Effective Training Strategies and Performance Feedback

How Can We Maximize a Supervisor's Efficiency?

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OVERVIEW

- 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)

OVERVIEW

- 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

ROSCOE AND FISHER (2008)

- 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?

GRAFF AND KARSTEN (2012)

- 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

MAIN OBJECTIVE

- 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

SETTING

- Videotaped all training sessions
- Conducted in small observation rooms on campus

MATERIALS

- Provided items to conduct & interpret outcomes from paired-stimulus preference assessment
  - 8 edible stimuli depicted in self-instructional package (Graff & Karsten, 2012)

MATERIALS

- **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

DVs	Correct	Incorrect
Stimulus presentation	Placed 2 stimuli on table	Placed more or less than 2 stimuli on table
Stimulus position	Placed stimuli approx. 1ft in front of client & approx. 1ft apart from each other	Placed stimuli more or less than 1ft in front of client & 1ft apart from each other
Postselection response	Removed unselected stimulus before collecting data	Did not remove unselected stimulus before collecting data
Response blocking	Moved hands towards client's hands when client attempted to select > 1 stimuli	Did not move hands towards client's hands when client attempted to select > 1 stimuli
Trial termination	**Removed stimuli from table if client did not make a selection within 5 s of the vocal verbal prompt**	**Did not remove stimuli from table if client did not make a selection within 5 s of the vocal verbal prompt**

INTEROBSERVER AGREEMENT

- **Two observers independently scored data:**
  - One in vivo
  - One via videotape (33% across all sessions)
- **Total accuracy of implementation:**
  - Mean agreement = **93%** (range: 90% to 100%)
- **Accuracy of specific target responses:**
  - Mean agreement = **97%** (range: 96% to 98%)

DESIGN

- Multiple baseline design across participants

BASELINE

- **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

INTERVENTION

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

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 imbedded in the instructions to provide additional information. As you review the examples, it will be helpful to refer to the data sheet, below.

Name_____

Dates of Assessment_____

Stimulus
1.
2.
3.
4.
5.
6.
7.
8.

Data sheet

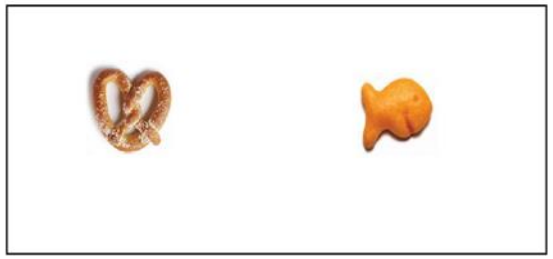
Trial	Left position	Right position	Item Selected
1	1	2	
2	3	4	
3	5	6	
4	7	8	

Trial	Left position	Right position	Item Selected
29	1	7	
30	2	8	
31	4	1	
32	6	3	

EXAMPLE

Trial	Left position	Right position	Item Selected
1	1	2	

Student



You

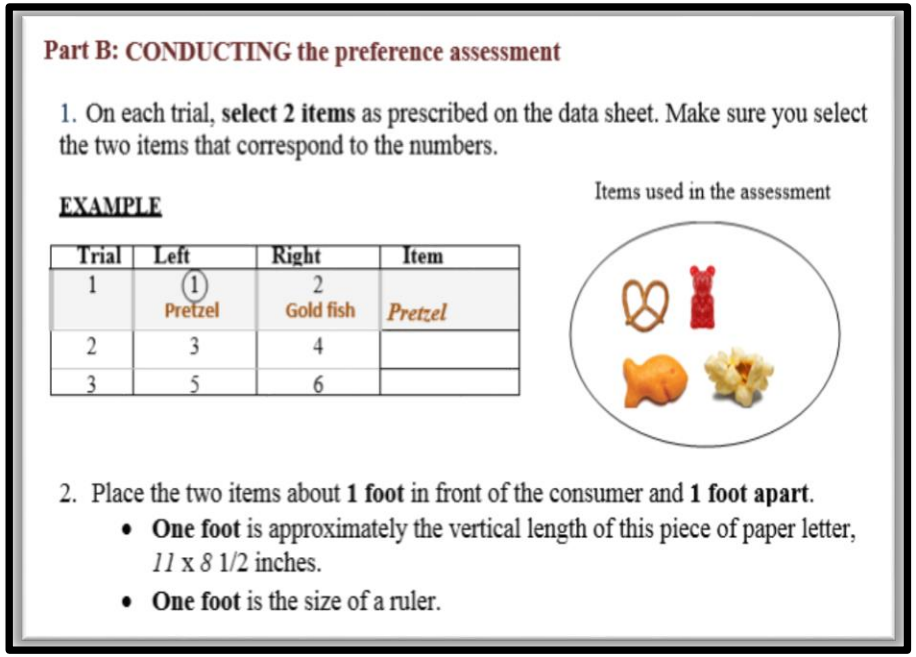
4. If the participant selects one item, remove the item not selected. Allow the participant access to the selected item for 15-20 seconds, or until the item is chewed and swallowed. Record the participant's selection by circling the appropriate number on the data sheet, and write the name of the item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

