o iPod mounted at eye-level
    • Behavioral Skills Training with or without iPod touch text cues (“performance cue system”)
    • iPod touch text cues alone
Burke et al. (2010)
Video Prompts

• Kellems & Morningstar (2012):
  ○ 4 young adults with ASD
  ○ Community employment settings
  ○ Participants taught to play video models of vocational tasks on iPod
  ○ Given materials and told to complete tasks; no other prompts or instructions
Kellems & Morningstar (2012):
Kellems & Morningstar (2012):
Web-Based Training

- Strickland, Coles, & Southern (2013)
  - 22 male adolescents with ASD (11 received treatment)
  - Web-based interviewing skills program (JobTIPS)
    - Written Instructions
    - Video models of scenarios with quizzes
    - Printable material (i.e., scripts, social narratives)
  - Virtual reality practice sessions with feedback
Strickland, Coles, & Southern (2013)
- Tested performance twice
  - Compared performance prior to and following training
  - Contrast (“control”) group tested at similar points in time
- Rated “content” and “delivery” of responses (4 raters)

Results
- Mean performance increased for treatment group
- Greater improvements in content than in delivery
- No change in performance of control group
Fig. 4 Difference scores: mean change in content and delivery ratings from interview 1 to interview 2, summarized over 4 raters
Other Intervention Models

- Project SEARCH
  - Community-based transition program for students with developmental disabilities
  - Collaboration between local business (hospital), school district, and state/local VR
  - Primary goal: Competitive employment at business upon graduation
  - Classroom instruction; on-site training; year-long rotation of internships
Other Intervention Models

• Simulation Training
  ▫ Alternative to “train and place” methods
  ▫ Use of common stimuli (i.e., trainer, procedure, materials) to teach & promote generalization to community job-site
  ▫ Allows for extra practice of job skills
  ▫ Supplements job-site training for more rapid acquisition (Lattimore, Parsons, & Reid, 2006)
Other Intervention Models

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  ▫ Allows for extra practice of job skills
  ▫ Supplements job-site training for more rapid acquisition (Lattimore, Parsons, & Reid, 2006)
Lattimore et al. 2006
Teaching Adults with ASD to Serve as Behavior Interventionists for Children with Autism

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University of Houston, Clear Lake
Research on Vocational Interventions for Individuals with Autism

- Allen and colleagues extended commonly used interventions (i.e., video modeling, behavioral skills training) to teach unique vocational skill (e.g., Allen, Wallace, Renes, Bowen and Burke, 2010)

- Considered occupation particularly suited for individuals with ASD
Another Potential Vocation

- Employment as ABA therapist a viable option?
  - Structured training & on-going job coaching (clear, concrete, immediate feedback)
  - Tolerant & knowledgeable employers/co-workers
  - Help fill unmet need for direct therapists
  - Potential collateral improvements in social skills
On the other hand...

- Relatively complex procedures (e.g., fading prompts, responding differentially to child behavior; collecting data)

- Requires flexibility (on-going changes in programs/instruction)

- Requires good social repertoire
Pilot Studies

  - Extend parent/teacher behavior skills training (BST) to individuals with AS/PDD-NOS
  - Evaluate performance with children
  - Evaluate maintenance and generalization
  - Evaluate social validity via self-report and expert ratings
Lerman et al., 2013

• Four adults AS/PDD-NOS (3 woman; 1 man), ages 21-30 years

• Recruited from social and communication skills program at local mental health center

• Inclusion criteria:
  o 18 years or older
  o Diagnosed with ASD
  o IQ > 70

• Indicate interest in working with children as potential vocation

• Child, 4 years old, diagnosed with autism
Setting

- Therapy rooms at university-based clinic
- Contained table, chairs, & materials needed
- All sessions videotaped for later scoring
Response Measurement

1. Obtained child’s attention if needed
2. Gave child at least 1 s of eye-contact while delivering initial instruction
3. Used correct instruction
4. Spoke instruction clearly without repeating it within 5 s
5. Used correct form, sequence, and timing of prompts
6. Delivered correct form of reinforcement
7. Delivered reinforcement immediately
8. Removed instructional materials w/in 5 s of reinforcer delivery
9. Provided 7 s - 30 s access to tangible reinforcers
10. Withheld reinforcement for no responses, incorrect responses, & physically guided responses
11. Collected data correctly
Procedure

• All initial baseline and training in role play with 2 research assistants (scripts)

• Training = written/vocal instructions, modeling, role-play w/ immediate & delayed feedback

• Two training targets; two generalization targets

• Examined generality to child in final phase
  o Instructed to make procedural modification as needed
Results
Child Results

Cumulative Number of Correct Child Responses

April

BL
Training

Cathy

No Sr Prompted
Position Prompt

Hellen

No Sr Prompted
Turn Distractor
Acceptability Survey

- Level of agreement (6-pt scale) for 9 statements
  - Liked method used
  - Most people with ASD would find method acceptable
  - Trainer feedback was helpful
  - Speed of training was just right (too fast or slow?)
  - I would recommend this to others
  - Like the skills taught
  - I would enjoy using skills with children
  - Feel comfortable using skills with children
Acceptability Ratings

• All reported positive ratings (5’s & 6’s for every item; average: 5.3-6.0)

• “I really think this is something I would love to do someday as a job.”

