Innovations in Parent and Staff Training

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Presentation Overview

• Importance of behavioral training
• Issues related to behavioral staff and parent training
• Types of skills that need to be taught
• Procedures that have been used
  – Behavioral skills training and video modeling
• Literature review on those procedures
• Current research
• Clinical and research recommendations
What is Training?

- Teaching a person a particular skill or set of behaviors
- Verbal
  - Lectures
  - Discussions
  - Books
- Performance
  - Modeling
  - Practice
  - Feedback

Reid & Fitch, 2011

Who Needs Training?

- 210 days (in school) x 6 hours/day = 1260 hours with staff
- 155 days (at home) x 24 hours/day + 18 hours/day x 210 days = 7500 hours with parents
- A lot of time for learning in both environments
- Imperative that we train both staff and parents
Why do Behavioral Training?

• Evidence-based
  – Research support
• Combines verbal and performance training
  – Didactic and behavior
• Ensures competency
  – Meet some sort of criterion, procedural integrity
• Should include continued supervision
  – Although we might slip up here

Why is Training often Neglected?

• Lack of knowledge regarding evidence-based training procedures (Reid, Parsons, Lattimore, Towery, & Reade, 2005)
• Training can be time consuming and effortful (Phillips, 1998)
• Need additional research that targets these issues
Challenges Related to Training Staff

• Difficult job that requires a specific skill set

Challenges Related to Training Staff

• Hire only those who have this skill set?
Challenges Related to Training Staff

- What are we to do?

What can we do?

- ID most difficult skills and focus on teaching those
  - Communicating effectively
  - Incidental or naturalistic teaching
  - Clinical decision making
  - Evaluate claims about interventions
  - Generalization of skills
  - Training others
What can we do?

• Train other important skills too
  – Preference assessments
  – Functional behavior assessments
  – Discrete trial teaching (DTT)
  – Activity schedules
  – Reinforcement procedures
  – Guided compliance

What can we do?

• Train effectively
  – Focus on procedural integrity
• Use evidence-based practices to train
  – Behavior skills training
  – Video modeling
• Evaluate social validity
  – Ask staff what they think, will staff use what they’ve learned?
• Assess maintenance
  – Will staff continue to do it?
Behavior Skills Training (BST)

- Instructions
- Modeling
- Rehearsal
- Feedback

(Miltenberger, 2004; Reid & Parsons, 2006)

Behavior Skills Training (BST)

- Instructions
- Modeling
- Rehearsal
- Feedback

Parsons & Reid, 2012
Behavior Skills Training (BST)

• Instructions
• Modeling
• Rehearsal → Performance
• Feedback

Parsons & Reid, 2012

Benefits of BST

• Provides learners an opportunity to:
  – Observe & practice the desired behavior
  – Receive feedback
• Provides trainers an opportunity to ensure that learners are able to perform the new skill
• Group BST: (Bishop & Kenzer, 2012; Miltenberger, 2004; Parsons, Rollyson, & Reid, 2012)
  – More efficient
  – Learn from others during rehearsal and feedback
  – Generalization may be enhanced
Previous Research

• Successful in training staff a wide variety of skills across a variety of settings
  – Communicating effectively (e.g., Miltenberger & Fuqua, 1985)
  – Incidental or naturalistic teaching (e.g., Fetherston & Sturmey, 2014; Ryan, Hemmes, Sturmey, Jacobs, & Grommet)
  – Preference assessments (e.g., Lipschultz, Vladescu, Reeve, Reeve, & Dipsey, 2015; Weldy, Rapp, & Capocasa, 2014)
  – Functional behavior assessments (e.g., Lambert, Bloom, Kunnvatana, Collins, & Clay, 2013)
  – Discrete trial teaching (DTT) (e.g., Fetherston & Sturmey, 2014; Sarakoff & Sturmey, 2004; Severtson & Carr, 2012)
  – Activity schedules (e.g., Fetherston & Sturmey, 2014)

Can BST be used to Teach more Challenging Skills?

• Clinical decision making (data-based decisions)
• Evaluate claims about interventions
• Train other trainers
• Generalization
Can BST be used to Teach more Challenging Skills?

• Clinical decision making
• Evaluate claims about interventions (e.g., Love, Carr, LeBlanc, & Kisamore, 2013)
• Train other trainers (e.g., Parsons, Rollyson, & Reid, 2012)
• Generalization (e.g., Cordier, Reeve, Reeve, Vladescu, & Sturmey, in preparation)
The Scientist-Practitioner Model

• Science and practice are inseparable
  – What advances one advances the other (Witmer, 1907/1996)

• 3 Roles: (Hayes, Barlow, & Nelson-Gray, 1999)
  – Consumer of research
  – Evaluator of interventions
  – Researcher

Single-case Methodology in ABA

• Effective clinicians:
  – Evaluate interventions on an on-going basis
  – Make data-based changes as needed

• Effective scientists:
  – Demonstrate experimental control over behavior change
Scientist-practitioners in EIBI

• A scientist-practitioner approach would be helpful:
  – Research should be directly applicable to clinical problems
  – Foster scientific thinking that is useful in developing and evaluating interventions even outside a specific research protocol

Research in EIBI Settings

• Data-based decisions and intervention evaluations are critical
  – BACB code of ethical conduct

• Why might data-based decision-making and intervention evaluations be difficult in these settings?
  – Inadequate training for direct-care staff
  – Methods courses may not address research in clinical settings
  – Contingencies may not support research or contact with research
Purpose

• Evaluate a modified BST approach for training staff to design and implement single-case research protocols in an EIBI setting

  – Are participants able to learn the necessary skills?

  – Are participants able to apply those skills?

  – Are participants satisfied with the training and experience?

Participants

• 24 Clinical supervisors & senior therapists
  – CS: caseload of clients, develop and supervise individual treatment plans
  – ST: assist CS, supervise instructor therapists who work directly with the clients

• Organization providing EIBI services
• Ontario, Canada
• Demographic Questionnaire
Table 1. Demographic Information

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<thead>
<tr>
<th>Age</th>
<th>Mean (years)</th>
<th>Range (years)</th>
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<td>Master's</td>
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<td>Graduate</td>
<td>5</td>
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<td>Performance</td>
<td>Management Training</td>
<td>Yes</td>
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<td></td>
<td>No</td>
<td>15</td>
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</table>

Curriculum: 8 Modules

1. Measurement
2. IOA & Procedural Integrity
3. Data Sheets
4. Single-case Designs
5. Graphing
6. Research Ethics & Informed Consent
7. Protocol Implementation
8. Protocol Development
1. Measurement
   – Reasons for & importance of measurement
   – Operational definitions
   – Event, trial, and momentary time sampling
   – When to use, how to report data

2. IOA & Procedural Fidelity
   – Assessing reliability of data - why and how
   – Measuring fidelity of IV
   – Frequency of IOA and fidelity assessments
   – Standard acceptable results

3. Data Sheets
   – Creating user-friendly data sheets
   – Necessary components
   – Piloting data sheets
   – Samples

4. Single-case Design
   – Experimental control
   – Reversal, multiple baseline, alternating treatments
   – When & how to use each design
5. Graphing
   – Step-by-step instructions
   – Visual inspection
   – Samples

