# Integrating OBM Procedures into ABA Service Provision

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# Overview

- The Need for Performance Management (PM)
- Best Practices in PM for Applied Behavior Analysis (ABA) Service Providers

  - Employee Selection
  - Training
  - Performance Analysis
  - Focus on Consequences
  - Feedback
  - Process Analysis and Intervention

- Summary and Final Suggestions

# Practicing Behavior Analysts in 2018

- The number of individuals and agencies providing applied behavior analysis (ABA) services has skyrocketed

| BCBA-D | BCBA | BCaBA | RBT |
|--------|--------|--------|--------|
| 2,103 | 26,879 | 2,838 | 34,120 |

Behavior Analyst Certification Board. (n.d). *BACB certificant data*. Retrieved from https://www.bacb.com/BACB-certificant-data.

# BCBA Certificants (1999-2017)



Behavior Analyst Certification Board. (n.d). *BACB certificant data*. Retrieved from https://www.bacb.com/BACB-certificant-data.

# BCaBA Certificants: 1999-2017



Behavior Analyst Certification Board. (n.d). *BACB certificant data*. Retrieved from https://www.bacb.com/BACB-certificant-data.
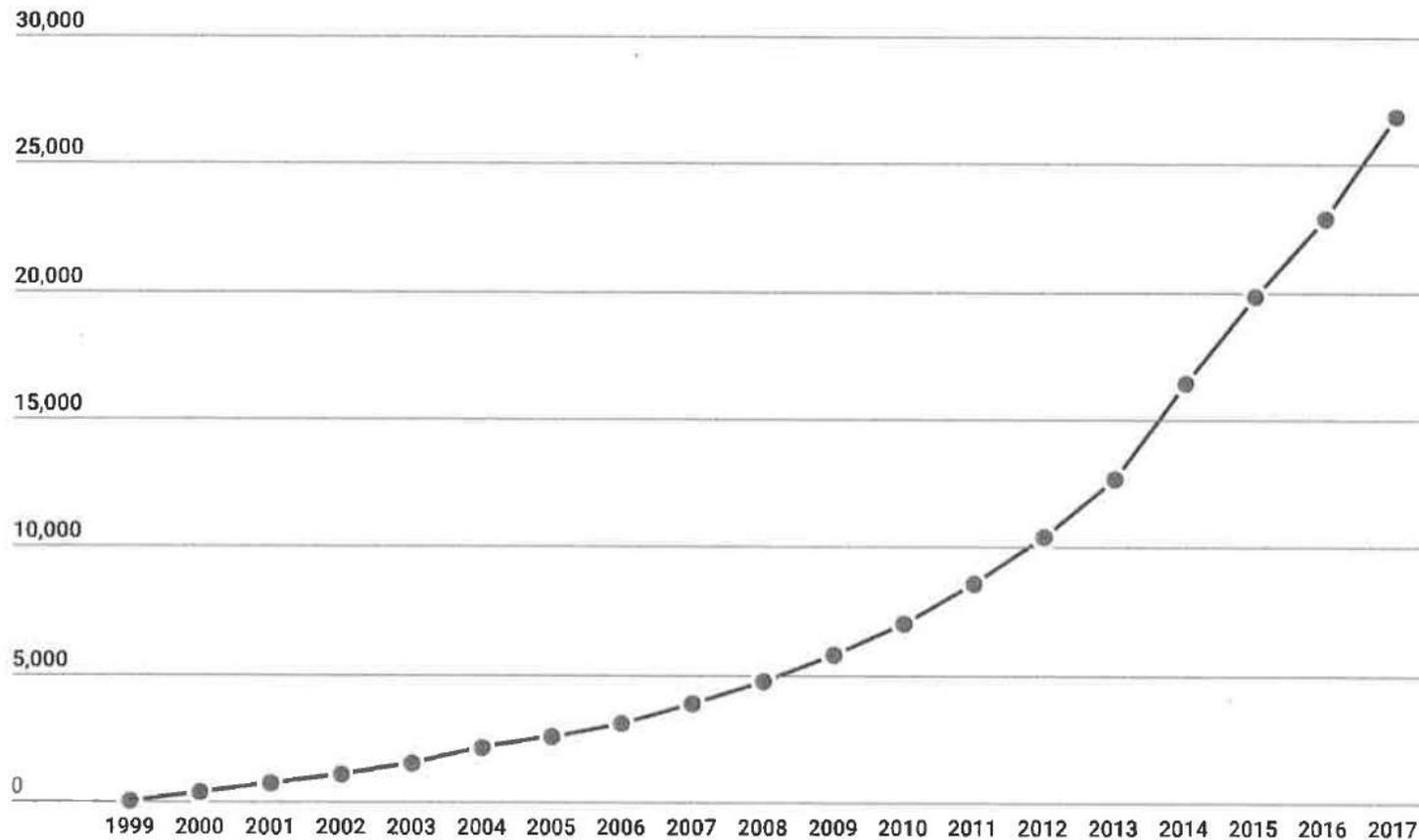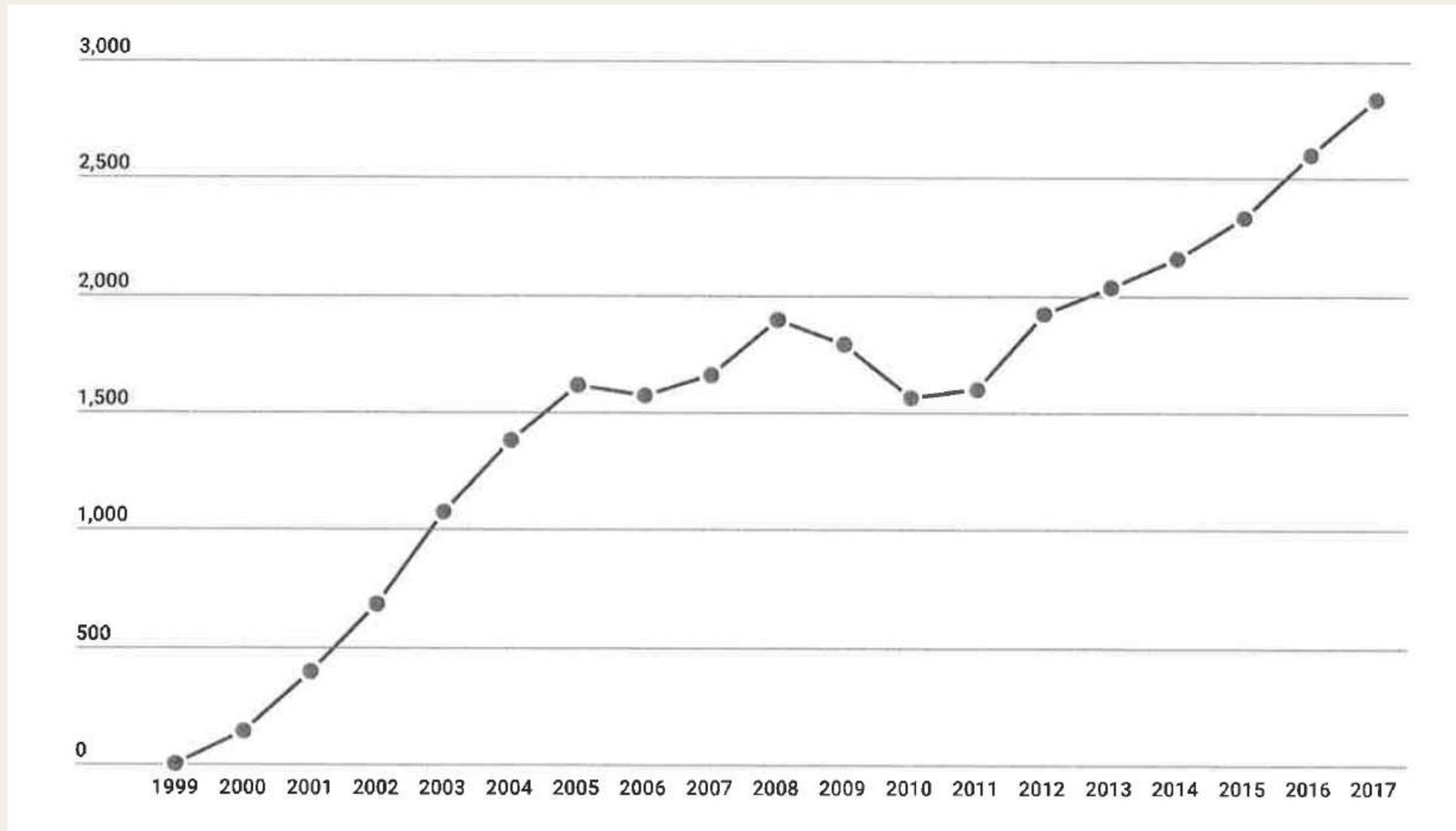
# RBT Certificants: 2014-2017