INTERVENTION

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

INTERVENTION

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



Part B: CONDUCTING the preference assessment

1. On each trial, **select 2 items** as prescribed on the data sheet. Make sure you select the two items that correspond to the numbers.

EXAMPLE

Trial	Left	Right	Item
1	(1) Pretzel	2 Gold fish	*Pretzel*
2	3	4	
3	5	6	

Items used in the assessment

2. Place the two items about **1 foot** in front of the consumer and **1 foot apart**.
   - **One foot** is approximately the vertical length of this piece of paper letter, *11* x *8* 1/2 inches.
   - **One foot** is the size of a ruler.

INTERVENTION

- **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

INTERVENTION

- **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

INTERVENTION

- **Procedure:**
  - **Generating preference hierarchies & interpreting outcomes:**

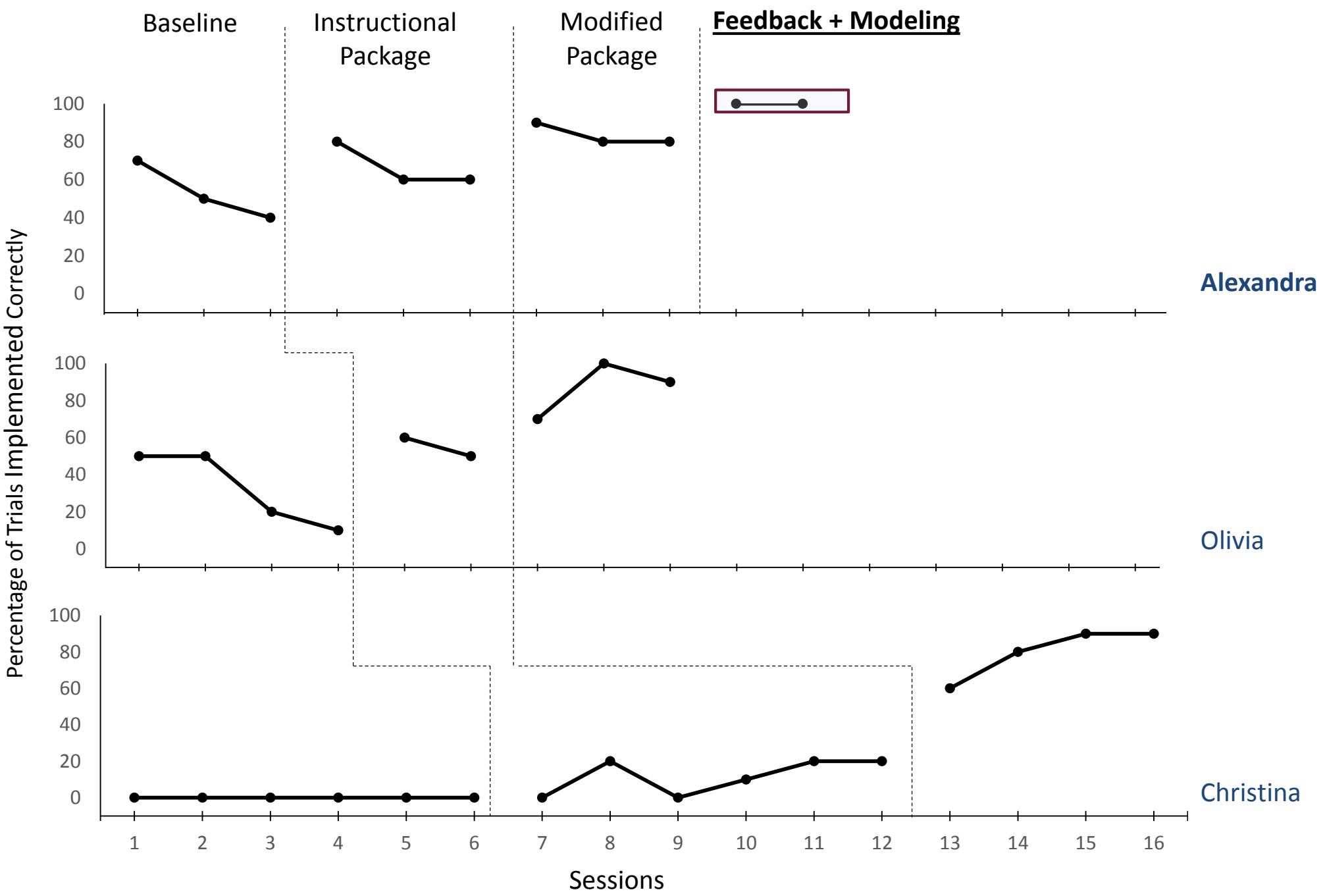
Stimulus
1. Licorice
2. Pretzel
3. Goldfish
4. Popcorn
5. M &M
6. Jelly Bean
7. Gummy Bear
8. Teddy Graham