6. Research Ethics & Informed Consent
   – Confidentiality of data, risks to participants, falsification of data
   – Developing consent documents & obtaining consent
   – Sample informed consent documents
   – Conducting research with clients

7. Protocol Implementation
   – Instructions for running sessions
     • Scheduling
     • Planning IOA and fidelity assessments
     • Managing Data
   – Practice running sessions

8. Protocol Development
   – How to develop a protocol
   – Develop a protocol & materials
     • Given a relevant research question
Structure of Training

• Pre-test
• Lectures (*Instructions & Modeling*)
• Supplementary reading when applicable
• Homework (*Rehearsal & Feedback*)
• Post-test

Evaluation of Training *(Kirkpatrick, 1967)*

• **Learning, Behavior, Reactions, Results**

• **Learning**
  – Principles, facts, and techniques learned
  – Acquisition of verbal information
  – Application evaluated elsewhere
  – Pre-test vs. Post-test scores
    • Content taken directly from lectures
Evaluation of Training (Kirkpatrick, 1967)

• Learning: Inter-rater Agreement
  – 2nd independent rater, with key
  – Agreement = both raters providing same score for a given question on a given test
  – Pre-tests:
    • 33% of tests (range 29-41%)
    • Average agreement: 95% (range 87-99%)
  – Post-tests:
    • 30% of tests (range 26-32%)
    • Average agreement: 95% (range 90-98%)

Evaluation of Training (Kirkpatrick, 1967)

• Behavior
  – Changes in participant behavior that result from training
  – Maintenance & application of information in non-training environment
  – Homework assignments

  – Inter-rater agreement:
    • 32% of assignments (range 27-40%)
    • Average agreement: 94% (range 90-100%)
Evaluation of Training (Kirkpatrick, 1967)

• Reaction
  – Participants’ subjective views of training
  – Social validity questionnaire:
    • Value of goals
    • Satisfaction with knowledge and skills acquired
    • Satisfaction with teaching procedures
    • Rating of workload
    • Evaluation of improvement in knowledge and skills
    • Most helpful training component
    • Preferred teaching method
    • Recommendation for other staff

Evaluation of Training (Kirkpatrick, 1967)

• Results: Follow-up Investigation
  – Tangible results of training for the organization
  – Comparing research activity of participants before and 1-year after training:
    • # of single-case design research projects
    • # presented at professional conferences
    • # published or submitted to peer-reviewed journal

  – 2 of 24 (8%) reported being involved in research
  – 1 of 24 (4%) reported a project presented at a conference
Were participants able to learn the necessary skills?

• In Kirkpatrick’s framework, Learning refers only to acquisition of verbal knowledge

• Background knowledge makes it easier for an individual to take part in research

• Need not seek out reference materials to gather all information
Were participants able to learn the necessary skills?

Bachelor’s (n=13) vs. Master’s (n=5)

– 2 MANOVA tests
– Significant relationship between degree and performance on pre-tests: F(6,11)=5.02, p=0.01
– Participants with a Master’s degree performed significantly better on Modules 1, 2, 4, 5, & 6

– No significant relationship on post-tests: F(6,11)=2.56, p=0.84
– Relatively small sample size

Were participants able to learn the necessary skills?

Bachelor’s (n=13) vs. Master’s (n=5)

– Participants with a Master’s entered training with more background knowledge

– Training brought all performance to a similar level
  • Refresher for participants with previous graduate training
  • New teaching for those without previous graduate training
Were participants able to learn the necessary skills?

Present vs. Absent from Lecture
– Modules with several absent participants: 1, 2, & 5
– 2 sample t-tests
– No statistically significant differences in performance found (small sample size)
– Absent participants still accessed materials, could discuss with peers, ask questions

Were participants able to apply the skills?

Table 3. Performance on Homework Assignments.

<table>
<thead>
<tr>
<th>Module #</th>
<th>Assignment</th>
<th>n</th>
<th>Mean Score (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Measuring behavior &amp; reporting data</td>
<td>24</td>
<td>90.8 (9.9)</td>
</tr>
<tr>
<td>2</td>
<td>Calculating &amp; evaluating IOA</td>
<td>24</td>
<td>98.0 (2.8)</td>
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<tr>
<td>3</td>
<td>Creating a data sheet</td>
<td>24</td>
<td>85.5 (11.3)</td>
</tr>
<tr>
<td>4</td>
<td>Matching research questions with designs, formulating example questions for designs</td>
<td>22</td>
<td>84.5 (13.7)</td>
</tr>
<tr>
<td>5</td>
<td>Creating several graphs</td>
<td>22</td>
<td>84.8 (14.5)</td>
</tr>
<tr>
<td>6</td>
<td>Developing application materials for institutional review board</td>
<td>20</td>
<td>93.8 (4.7)</td>
</tr>
<tr>
<td>7</td>
<td>Conduct several research sessions following a protocol</td>
<td>18</td>
<td>85.5 (3.0)</td>
</tr>
<tr>
<td>8</td>
<td>Develop a protocol to answer a research question</td>
<td>18</td>
<td>93.6 (2.8)</td>
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Were participants able to apply the skills?

Bachelor’s (n=13) vs. Master’s (n=5)

- MANOVA test
- No significant relationship with performance on homework $F(6,11)=2.196$, $p=.122$
- Small sample size

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Were participants able to apply the skills?

Present vs. Absent from Lecture
- 2 sample t-tests
- No statistically significant differences in performance found
- Absent participants still accessed materials, could discuss with peers, ask questions
- Small sample size

Were participants able to apply the skills?

- Variability across assignments
  - Variation in skills required to complete assignments & difficulty

- Variability between participants
  - Variability in prior experience with material
Were participants able to apply the skills?

- No pre-training measures of performance on homework
  - Infer that performance was a function of training
  - Some skills may have already been in participants’ repertoires

Were participants satisfied with the training and experience?
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th># of Participants</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Value of goal</strong></td>
<td>Highly</td>
<td>11</td>
<td>91.7%</td>
</tr>
<tr>
<td></td>
<td>Somewhat</td>
<td>1</td>
<td>8.3%</td>
</tr>
<tr>
<td><strong>2 Satisfaction with knowledge and skills</strong></td>
<td>Very satisfied</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Somewhat satisfied</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td><strong>3 Satisfaction with teaching procedures</strong></td>
<td>Very satisfied</td>
<td>5</td>
<td>41.7%</td>
</tr>
<tr>
<td></td>
<td>Somewhat satisfied</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Somewhat dissatisfied</td>
<td>1</td>
<td>8.3%</td>
</tr>
<tr>
<td><strong>4 Rating of workload</strong></td>
<td>Heavy</td>
<td>7</td>
<td>58.3%</td>
</tr>
<tr>
<td></td>
<td>Reasonable</td>
<td>5</td>
<td>41.7%</td>
</tr>
<tr>
<td><strong>5 Improvement in knowledge and skills</strong></td>
<td>A lot</td>
<td>7</td>
<td>58.3%</td>
</tr>
<tr>
<td></td>
<td>Somewhat</td>
<td>5</td>
<td>41.7%</td>
</tr>
<tr>
<td><strong>6 Helpful training component</strong></td>
<td>Lectures</td>
<td>5</td>
<td>41.7%</td>
</tr>
<tr>
<td></td>
<td>Homework</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Readings</td>
<td>4</td>
<td>8.3%</td>
</tr>
<tr>
<td></td>
<td>Final projects</td>
<td>5</td>
<td>41.7%</td>
</tr>
<tr>
<td><strong>7 Preferred teaching method</strong></td>
<td>Lectures</td>
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<td>50%</td>
</tr>
<tr>
<td></td>
<td>Rehearsal</td>
<td>4</td>
<td>33.3%</td>
</tr>
<tr>
<td></td>
<td>Feedback</td>
<td>4</td>
<td>33.3%</td>
</tr>
<tr>
<td><strong>8 Recommendation for other staff</strong></td>
<td>Definitely</td>
<td>12</td>
<td>100%</td>
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Table 4. Results of Social Validity Questionnaire.