Behavior Analyst Certification Board. (n.d). *BACB certificant data*. Retrieved from https://www.bacb.com/BACB-certificant-data.
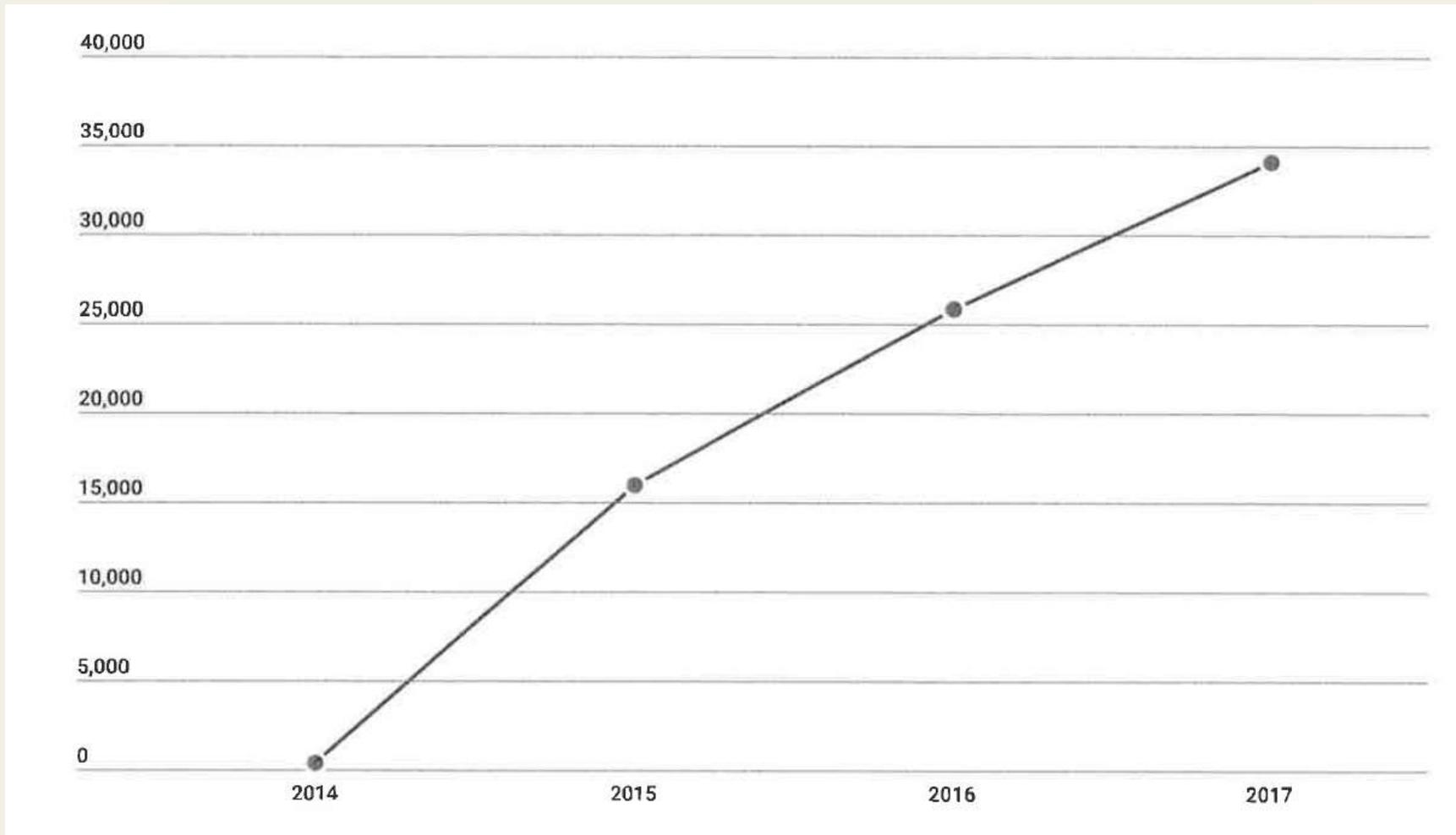
# Provider Preparation

- Although providers are well prepared for clinical tasks, many have a limited background in other responsibilities
  - Finance
  - Human Resource issues (payroll, benefits, etc.)
  - Management of employee performance

- Due to this limited background, these tasks may be neglected, which can cause
  - General employee discontent
  - Increased turnover

# Performance Management

- Performance Management is part of Organizational Behavior Management (OBM), which is itself a sub-discipline of ABA