• “Thank you for giving me this opportunity. It was a very pleasant and educational experience”
Expert Ratings

Some written comments:

“Overall, person was not very expressive and enthusiastic.”

“..stilted quality of voice and cadence”

“Low affect wouldn’t be conducive to many teaching procedures.”
Limitations

- DTT sessions less complex than usual
  - Taught only one target per session
  - Worked with just one child

- Did not require management of problem behavior

- Problems with qualitative aspects of interactions
Lerman et al., in preparation

- Four adults AS/PDD-NOS (3 men, 1 woman), aged 19-22 yrs

- Same inclusion criteria; same setting; two previously participated in study on incidental teaching; same response measurement

- Six children, ages 3-6 years; diagnosed with autism; engaged in problem behavior (disruption, noncompliance, self-injury)

- Two training children, one generalization child

- Four training targets, six generalization targets
  - Interspersed two acquisition targets per session
Response Measurement

• Same as prior study but included
  ▫ Correct management of problem behavior
  ▫ Target interspersal

• Qualitative training:
  ▫ Conversational tone for instruction delivery (Donna and Kurt)
  ▫ Differential praise for correct and prompted responses (Lenard, Donna, and Kurt)
  ▫ Prompt immediately after reissue of instruction (Lenard and Kurt)
  ▫ Withhold comments about problem behavior (Kurt)
Lerman et al., in preparation

• Baseline with all children and all targets

• Training
  o Written/vocal instructions, modeling, role-play w/ immediate & delayed feedback
    ▪ Mastery criterion = >90% across 3 consecutive sessions
  o Practice with child, delayed feedback (no feedback: generalization targets and child)

• Qualitative Training
  o Video modeling and BST
Results
Qualitative Results
Child Results
Acceptability Ratings

• All reported positive ratings (average: 5.67-6.0)

• “This program drastically improved my teaching skills and confidence as a leader. I work along challenging students often and this help is a godsend. Tell everyone the good news.”

• “It was great working with the kids. I really enjoyed it. I would love to do it again.”
Expert Ratings
Implications

- BST effective in teaching DTT skills to adults with ASD without ID
- Skills generalized to new targets and novel children
- Viable option for meaningful employment
“I am currently enjoying success at ______________. All 19 coworkers (two bosses and one supervisor included) are fantastic people who seem to be very tolerant in their demeanor, knowledgeable in their work, and direct in their feedback. It helps me when they use ABA therapy on me. I also find myself making friends closer to my own age, improving my teaching skills and ability to interact with parents, growing more patient, and strengthening my work ethic since I have more of my day busy. Other places of employment would not have the knowledge and tolerance of autism that an ABA clinic has”
Initial Pilot Studies (continued)

• Incidental Teaching (Hawkins & Lerman, in preparation)
  
  ○ Extend pilot work to other types of therapy
  
  ○ Incidental teaching less structured, must respond to subtle cues, follow child’s lead
Hawkins & Lerman, in preparation

- Three adults AS/PDD-NOS (men), ages 20-23 years

- Same inclusion criteria; same setting + additional

- Four children, ages 3-5 years; autism diagnosis; mild problem behavior; mand training clinically indicated

- Each participant worked with two children
  - Two mands targeted per session

- Picture exchange, signs, and vocalizations
Response Measurement

1. Preferred items visible
2. Blocked access until response occurred
3. Waited 5 s for correct response before prompting
4. Used correct form, sequence, timing of prompts
5. Presented prompts only when child showed interest
6. Delivered correct form of reinforcement
7. Delivered reinforcement immediately
8. Provided 20 s - 30 s access to tangible reinforcers
9. Collected data correctly
10. Enticed child if no approach for 1 min
Hawkins & Lerman, in preparation

• Baseline with all children and all targets

• Training
  o Written/vocal instructions, modeling, role-play w/ immediate & delayed feedback; 8 scripted trials per session
  o Practice with child, immediate & delayed feedback; 5-min sessions
Results

Percentage of Correct Responses
Child Results
Our Future Research

• Use of self-management to improve/maintain performance

• Assess and improve play skills (rapport building)

• Expand professional skill repertoire (e.g., set up materials, enter data)

• Evaluate indirect effects of training
Areas of Need in Research and Practice

• Greater access to integrated employment

• Improved collaboration between service providers & potential employers

• Better match between skills/preferences of employee & job

• More objective assessment methods

• Practical interventions & accommodations to promote generalization
Questions? Comments?

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