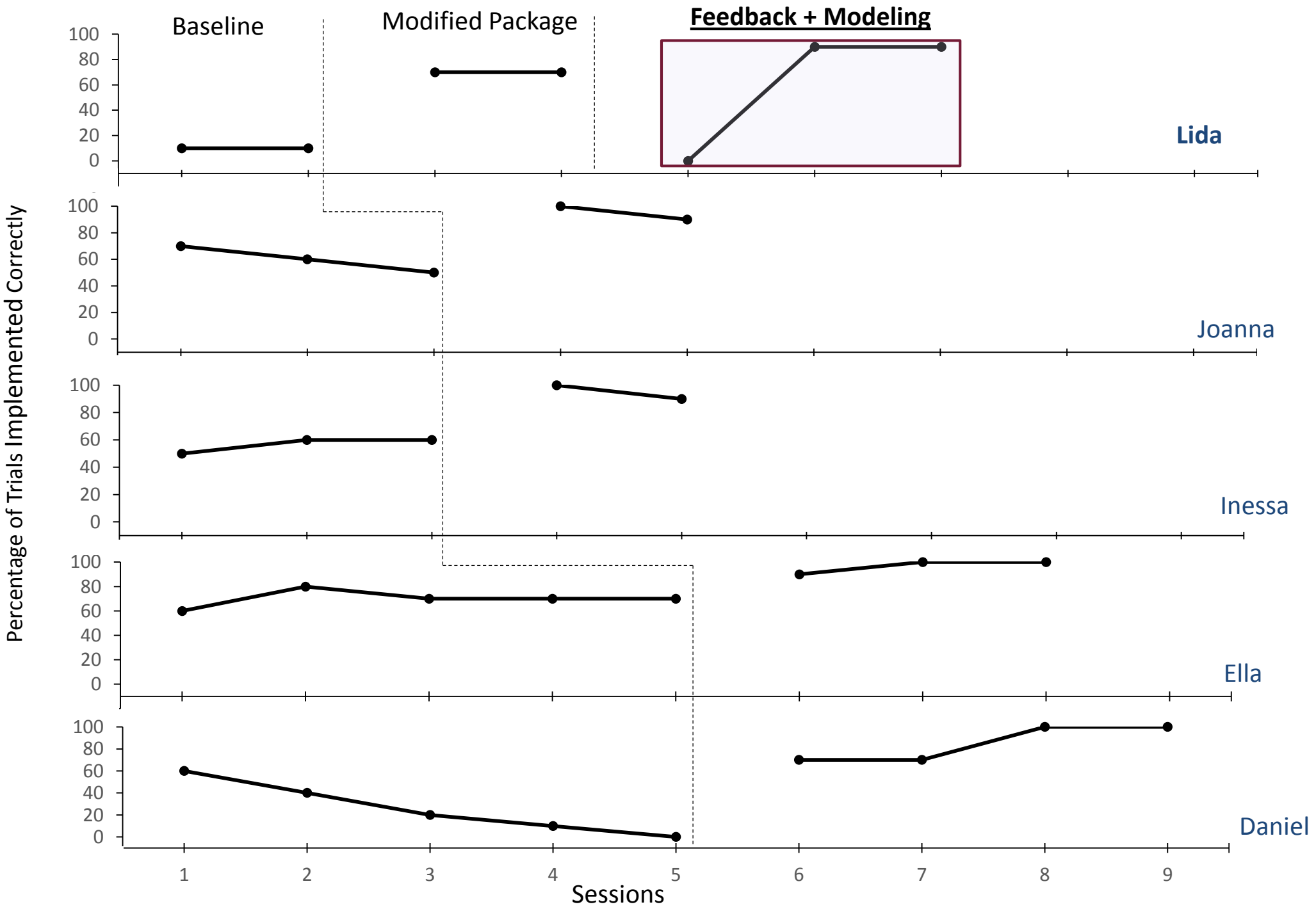
Trial	Left position	Right position	Item Selected
1	1	2	Licorice
2	3	4	Popcorn
3	5	6	Jelly Bean
4	7	8	Teddy Grahams