<table>
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<th>Question</th>
<th>Response</th>
<th># of Participants</th>
<th>Percentage</th>
</tr>
</thead>
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<tr>
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<td>50%</td>
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<td></td>
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<td>6</td>
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<td>1</td>
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<td>8 Recommendation for other staff</td>
<td>Definitely</td>
<td>12</td>
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</tr>
</tbody>
</table>
Implications

• Modified BST-approach to staff training was effective in training therapists to design and implement single-case research protocols
• Addresses the lack of this training for staff without formal graduate-level coursework
• Unreasonable to expect all EIBI therapists to acquire graduate training
• Potentially large impact on amount of research published from EIBI settings

Implications

• Heterogeneous group of staff
• Organizational culture must be considered for external validity
  – Research highly valued
  – Supportive environment
  – Incentives for involvement in research
  – Many staff view opportunity as a reward
Implications

• Impact on clinical practice

• Relevant to data-based clinical practice outside context of research protocols
  – Operationally defining behavior
  – Creating data sheets
  – Graphing

Limitations

• Lengthy duration of training: attrition, motivation

• Atypical rehearsal: no direct observation of behavior, feedback based on products

• Labor intensive: development of materials, grading, feedback
  – No treatment integrity measures, but low-risk
  – Replications will require administrative support & resources
Future Research

- Follow-up investigation
- Video recorded lectures
- Revise curriculum and test in other ABA settings
  - Day programs for adults with DDs
- Evaluate training with more senior staff
  - Current model – provided research question
  - Future model – how to develop questions

What is it about BST that Works?

*Behavioral Interventions*
*Behav. Intervent. 27: 75–92 (2012)*
Published online in Wiley Online Library
(wileyonlinelibrary.com) DOI: 10.1002/bin.1339

**COMPONENT ANALYSIS OF BEHAVIOR SKILLS TRAINING IN FUNCTIONAL ANALYSIS**

John Ward-Horner\(^1,2\) and Peter Sturmey\(^1,2\)

\(^1\)The Graduate Center, CUNY, 365 Fifth Avenue, New York, NY 10016, USA
\(^2\)Queens College, 65-30 Kassena Blvd, Flushing, New York, NY 11367, USA
Component Analysis

- Of individual components to determine which most effective or critical
  - Instructions
  - Modeling
  - Rehearsal
  - Feedback
Results

• Feedback most effective and critical component
  – Modeling also effective for some
  – 2 of 3 rated feedback as favorite
  – 1 rated modeling as favorite

Does it always work?

• Generalization of skills (Stokes & Baer, 1977)
  – Behavior occurs in novel settings, with novel people, and within skill sets
  – Across responses and skill sets (Fetherston & Sturmey, 2014)
  – Across and within instructional areas (Cordier, Reeve, Reeve, Vladescu, & Sturmey, manuscript in preparation)
# Combining Behavior Skills Training and Generalization Strategies To Train Staff Across and Within Instructional Areas

Jessica L. Cordier, Sharon A. Reeve, Kenneth F. Reeve, Jason C. Vladescu  
*Caldwell University*

Peter Sturmey  
*Queens College*

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## Procedure

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language</strong></td>
<td>Gianoumis et al. 2012; Madzharova, Sturmey, &amp; Jones, 2012; Nigro-Bruzzi &amp; Sturmey, 2010; Rosales, Stone, &amp; Rehfeldt, 2009; Ryan, Hemmes, Sturmey, Jacobs, &amp; Grommet, 2008; Seiverling, Pantelides, Ruiz, &amp; Sturmey, 2010; Wood, Luiselli, &amp; Harchik, 2007</td>
</tr>
<tr>
<td><strong>Discrete trial training</strong></td>
<td>Dib &amp; Sturmey, 2007; Fetherston &amp; Sturmey 2014; Koegel, Russo, &amp; Rincover, 1977; Sarokoff &amp; Sturmey, 2004; Sarokoff &amp; Sturmey, 2008</td>
</tr>
<tr>
<td><strong>Activity Schedules</strong></td>
<td>Fetherston &amp; Sturmey, 2014</td>
</tr>
</tbody>
</table>
Learner Programs

Program

Skill

Gross motor imitation

Expressive body identification

Mastered

Met criterion

Instructional Areas and Programs

Instructional Areas

Discrete Trial Training

Preference Assessments

Matching

Imitation

Direction Following

Multiple-stimulus without replacement

Paired Stimulus

Free-operant
Instructional Areas and Programs

**Activity Schedules**
(Fetherston & Sturmey, 2014)

**DTT Programs**
(Ducharme & Feldman, 1992; Ducharme et al., 2001; Fetherston & Sturmey, 2010; Koegel et al., 1977)

**Multiple Programs WITHIN ONE Instructional Area**

**Preference Assessments**
(Pence et al., 2012)

**Incidental Teaching**
(Fetherston & Sturmey, 2014)

---

Instructional Areas and Programs

**Multiple Programs ACROSS MULTIPLE Instructional Areas**

<table>
<thead>
<tr>
<th>DTT</th>
<th>Activity Schedules</th>
<th>Preference Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Direction following</td>
<td>• Leisure skills</td>
<td>• Paired stimulus</td>
</tr>
<tr>
<td>• Matching</td>
<td>• Self-care</td>
<td>• Free operant</td>
</tr>
<tr>
<td>• Imitation</td>
<td>• Independence</td>
<td>• Multiple stimulus</td>
</tr>
</tbody>
</table>
### Method

