Effective Training Strategies and Performance Feedback
How Can We Maximize a Supervisor’s Efficiency?

Marnie Shapiro, Ellie Kazemi, Meline Pogosjana, and Melissa L. Mendoza
California State University, Northridge (CSUN)
ABAI, 2014
Researchers have developed assessments to identify preferences & potential reinforcers (Hagopian, Long, & Rush, 2004)

Effects of reinforcement are not absolute (Hagopian et al., 2004)

Imperative to identify preferences regularly (Hanley, Iwata, & Roscoe, 2006)
Identifying best practices to teach correct assessment of preferences (Graff & Karsten, 2012; Lavie & Sturmey, 2002; Roscoe et al., 2006, 2008)

- Supervisor-facilitated training strategies (Lavie & Sturmey, 2002; Roscoe et al., 2006, 2008)
  - Instructions
  - Modeling
  - Rehearsal
  - Feedback

Included ≥ two components
Used feedback & role-play

Taught 8 inexperienced behavior technicians to implement 2 types of preference assessments

- **One 15 to 20 minute** training session
  - Mastery Criterion: ≥ 90% across 3 consecutive sessions
  - All participants met mastery
TRAINING LIMITATIONS

- No report on generating hierarchies or interpreting assessment outcomes (Lavie et al., 2002; Roscoe et al., 2006, 2008)
- Feedback component requires supervisor be present (Lavie et al., 2002; Roscoe et al., 2006, 2008)
How Can We Maximize a Supervisor’s Efficiency?
Used self-instructional package

Taught 11 novice teachers to implement, score, & interpret outcomes from 2 types of preference assessments

Self-instructional package alone

- Mastery Criterion: ≥ 90% across 2 consecutive sessions
- All participants met mastery
To replicate the study conducted by Graff and Karsten (2012)
PARTICIPANTS

- 8 undergraduate students from California State University, Northridge (CSUN)
- Ages 21 to 36 (M = 1, F = 7)
  - **Inclusionary criteria:**
    - ≥ 18 years of age
    - No formal training conducting stimulus-preference assessments
► Videotaped all training sessions
► Conducted in small observation rooms on campus
Provided items to conduct & interpret outcomes from paired-stimulus preference assessment

- 8 edible stimuli depicted in self-instructional package (Graff & Karsten, 2012)
Simulated client:  
- Graduate student

Scripts:  
- Same scripts developed by Graff and Karsten (2012)  
- One of 4 scripts randomly assigned to each session  
- Specified exact trial client emitted prescribed responses  
  - Ten trials (i.e., one session)  
  - Typical & atypical responses
## MASTERY CRITERION: ≥ 90% ACROSS 2 CONSECUTIVE SESSIONS

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Two observers independently scored data:

- One in vivo
- One via videotape (33% across all sessions)

Total accuracy of implementation:

- Mean agreement = \textbf{93\%} (range: 90\% to 100\%)

Accuracy of specific target responses:

- Mean agreement = \textbf{97\%} (range: 96\% to 98\%)
Multiple baseline design across participants
Procedure:

- Modified method section adapted from Fisher et al. (1992)
  - Place 2 items on table 1ft apart & 1ft in front of client
  - Provide vocal verbal prompt for selection response
  - Remove unselected item & record selected item
  - Record “no response” if an item is not selected within 5 s of prompt
  - Block client’s attempt to simultaneously select > 1 item
Procedure:

- **Self-instructional package** (Graff & Karsten, 2012)
  - Limited technical jargon, diagrams, pictures, & data sheet

![Data sheet](image1.png)

**Enhanced written instructions for the paired-stimulus preference assessment**

**Paired Stimulus Preference Assessment Instructions**

Below are instructions for conducting a paired-stimulus preference assessment. Examples are embedded in the instructions to provide additional information. As you review the examples, it will be helpful to refer to the data sheet below.

Name: ___________________  
Date of Assessment: ____________

<table>
<thead>
<tr>
<th>Stimulus</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td></td>
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<td>3</td>
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<td></td>
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<tr>
<td>4</td>
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<td></td>
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<tr>
<td>5</td>
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<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Data sheet**

**Example**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Left position</th>
<th>Right position</th>
<th>Item Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

4. If the participant selects one item, remove the item not selected. Allow the participant access to the selected item for 15-20 seconds, or until the item is chewed and swallowed. Record the participant’s selection by circling the appropriate number on the data sheet, and write the name of the item in the “Item Selected” column.
Procedure:

- Modified package based on participants’ errors:
  - Implemented if participant did not meet mastery criterion (i.e., ≥ 90% across 2 consecutive sessions)
Procedure:

- Added additional prompts (e.g., bolded DV information, increased font size, & specified a foot = vertical length of paper)
Procedure:

- Added additional prompts (e.g., bolded DV information, increased font size, & specified a foot = vertical length of paper)

- Across all self-instructional package conditions:
  
  - 30 minutes to read instructions
  
  - Free access to instructions throughout all sessions
Procedure:

- Feedback & modeling:
  - Implemented if participant did not meet mastery with modified self-instructional package
  - Provided written list of target responses
  - Indicated whether response was performed correctly or incorrectly
  - Provided strategy for incorrect responses & modeled correct implementation
Procedure:

- Generating preference hierarchies & interpreting outcomes:

<table>
<thead>
<tr>
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<th>Left position</th>
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<tbody>
<tr>
<td>1. Licorice</td>
<td>1</td>
<td>2</td>
<td>Licorice</td>
</tr>
<tr>
<td>2. Pretzel</td>
<td>3</td>
<td>4</td>
<td>Popcorn</td>
</tr>
<tr>
<td>3. Goldfish</td>
<td>5</td>
<td>6</td>
<td>Jelly Bean</td>
</tr>
<tr>
<td>4. Popcorn</td>
<td>7</td>
<td>8</td>
<td>Teddy Grahams</td>
</tr>
</tbody>
</table>

Licorice

Selected = 6x
Presented = 7x

= 86%
### EXPERIMENT 1

<table>
<thead>
<tr>
<th>Written Instructions</th>
<th>Self-instructional package</th>
<th>Modified package</th>
</tr>
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<tbody>
<tr>
<td><strong>Fisher et al. (1992)</strong></td>
<td>Generating hierarchies</td>
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<td></td>
<td>Interpreting outcomes</td>
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<td><strong>Intervention</strong></td>
<td><strong>Intervention</strong></td>
</tr>
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<td>0/3</td>
<td>0/3</td>
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### RESULTS

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Graff and Karsten (2012) 1st to demonstrate self-instructional package effective for teachers

- In Experiment 1, no undergraduate students met mastery with self-instructional package (Graff & Karsten, 2012)
- 6 out of 8 met mastery with *modified* package
- 2 needed feedback & modeling to meet mastery

**Generating hierarchies & interpreting outcomes:**
- 1 out of 3 with self-instructional package (Graff & Karsten, 2012)
- 5 out of 8 with *modified* package
Can Behavioral Staff be Trained to Implement Paired-Stimulus Preference Assessments Using Only a Self-Instructional Package?

Marnie Shapiro, Ellie Kazemi, Meline Pogosjana, and Melissa L. Mendoza
California State University, Northridge (CSUN)
ABAI, 2014
PARTICIPANTS

- **5 direct staff:**
- Ages 24 to 29 (M = 0, F = 5)
  - Earned bachelor’s degree (n = 1) or master’s degree (n = 3)
  - Worked 1 to 5 years at a private behavioral agency
    - Provided in home services
- **Recruitment:**
  - Disseminated IRB-approved email
    - Informed staff of opportunity to attend a training session
    - Participated in a research study
Inclusionary criteria:

- ≥ 18 years of age
- No formal training conducting stimulus-preference assessments
- Received minimum wage for attending training session
**SETTING & MATERIALS**

- **Setting:**
  - Small observation rooms on campus

- **Materials:**
  - Pencil, paper, calculator
  - 8 edible stimuli depicted in self-instructional package (Graff & Karsten, 2012)
Setting & Materials

Setting:
- Small observation rooms on campus

Materials:
- Pencil, paper, calculator
- 8 edible stimuli depicted in self-instructional package (Graff & Karsten, 2012)

Simulated client:
- Graduate student
- Scripts identical to Experiment 1
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Two observers independently scored data:
  - One in vivo
  - One via videotape (33% across all sessions)

Total accuracy of implementation:
  - Mean agreement = 92% (range: 70% to 100%)

Accuracy of specific target responses:
  - Mean agreement = 95% (range: 83% to 100%)
Multiple baseline design across participants

Procedures were identical to Experiment 1
Approximately 1 week after meeting mastery:
- Occurred in-home with clients (i.e., boys ages 5 to 8 diagnosed with a developmental disability)

If staff did not perform at ≥ 90% accuracy:
- 5 min to review a self-instructional package
- Feedback
Generalization probes:

- Total accuracy of implementation:
  - Mean agreement = 87% (range: 70% to 100%)

- Accuracy of specific target responses:
  - Mean agreement = 96% (range: 97% to 100%)
# RESULTS

Written instructions → Self-instructional package

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 Intervention:
- 3 out of 5 participants met mastery with self-instructional package (Graff & Karsten, 2012)
- 1 met mastery with modified package
- 1 needed feedback & modeling to meet mastery

 Generalization probes:
- 2 out of 5 participants generalized skills
- 2 needed self-instructional package (Graff & Karsten, 2012)
- 1 needed feedback and modeling
Generating hierarchies & interpreting outcomes:

- 3 out of 5 with self-instructional package (Graff & Karsten, 2012)
- No data for 1 participant
DISCUSSION

- Self-instructional package sufficient for majority to reach mastery
Experiment 1:
- 6 out of 8 undergraduate students met mastery with the modified package

Experiment 2:
- 3 out of 5 direct staff met mastery with the self-instructional package

Discrepancy in performance may be due to differing histories with training & use of self-instructional packages
Limitations & FUTURE RESEARCH

Limitations:

- Fisher et al. (1992) method section presented prior to self-instructional package
  - Does prior introduction to relevant research impact effectiveness of package?
- Social validity data
  - Assess social validity of training procedures
- Not all participants met mastery with a self-instructional package
  - Develop comprehensive training package (e.g., video model with voiceover script) that reduces need of expert trainer
  - Brief session of feedback