Licorice

$$\frac{\text{Selected= 6x}}{\text{Presented= 7x}} = 86\%$$

EXPERIEMENT 1


Baseline
Instructional Package
Modified Package
Feedback + Modeling
Percentage of Trials Implemented Correctly
100
80
60
40
20
0
Alexandra
Olivia
Christina
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Sessions


Baseline
Modified Package
Feedback + Modeling
Lida
Joanna
Inessa
Ella
Daniel
Percentage of Trials Implemented Correctly
Sessions
100
80
60
40
20
0
1
2
3
4
5
6
7
8
9

RESULTS

Written instructions ➡ Self-instructional package ➡ Modified package

Written Instructions
Fisher et al. (1992)

Self-instructional package

Modified package

Baseline		Intervention		Intervention	
Generating hierarchies	**Interpreting outcomes**	**Generating hierarchies**	**Interpreting outcomes**	**Generating hierarchies**	**Interpreting outcomes**
0/3	0/3	1/3	1/3	**1/3**	**1/3**

EXPERIEMENT 1

RESULTS

Written instructions ➡ Modified package

Written Instructions
Fisher et al. (1992)

Modified package

Baseline		Intervention	
Generating hierarchies	**Interpreting outcomes**	**Generating hierarchies**	**Interpreting outcomes**
2/5	2/5	**4/5**	**4/5**

SUMMARY

- 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?

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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

PARTICIPANTS

- **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

MASTERY CRITERION: ≥ 90% ACROSS 2 CONSECUTIVE SESSIONS

DVs	Correct	Incorrect
Stimulus presentation	Placed 2 stimuli on table	Placed more or less than 2 stimuli on table
Stimulus position	Placed stimuli approx. 1ft in front of client & approx. 1ft apart from each other	Placed stimuli more or less than 1ft in front of client & 1ft apart from each other
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INTEROBSERVER AGREEMENT

- **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%)