#### Participants (Staff Trainees)
- Three undergraduates
- Learner

#### Setting
- Private University based program

### Instructional Area

<table>
<thead>
<tr>
<th>Instructional Area</th>
<th>Programs</th>
<th>Within-Instructional Area Probe</th>
<th>Across Instructional Area Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTI</td>
<td>Identification of Colors</td>
<td>GMI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identification of Body parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>One-Step Directions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity Schedule</td>
<td>Self-Help</td>
<td>Leisure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Independent Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Build a model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preference Assessment</td>
<td>Multiple Stimulus Without Replacement</td>
<td>I Untrained Program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single Stimulus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Free Operant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Token Economy</td>
<td></td>
<td></td>
<td>Check Marks</td>
</tr>
<tr>
<td>Instructional Area</td>
<td>Programs</td>
<td>Within-Instructional Area Probe</td>
<td>Across Instructional Area Probe</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>--------------------------------</td>
<td>--------------------------------</td>
</tr>
</tbody>
</table>
| **DTI**           | • Identification of Colors  
                   | • Identification of Body parts  
                   | • One-Step Directions         | GMI                            |
| **Activity Schedule** | • Self-Help  
                       | • Independent Activity  
                       | • Build a model              | Leisure                        |
| **Preference Assessment** | • Multiple Stimulus Without Replacement  
                                | • Single Stimulus  
<pre><code>                            | • Free Operant                | Paired Choice                  |
</code></pre>
<p>| <strong>Token Economy</strong> |          |                                | Check Marks                   |</p>
<table>
<thead>
<tr>
<th>Instructional Area</th>
<th>Programs</th>
<th>Within-Instructional Area Probe</th>
<th>Across Instructional Area Probe</th>
</tr>
</thead>
</table>
| DTI                          | • Identification of Colors  
                                |                                 | GMI                            |
|                              | • Identification of Body parts  
                                |                                 |                               |
|                              | • One-Step Directions  
                                |                                 |                               |
| Activity Schedule            | • Self-Help  
                                |                                 | Leisure                        |
|                              | • Independent Activity  
                                |                                 |                               |
|                              | • Build a model  
                                |                                 |                               |
| Preference Assessment        | • Multiple Stimulus Without Replacement  
                                |                                 | Paired Choice                  |
|                              | • Single Stimulus  
                                |                                 |                               |
|                              | • Free Operant  
                                |                                 |                               |
| Token Economy                |                                 | Check Marks                     |                               |

### Dependent Measures

#### DTI Components

(Adapted from Dib & Sturmey, 2007; Fetherston & Sturmey, 2014; Sarokoff & Sturmey, 2004)

- Attending behavior
- Present the task and verbal instruction
- Deliver a prompt
- Error correction
- Praise statement and access to snack
- Score data
- Wait 5 s
- Score data
- Ignore off task behavior
Experimental Design

- **Multiple-baseline across instructional areas**
  - DTI
  - Preference assessments
  - AS
  - Token Economies

Experimental Conditions

- Baseline
  - Vocal instruction only
- Baseline with written instructions
- Vocal instruction & written instructions
Treatment

• Written instructions
• Vocal instruction
Instructions

Modeling
• Video
• 10 learner responses

Rehearsal
• Positive
• Corrective Feedback
<table>
<thead>
<tr>
<th>Learner Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Oriented in the absence of off task behavior</td>
</tr>
<tr>
<td>B. Not oriented and engages in off task behavior</td>
</tr>
<tr>
<td>C. Did not engage in the task when presented</td>
</tr>
<tr>
<td>D. Incorrect response</td>
</tr>
<tr>
<td>E. Requested or touched another item in the room unrelated to the task</td>
</tr>
<tr>
<td>F. Tolerated the prompt or representation of the trial</td>
</tr>
<tr>
<td>G. Resisted the prompt by attempting to leave the instructional area</td>
</tr>
<tr>
<td>H. Independent correct response</td>
</tr>
<tr>
<td>I. Independent correct response followed by an incorrect response</td>
</tr>
<tr>
<td>J. Independent correct response followed by off task behavior</td>
</tr>
</tbody>
</table>
**Learner Responses**

A. Oriented in the absence of off task behavior

B. Not oriented and engages in off task behavior

C. Did not engage in the task when presented

D. Incorrect response

E. Requested or touched another item in the room unrelated to the task

F. Tolerated the prompt or representation of the trial

G. Resisted the prompt by attempting to leave the instructional area

H. Independent correct response

I. Independent correct response followed by an incorrect response

J. Independent correct response followed by off task behavior

---

**Treatment**

- **Instructions**
  - Written instructions
  - Vocal instruction

- **Modeling**
  - Video
  - 10 learner responses

- **Rehearsal**
  - 10 uninterrupted trials
Treatment

- Written instructions
- Vocal instruction

Instructions

Modeling
- Video
- 10 learner responses

Rehearsal
- 10 uninterrupted trials

Feedback
- Positive
- Corrective
- Learner based rationale (Phillips, Phillips, Fixsen, & Wolf, 1972)

PROGRAMMING for Generalization

Within instructional area

Across instructional area

Confederate to a learner
### Within instructional area

<table>
<thead>
<tr>
<th>Multiple Exemplar Training</th>
<th>Common Stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 3 programs</td>
<td>• Learner responses</td>
</tr>
<tr>
<td></td>
<td>• Training components</td>
</tr>
</tbody>
</table>

(Stokes & Baer, 1977)

### Across instructional area

<table>
<thead>
<tr>
<th>Multiple Exemplar Training</th>
<th>Common Stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 3 areas</td>
<td>• Learner responses</td>
</tr>
<tr>
<td></td>
<td>• Training components</td>
</tr>
</tbody>
</table>

(Stokes & Baer, 1977)
<table>
<thead>
<tr>
<th>Components</th>
<th>DTI</th>
<th>Preference Assessment</th>
<th>Activity Schedule</th>
<th>Token Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending behavior</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Present the task and instruction</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Prompt</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error correction</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Praise</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Wait 5s</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ignore off task behavior</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Block attempts</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to item</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>No selection</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove unselected items</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotate items</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Prompt to remove picture</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Score data</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
### Generalization of Skills from Confederate to a Learner

<table>
<thead>
<tr>
<th>Multiple Exemplar Training</th>
<th>Common Stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 3 programs</td>
<td>• Data sheets</td>
</tr>
<tr>
<td>• Learner responses</td>
<td>• Program materials</td>
</tr>
<tr>
<td></td>
<td>• Training components</td>
</tr>
</tbody>
</table>

(Stokes & Baer, 1977)

### Programming for Generalization

<table>
<thead>
<tr>
<th></th>
<th>Within instructional area</th>
<th>Across instructional area</th>
<th>Confederate to a learner</th>
</tr>
</thead>
</table>

### Ongoing Generalization Probes

### Assessing Generalization

<table>
<thead>
<tr>
<th>Within-instructional-area-probe</th>
<th>Across-instructional-area-probe</th>
<th>Generalization probes with the learner</th>
</tr>
</thead>
</table>
Ongoing Generalization Probes

Within Instructional Area

- Baseline conditions (i.e., without written instructions)
- Every three sessions
- Novel program with confederate

Across Instructional Area

- Baseline with written instructions
- Every fourth session
- Novel instructional area with confederate
Ongoing Generalization Probes

Generalization Probes with a Learner

• After training probes
• Baseline conditions (i.e., without written instructions)

ASSESSING Generalization

Within-instructional area-probe | Across-instructional area-probe | Generalization Probes with a Learner

---

Data Collection and Analysis

Inter-observer agreement

<table>
<thead>
<tr>
<th>Staff Trainee</th>
<th>Baseline</th>
<th>Baseline with written instructions</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
<td>99.8%</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>100%</td>
<td>99.9%</td>
<td>100%</td>
</tr>
<tr>
<td>C</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Procedural Integrity

<table>
<thead>
<tr>
<th>Staff Trainee</th>
<th>Baseline</th>
<th>Baseline with written instructions</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>99.8% 100%</td>
<td>99%, 100%</td>
<td>100% 100%</td>
</tr>
<tr>
<td>B</td>
<td>100% 100%</td>
<td>98.7%, 100%</td>
<td>100% 100%</td>
</tr>
<tr>
<td>C</td>
<td>100% 100%</td>
<td>99.7%, 100%</td>
<td>100% 100%</td>
</tr>
</tbody>
</table>
Staff Trainee A  
Staff Trainee B  
Staff Trainee C

Within Instructional Areas

DTI
Activity Schedule
Preference Assessment
Token Economy
Preference Assessment
Preferred Assessment
Token Economy
Preference Assessment
DTI

Percentage of independently completed components
Activity Schedule
Preference Assessment
Token Economy
Preference Assessment
Preferred Assessment
Token Economy
Preference Assessment
DTI
Across Instructional Areas

Staff Trainee A

Staff Trainee B

Staff Trainee C

Activity Schedule

Token Economy

Preference Assessment

Token Economy

Preference Assessment

DTI

DTI

Preference Assessment

Preference Assessment

Token Economy

Learner Probes

Staff Trainee A

Staff Trainee B

Staff Trainee C

Activity Schedule

Token Economy

Preference Assessment

Preference Assessment

Token Economy

DTI
In Summary

- **Baseline with written instructions**

**Future research**
- More complex teaching procedures
- Components of instructions
In Summary

Baseline with written instructions

- Future research
- More complex teaching procedures
  - Components of instructions

Training

- Less complicated instructional areas

- Future research
  - BST components
  - Sequence effects

Follow-up

- Maintained mastery criterion

Baseline with written instructions

- Increase in correct responding
- Criterion
  - Single Stimulus
  - DTT
- Future research
  - Instructions in baseline
  - (e.g., Iwata et al., 2000; Moore et al., 2002; Nigro-Bruzzi & Sturmey, 2010; Parsons et al., 2013; Pence et al., 2012; Sarokoff & Sturmey, 2004)
  - Components of instructions

Training

- Less complicated instructional areas
- Future research
  - BST components
  - Sequence effects
Generalization

Within instructional areas

- Written instructions alone
- Future research
- Generalization strategies

Across instructional areas

- Generalized repertoire
- Future research
- Complex areas
- Other strategies
Generalization

Within instructional areas
- Written instructions alone
- Future research
  - Generalization strategies

Across instructional areas
- Generalized repertoire
- Future research
  - Complex areas
  - Other strategies

Learner probes
- Variety of learner responses
- Controlled environment

Pre- and Posttest probes
- Mastered programs to novel programs
- Learner responses
- Increased repertoire
Limitations of BST

• Trained supervisor
• Travel to trained supervisor
• Time consuming?

Video Modeling (VM)

• Might address some limitations of BST

• Show a video model of behavior such that it can be imitated in appropriate contexts (Catania et al., 2009)
  - Might limit need for trained professional
  - Convenience
  - Less costly
  - Less time consuming?

• Addition of voiceover instruction likely makes important components more salient
  - Parent training (e.g., Webster-Stratton, 1990)
  - Staff training (e.g., Catania et al., 2007; Lipschultz et al., 2015; Vladescu et al., 2012)
What Can VM be used for?

- Still scratching the surface of VM benefits
- Teach staff a variety of skills
  - Direct teaching procedures (Giannakakos, Vladescu, Kisamore, & Reeve, 2015)
  - Preference assessments (Lipschultz, Vladescu, Reeve, Reeve, & Dipsey, 2015)
  - Focus on generalization, maintenance, and social validity

Using Video Modeling with Voiceover Instruction Plus Feedback to Train Staff to Implement Direct Teaching Procedures

Antonia R. Giannakakos^2, Jason C. Vladescu^1, April N. Kisamore^1, & Sharon A. Reeve^1
• Direct teaching procedures
  – Most-to-Least, Least-to-Most, Prompt delay

• Utility of prompting procedures (Demchak, 1990)

• Staff preference (McDonnell & Ferguson, 1989)

---

**Video Modeling with Voiceover Instruction (VMVO)**

• Demonstrates for the viewer behavior she is expected to engage in
<table>
<thead>
<tr>
<th>Article</th>
<th>Skill taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catania et al. (2009)</td>
<td>Re-watched video until mastery</td>
</tr>
<tr>
<td>Lipschultz et al. (2015)</td>
<td>Yes</td>
</tr>
<tr>
<td>Neef et al. (1991)</td>
<td>Could not be determined</td>
</tr>
<tr>
<td>Macurick et al. (2008)</td>
<td></td>
</tr>
<tr>
<td>Moore et al. (2007)</td>
<td></td>
</tr>
<tr>
<td>Rosales et al. (2015)</td>
<td></td>
</tr>
<tr>
<td>Vladescu et al. (2012)</td>
<td></td>
</tr>
<tr>
<td>Weldy et al. (2014)</td>
<td></td>
</tr>
</tbody>
</table>

**Performance Feedback**

- **Increase staff treatment integrity** (e.g., Casey & McWilliam, 2011; Ward-Horner & Sturmey, 2012)

- **Decrease in trainer presence and training duration** (DiGennero-Reed & Henley, 2015)
Purposes

• Evaluate VMVO as a prelude to in vivo training

• Evaluate generalized responding
  – Untrained direct teaching procedures
  – Actual consumer

Participants & Setting

• Three female graduate students (staff trainees)

• Actual consumer with autism spectrum disorder (ASD)

• Simulated consumer
Design and Dependent Variable

- Multiple baseline across participants (Baer, Wolf, & Risley, 1968)
- Percentage of correctly completed steps

Direct Teaching Procedures

- Trained Procedures
  - Most-to-Least (MTL)

- Untrained Procedures
  - Least-to-Most (LTM)
  - Prompt Delay (PD)
<table>
<thead>
<tr>
<th>Steps</th>
<th>MTL</th>
<th>LTM</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fill out the data sheet</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Establish attending</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Present clear instruction</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Present correct prompt</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>- Physical, model, verbal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present correct prompt</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>- Verbal, model, physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide immediate prompt (0 s)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Wait 5 s for response</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Increase/ decrease intrusiveness of prompts</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Immediate reinforcement for correct response</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Manage errors and inappropriate behaviors</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Record data</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Calculate data</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Simulated Consumer Skill Programs

- **Leisure**
  - (Playing with blocks, completing a puzzle)

- **Self-help**
  - (Zipping a jacket, buttoning a shirt)

- **Educational**
  - (Receptive ID of body parts, following one step directions)

Actual Consumer Skill Programs

- Stuffing envelopes
- Folding towels
## Simulated Consumer Scripts

<table>
<thead>
<tr>
<th>Trial</th>
<th>Simulated Consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Correct response (prompted)</td>
</tr>
<tr>
<td>2</td>
<td>• Do not provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Correct response (prompted)</td>
</tr>
<tr>
<td>3</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Incorrect response</td>
</tr>
<tr>
<td>4</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• No response</td>
</tr>
<tr>
<td>5</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Correct response (prompted)</td>
</tr>
<tr>
<td>6</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Correct response (prompted)</td>
</tr>
<tr>
<td>7</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Stereotypy</td>
</tr>
<tr>
<td>8</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Correct response</td>
</tr>
<tr>
<td>9</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• Problem behavior</td>
</tr>
<tr>
<td>10</td>
<td>• Provide eye contact</td>
</tr>
<tr>
<td></td>
<td>• No response</td>
</tr>
</tbody>
</table>