DESIGN & PROCEDURE

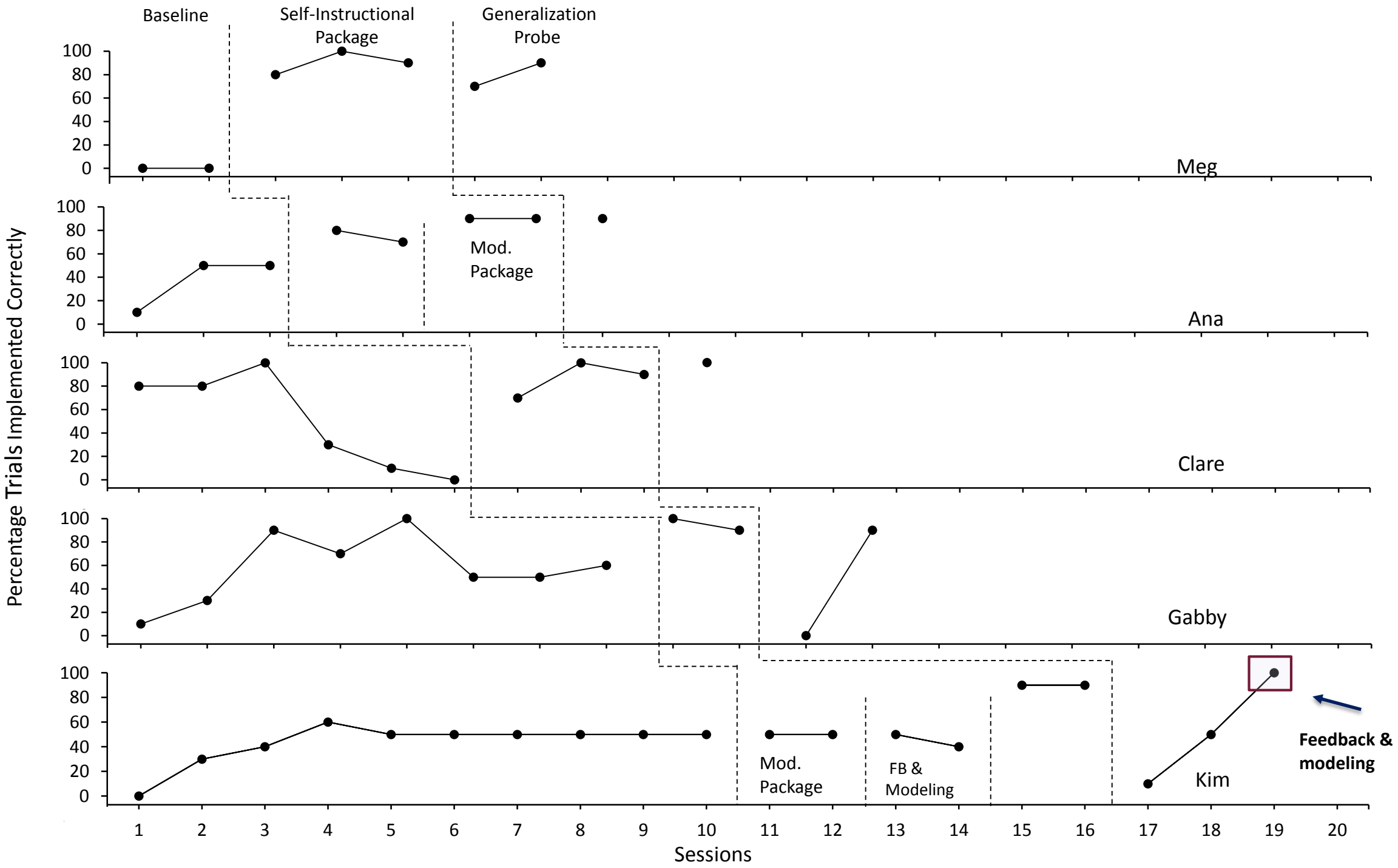
- Multiple baseline design across participants
- Procedures were identical to Experiment 1

GENERALIZATION PROBES

- **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

INTEROBSERVER AGREEMENT

- **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%)


Baseline
Self-Instructional Package
Generalization Probe
Mod. Package
Mod. Package
FB & Modeling
Feedback & modeling
Meg
Ana
Clare
Gabby
Kim
Percentage Trials Implemented Correctly
Sessions
0
20
40
60
80
100
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

RESULTS

Written instructions ➡ Self-instructional package

Written Instructions
Fisher et al. (1992)

Self-instructional Package
Graff and Karsten (2012)

Baseline		Intervention	
Generating hierarchies	**Interpreting outcomes**	**Generating hierarchies**	**Interpreting outcomes**
0/5	2/5	**3/5**	**3/5**

SUMMARY

- **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

SUMMARY

- **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

DISCUSSION

- **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

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