### General Procedure

- Provide materials
- 10 minutes to review
- Provide instruction
- Sessions consisted of up to 10 trials
Procedure

Baseline

VMVO plus Feedback

Generalization

Feedback

Video Feedback

• No video

• No feedback

Procedure

Baseline

VMVO plus Feedback

Generalization

Feedback

Video Feedback

• First session
  – Viewed video
  – No feedback

• 26 min 47 s

• MTL procedure

• Voiceover instruction
Procedure
Baseline
VMVO plus Feedback
Generalization
Feedback
Video Feedback

• Subsequent sessions
  – Feedback only

Procedure
Baseline
VMVO plus Feedback
Generalization
Feedback
Video Feedback

• Untrained direct teaching procedures
  – Least-to-Most
  – Prompt Delay

• Actual consumer

• No video or feedback
Procedure
Baseline
VMVO plus Feedback
Generalization
Feedback
Video Feedback

Procedure
Baseline
VMVO plus Feedback
Generalization
Feedback
Video Feedback

Feedback
• No video
• Feedback provided

Video Feedback
• No video
• Video of previous session
  – Feedback provided simultaneously
Conclusions

• VMVO plus feedback was effective
  – Generalization to untrained procedures
  – Generalization to an actual consumer

Conclusions

• VMVO as prelude to in vivo training
  – Feedback as needed
  – Reduced training times
Using Video Modeling with Voiceover Instruction to Train Staff to Conduct Stimulus Preference Assessments

Joshua L. Lipschultz¹ & Jason C. Vladiescu¹ & Kenneth F. Reeve¹ & Sharon A. Reeve¹ & Casey R. Dipsey¹

<table>
<thead>
<tr>
<th>Preference Assessment Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paired-Stimulus</td>
<td>70</td>
</tr>
<tr>
<td>Multiple-Stimulus with Replacement</td>
<td>34</td>
</tr>
<tr>
<td>Free Operant</td>
<td>34</td>
</tr>
<tr>
<td>Single-Stimulus</td>
<td>27</td>
</tr>
<tr>
<td>Multiple-Stimulus without Replacement</td>
<td>20</td>
</tr>
</tbody>
</table>
Implementing Assessments

1. Choose SPA
2. Identify stimuli
3. Implement assessment
4. Score/interpret results

Video Modeling

- Might not require trainer
<table>
<thead>
<tr>
<th>Reference</th>
<th>Assessment Trained</th>
<th>Select SPA</th>
<th>Identify Stimuli</th>
<th>Implement SPA/collect data</th>
<th>Score/interpret results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosales et al. (2015)</td>
<td>PS, MSWO, FO</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Weldy et al. (2014)</td>
<td>Brief MSWO, Brief FO</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1

Steps for Completing Single-Stimulus, Paired-Stimulus, and MSWO Preference Assessments

<table>
<thead>
<tr>
<th>Preference assessment</th>
<th>Single stimulus</th>
<th>Paired Stimulus</th>
<th>MSWO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choose appropriate SPA to conduct</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Identify correct items to use in SPA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Present correct items</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Present items appropriate distance from consumer</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Present items in correct location</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Present items spaced evenly apart and/or equidistant from consumer</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Deliver instruction</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Block attempts to approach more than one item</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Allow 10 s to approach item</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Provide approach to approached item</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Allow time to manipulate or consume item</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>If no item is approached within 10 s, re-present item(s)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Remove items that were not approached</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Record response</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Rotate items before presenting next trial</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Ignore problem behavior</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Correctly calculate percentage of approaches</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Rank items correctly</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Identify item to use during teaching</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Purposes

- Train staff to conduct three types of preference assessments (SS, PS, MSWO) using a single video
- Train staff in the four identified components discussed earlier
- Generalization/Follow-up and Content and Social Validity

Staff trainees, Instructors, & Consumers

| Staff Trainees | • 4 individuals  
|               | • Limited experience |
| Instructors   | Simulated 5 staff members  
|               | Baseline, Video Modeling, Follow-up, Generalization sessions |
|               | Actual consumers’ teachers  
|               | Generalization sessions |
| Consumers     | Simulated Experimenter  
|               | Baseline, Video Modeling, Follow-up, Generalization sessions |
|               | Actual 1 male with autism  
|               | Generalization sessions |
### Design and Measurement

- Multiple baseline across staff trainees

- Dependent variable
  - Percentage of correctly implemented steps

- Two consecutive sessions above 90%

---

**Single-stimulus**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hands on desk/ Typical response</td>
</tr>
<tr>
<td>2</td>
<td>Typical response</td>
</tr>
<tr>
<td>3</td>
<td>No response/ No response</td>
</tr>
<tr>
<td>4</td>
<td>Typical Response/ Stereotypy</td>
</tr>
</tbody>
</table>

**Paired-stimulus**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Consecutive selection/ Typical response</td>
</tr>
<tr>
<td>2</td>
<td>Typical response</td>
</tr>
<tr>
<td>3</td>
<td>Hands on desk/ Simultaneous selection/ simultaneous selection</td>
</tr>
<tr>
<td>4</td>
<td>Typical response</td>
</tr>
<tr>
<td>5</td>
<td>Typical response</td>
</tr>
<tr>
<td>6</td>
<td>Hands on desk/ No response/ Typical response</td>
</tr>
</tbody>
</table>

**MSWO**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Consecutive selection/ Typical response</td>
</tr>
<tr>
<td>2</td>
<td>Typical Response w/ Problem behavior</td>
</tr>
<tr>
<td>3</td>
<td>Hands on desk/ Typical response</td>
</tr>
<tr>
<td>4</td>
<td>No response/ no response</td>
</tr>
</tbody>
</table>
Baseline

- Materials to conduct session
- Choose SPAs to conduct with hypothetical consumers
- Instructed to implement each of the preference assessments with a simulated consumer
- No feedback

Baseline

- Three BCBAs were surveyed
- Rated the video to have all the steps necessary to implement the three SPAs
- Additional information

Video Modeling Content Validity
Baseline

• Viewed video (19 min, 28 s)

• Session with simulated consumer within 5 min

• No feedback

• Instructions on job aid
Sample Description

Gale is a 14-year-old female diagnosed with autism. She has been in an ABA program since she was 3 years old, so she has lots of experience learning in a discrete-trial training format. Throughout her schooling, she has never showed signs of a positional bias, nor has she had issues scanning and picking items out of an array. She is very good at staying in her seat, but she sometimes has tantrums that disrupt the classroom. She does not seem to have difficulty making choices during school. She frequently screams during tantrums that she does not want to work anymore, and she wants to go home. Her teachers don’t believe that instructions are aversive to her. Her teachers are concerned that she has no motivation to work in school, and they feel like they can never figure out what she wants to work for during class. All of her toys that she plays with are less than 1 foot wide, and her teachers want to assess her preference for five toys. Her teachers want to conduct preference assessments with her about twice a month so she remains interested in working during school.
• Actual and simulated consumers
• Materials to conduct session
• Choose SPAs to conduct with hypothetical consumers
• Instructed to implement each of the preference assessments with a simulated consumer
• No feedback
• Job aid was provided

**Generalization**

• 1 week
• Materials to conduct session
• Choose SPAs to conduct with hypothetical consumers
• Instructed to implement each of the preference assessments with a simulated consumer
• No feedback
• Job aid was provided

**Follow-up**
Social Validity (Outcome)

• Graduate students watched pre- and post-treatment video clips

• Post-treatment clips rated as more competent
## Items

<table>
<thead>
<tr>
<th>Items</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>How clear is your understanding of the procedure?</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>How acceptable do you find the training you received?</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>How willing are you to implement the training you received?</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6.7</td>
</tr>
<tr>
<td>To what extent do you think there might be disadvantages in following this treatment?</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2.7</td>
</tr>
<tr>
<td>How cost effective do you think it will be to implement this strategy to train staff?</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6.7</td>
</tr>
<tr>
<td>How easy do you think it will be to implement the suggested training?</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>5.3</td>
</tr>
<tr>
<td>How likely is this training to make a permanent change in your behavior?</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>How much do you like the training you received?</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>How comfortable were you during the training?</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>4.7</td>
</tr>
<tr>
<td>How effective do you believe this training will be to train staff to implement stimulus preference assessments?</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

## Conclusions

- Except for one session with Rick, performance feedback was not necessary
  - Trainer was not required while staff watched the training video

- Staff trainees were trained to implement the four components seemingly necessary to independently implement SPAs
Conclusions

• Training to implement three different types of SPAs using a single video

Conclusions

• Staff trainees demonstrated generalized responding
Conclusions

• Extend previous research
  – Follow up

  – Content validity

  – Social validity
Conclusions

• Train staff to identify relevant characteristics of hypothetical consumers

• Select SPA based on those characteristics

Clinical Recommendations for Staff Training

• Consider how you are going to program for and assess generalization
  – Across time (i.e. response maintenance)
  – Across settings (i.e. setting/situation generalization)
  – Across behaviors (i.e. response generalization)
  – Across subjects

  – Use a three component generalization strategy
Clinical Recommendations for Staff Training

- Program for maintenance
  - Thin the schedule of reinforcement
  - Teach meaningful skills

- Consider social validity
  - Train meaningful skills
  - Train in interesting ways
  - Train both verbal and performance skills
  - Think about staff needs and motivating operations
Research Recommendations for Staff Training

• Social validity
  – What are the barriers to implementation?
  – What do staff prefer during training?

• More research on complex skills
  – Communication, data-based decision-making

• Maintenance
  – Do the results hold up over time?

Why train parents?

• Spend a large amount of time with their children
• Manage current and future problem behavior
• Teach new skills to their children
• Family priorities increase social validity and implementation of intervention \( \text{(Moes & Frea, 2002)} \)
• Evaluate claims about interventions
• Advocate/communicate effectively for their children
Benefits of Parent Training

• Family norms + priorities
• Parent nominated tasks
• Savings of time & money
• Decrease in family stress (travel, scheduling)
• Parents’ increased quality of life

Increased social validity

(Symon & Boettcher, 2008; Tarbox, Persicke, & Kenzer, 2013; National Research Council, 2001)

Challenges Related to Parent Training

• Do children come with a handbook?
Challenges Related to Parent Training

• Is each child the same?

Challenges Related to Parent Training

• Unique problems make it difficult to follow through or perform with high integrity

• Parents are people too!
  – Must consider role of covert verbal behavior and rules
    • Live up to society’s expectations
    • Negative reinforcement cycle (Carr, Taylor, & Robinson, 1991; Berberich, 1971; Stocco & Thompson, 2015)
    • Negative self-talk
Problems Associated with Parent Implementation of Interventions
(Allen & Warzak, 2000)

• Establishing operations (EOs)
• Acquisition
• Generalization
• Consequent events

Acquisition Challenges

• One procedure might work for one parent but not another
• Unclear which components of training are essential
• Training takes too long
• Training is not meaningful to the parent
Addressing Acquisition Challenges

• Do verbal and performance training
• Conduct component analyses
• Make training brief
  – Gather data on training time

• Evaluate social validity of the procedures

EO Challenges

• Restricted resources (e.g., time, finances, assistance)
  – Need fast procedures that result in fast improvement
  – Needs to be easily available and inexpensive
  – Needs social support

• Social disapproval
  – Training and subsequent procedures might not be socially valid
Addressing EO Challenges

• Use cost effective training that can be done in a short period of time

• Make sure training procedures are socially valid

Generalization Challenges

• Failure to transfer control from training environment to home

• Weak rule following repertoires
Addressing Generalization Challenges

• Program for generalization!
  – General-case analysis (Sprague & Horner, 1984; Reeve, Reeve, Townsend, & Poulson, 2007)
  – Multiple exemplars (Stokes & Baer, 1977)
  – Common stimuli (Stokes & Baer, 1977)
  – Within and across strategies (Gomes, Reeve, Brothers, Sidener, & Reeve, 2014)
  – Focus on teaching effective rules in terms parents can understand

Consequent Challenges

• Competing contingencies
  – Other responsibilities
  – Other more potent reinforcers
  – Response effort
• Negative reinforcement cycle
Negative Reinforcement Cycle

Parent behaves

Negative child response
(Negative reinforcement)

Parent avoids that behavior in the future
(Negative reinforcement)

(Carr, Taylor, & Robinson, 1991; Berberich, 1971; Stocco & Thompson, 2015)

Addressing Consequent Challenges

• Use cost effective training that can be done in a short period of time

• Help parents contact other reinforcers
  – Support groups
  – Set up reinforcing contingencies
How Do We Train Parents?

• Identify skills that need to be taught

• Identify barriers specific to parents

• Use evidence-based interventions
  – BST
  – VM

BST and Parent Training

• DTT (Charlop-Christy & Carpenter, 2000)

• Incidental teaching (Charlop-Christy & Carpenter, 2000; Hsieh, Wilder, & Abellon, 2011)

• Guided compliance (Miles & Wilder, 2009; Tarbox, Wallace, Penrod, & Tarbox, 2007)

• Natural language paradigm (Laski, Charlop, & Schreibman, 1988)

• Vocal play initiations (Reagon & Higbee, 2009)
BST for Parent Training of Food Selectivity Intervention

- Parents of 3 children with ASD and food selectivity
- Home-based intervention
  - Taste exposure, escape extinction, and fading
- Maintenance assessed via parent report
- Lack programming and assessment of generalization
Video Modeling and Parent Training

- **Compliance** (Webster-Stratton (1990, 2000, 2001))
- **Skill acquisition** (Koegel, Glahn, & Nieminen, 1978)
- **Maternal play, assistance, and provision of consequences** (Phaneuf & McIntyre, 2007)

---

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>Baseline TS</th>
<th>Posttraining TS</th>
<th>Follow-up TS</th>
<th>Baseline PM</th>
<th>Posttraining PM</th>
<th>Follow-up PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tommy’s mom</td>
<td>40</td>
<td>95</td>
<td>91</td>
<td>85</td>
<td>94</td>
<td>89</td>
</tr>
<tr>
<td>Lance’s mom</td>
<td>44</td>
<td>98</td>
<td>86</td>
<td>86</td>
<td>92</td>
<td>90</td>
</tr>
<tr>
<td>Noah’s mom</td>
<td>29</td>
<td>99</td>
<td>94</td>
<td>70</td>
<td>97</td>
<td>94</td>
</tr>
</tbody>
</table>

*Note. TS = taste sessions; PM = probe meals.*
The Effects of Video Modeling with Voiceover Instruction and On-Screen Text on Parent Implementation of Guided Compliance

Heidi J. Spiegel, April N. Kisamore,
Jason C. Vladescu
Caldwell University
Amanda M. Karsten
Western New England University

Noncompliance

• Failure to initiate a task or complete a task; behave in accordance to a request, direction, or rule; or interact socially (McMahon & Forehand, 2003; Wilder, 2011)
• Interferes with skill acquisition (Luiselli, 2009)
• Affects caregiver interactions with child (Luiselli, 2009)
Noncompliance Research

- Noncontingent access to preferred items (Cote et al., 2005)
- Advance notice (Wilder et al., 2006)
- Rationales (Wilder et al., 2010)
- Decreased response effort (Fischetti et al., 2012)
- Hi-P instructional sequence (e.g., Belfiore et al., 2008; Mace et al., 1988; Smith & Lerman, 1999; Wilder et al., 2010)
- Guided compliance (e.g., Horner & Keilitz, 1975)
- Time out (Rortvedt & Miltenberger, 1994)

Guided Compliance

![Guided Compliance Diagram](image-url)
Teaching Guided Compliance

- Previous research evaluated behavioral skills training with caregivers (Miles & Wilder, 2009; Smith & Lerman, 1999)
  - Effective
  - Limited information about generalization of parent behavior to untrained tasks/locations
  - Requires trained professional

Purpose

- Evaluate video modeling with voiceover instruction (VMVO) on parent implementation of guided compliance procedures
- Teach parent-selected targets to enhance implementation and social validity
- Program for and assess generalization to children with autism and untrained tasks and locations
<table>
<thead>
<tr>
<th></th>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex:</strong></td>
<td>Male</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td><strong>Age:</strong></td>
<td>43</td>
<td>47</td>
<td>40</td>
</tr>
<tr>
<td><strong>Marital Status:</strong></td>
<td>Married</td>
<td>Married</td>
<td>Married</td>
</tr>
<tr>
<td><strong>Education:</strong></td>
<td>MBA</td>
<td>MBA</td>
<td>MA Ed</td>
</tr>
<tr>
<td><strong>Employment:</strong></td>
<td>Full-time; outside home</td>
<td>Full-time; at-home</td>
<td>Full-time; outside home</td>
</tr>
<tr>
<td><strong>Income:</strong></td>
<td>&gt;$105K/yr</td>
<td>&gt;$105K/yr</td>
<td>&gt;$105K/yr</td>
</tr>
<tr>
<td><strong>Children:</strong></td>
<td>8 y female - ASD; 7 y male - ADHD, dyslexia</td>
<td>9 y male - ASD, cystic fibrosis</td>
<td>6 y female - ASD</td>
</tr>
</tbody>
</table>

**Method**

- **Setting**
  - Participants’ homes
  - Participant, their children, experimenter, and research assistant present
    - Experimenter served as a confederate during training
    - Generalization sessions took place with their own children

- **Dependent Variable**
  - Percentage components implemented correctly
  - 90% = mastery

- **Multiple baseline design**
  - Across participants
Training Targets

• Identified via parent interview
• Multiple exemplars
  - 3 training locations
  - 5 tasks per location

<table>
<thead>
<tr>
<th>Participant 3</th>
<th>Set 1: Bedroom and Kitchen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1</td>
<td>Put clothes in laundry basket</td>
</tr>
<tr>
<td>Task 2</td>
<td>Throw in garbage</td>
</tr>
<tr>
<td>Task 3</td>
<td>Put pillows on bed</td>
</tr>
<tr>
<td>Task 4</td>
<td>Get a napkin</td>
</tr>
<tr>
<td>Task 5</td>
<td>Close closet door</td>
</tr>
</tbody>
</table>

Materials

• Scripted responses
  - Confederate followed scripted responses to provide exposure to multiple types of responses

• Written instructions
  - 1-page description of guided compliance procedures
  - Written at 5th Grade reading level

• Guided compliance training video
  - 12 min 34 s in length
  - Video model with voiceover instruction (VMVO)
  - On-screen text
  - Multiple exemplars of responses to directions
Baseline

- Participants given a list of tasks
- No prompts or feedback provided

Please ask your child to perform the following tasks. Give directions and respond to your child as you normally would without a researcher present.

<table>
<thead>
<tr>
<th>1. Get a clean shirt</th>
<th>6. Get a snack</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Get a cup</td>
<td>7. Put laundry in the basket</td>
</tr>
<tr>
<td>3. Get a spoon</td>
<td>8. Put dishes in the sink</td>
</tr>
<tr>
<td>4. Put your pillows on the bed</td>
<td>9. Get a drink from the fridge</td>
</tr>
<tr>
<td>5. Put clean socks in the drawer</td>
<td>10. Get your shoes</td>
</tr>
</tbody>
</table>

Written Instructions

- Given instructions
- Told to read instructions
- Given list of tasks and instructed to provide directions
- No prompts or feedback provided
VMVO

- Instructed to watch video at beginning of session
- Given list of tasks and instructed to provide directions
- No prompts or feedback given

Generalization

- Programmed via training across a variety of
  - Settings
  - Tasks
  - Child responses
- Assessed
  - With child with autism during baseline, training, and maintenance
    - With a child with ADHD (for Participant 1)
  - In untrained locations and with untrained tasks
  - During maintenance at 1 and 2 months
Social Validity Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean (M)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do you feel about watching a video model to learn new skills?</td>
<td>4.9</td>
<td>4-5</td>
</tr>
<tr>
<td>How do you feel about guided compliance to help your child follow directions?</td>
<td>4.6</td>
<td>4-5</td>
</tr>
<tr>
<td>Overall, how would you rate the outcomes of your training?</td>
<td>4.7</td>
<td>4-5</td>
</tr>
</tbody>
</table>

(Reimers et al., 1992)
Conclusions

• VMVO is effective for teaching parents how to implement guided compliance procedures
• Implementation of the procedures generalized to untrained locations and tasks
• Participants rated the procedures highly

• Use of how-to videos is common
• Required up-front work on part of researcher, but easy implementation after

Clinical Recommendations for Parent Training

• Consider issues related to parent implementation and training

• Program for and assess generalization

• Program for and assess maintenance
• Evaluate social validity
Future Parent Training Research

• Train parents how to conduct research
  – Evaluate claims about interventions (Love et al., 2013)
• Secure appropriate medical and related services
  – Advocate with schools and other organizations
• Train to train other caregivers (Symon, 2005)

Thank you
Innovations in Parent and Staff Training

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