ABA

↓

OBM

Performance Management

Behavioral Safety

Systems Analysis and Intervention
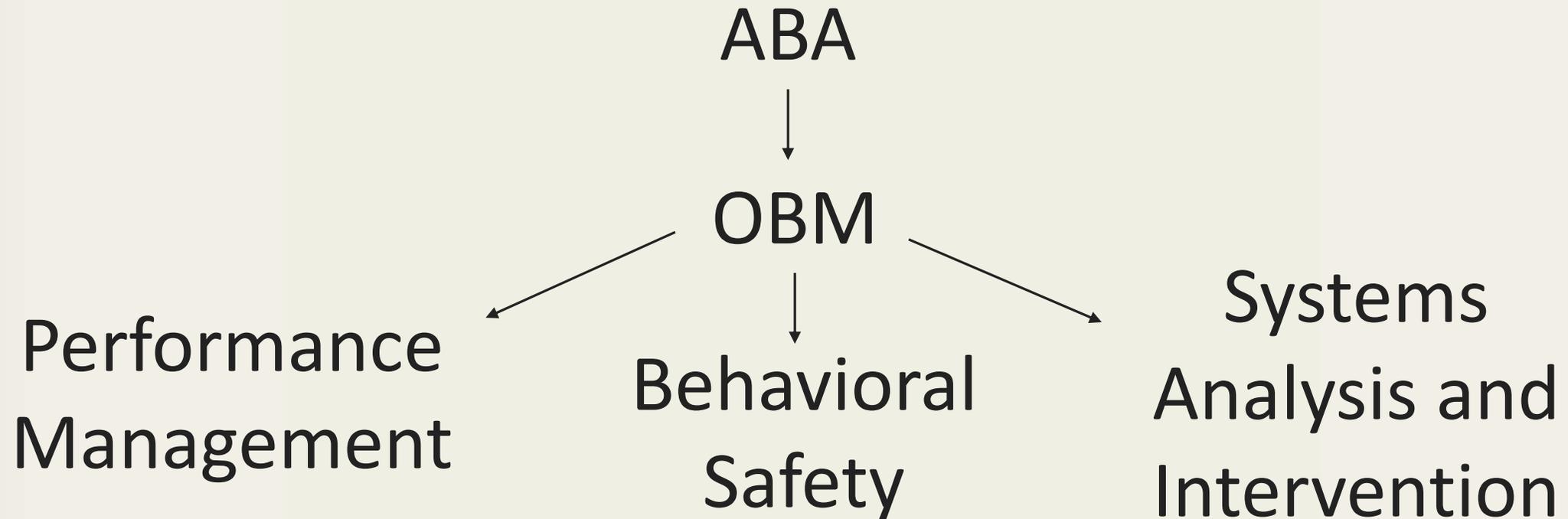
# Performance Management

- Performance management

    - The branch of ABA that focuses on the workplace (Daniels and Bailey, 2014)
    - Focuses on the identification, measurement, and improvement of key aspects of employee performance

    - Includes
        - Pinpointing (operationally defining a performance)
        - Performance Analysis (identifying the variables responsible for performance)
        - Intervening to Improve Performance
        - Measuring the Results of Performance Change in terms of Social Validity and Cost-Benefit to the Organization

# Selection

- Not a typical focus of PM, but crucial
- Goal should be to hire the person best suited for the specific position requirements

- Appropriate selection helps you to avoid employee performance problems

The most common methods employers use to evaluate job candidates.

| | |
|---|---|
| Behavioral interviews | 62% |
| Online, minimum-qualifications screening questionnaires | 41% |
| Skills testing | 38% |
| Interviews with behaviorally anchored rating scales | 26% |
| Situational judgment questionnaires | 23% |
| Organizational fit questionnaires | 23% |
| Personality testing | 22% |
| Aptitude testing | 18% |
| Scorable job applications | 16% |

*Source: SHRM survey commissioned by ACT, December 2014.*

# Personality Testing for Selection

- Personality theorists refer to the Big 5 traits
  - Openness to experience
  - Extraversion
  - Agreeableness
  - Conscientiousness
  - Emotional stability (neuroticism)

- Which of these is most important may depend on the specific job
- Conscientiousness and agreeableness are the two most highly correlated with overall job performance (Sackett and Walmsley, 2014)
- To some extent, may depend on the position

# In-Situ Skills-Based Selection

- Many behavior analysts argue that an in-situ assessment of skills, with structured scoring (can use same or similar data sheet you use for measuring treatment integrity among employees) is best approach to assessing skills and selecting new hires

- Hardest task (e.g., watch candidate play with a child)

- If possible, have them repeat it 3-5 times

# Selection

- If cannot do an in-situ assessment, the next-best alternative would be scenario-based questioning

- Use the most difficult task in the job requirement

- Let the applicant respond; don't provide hints

- Use structured questions that are designed to yield specific information
  – For example, "As you are doing discrete trial work with a client, she throws the materials you are using to teach a skill. What would you do"?

- Questions NOT to ask:
- **"When a hot dog expands, in which direction does it split and why?" Asked by SpaceX**
- **"Would you rather fight 1 horse-sized duck, or 100 duck-sized horses?" Asked by Whole Foods Market**
- **"What would you do if you found a penguin in the freezer?" Asked by Trader Joe's**

# Training

- Spend some time on training materials; ideally, they should be specific to each position

- Recognize that an employee's verbal repertoire might be completely independent of her in-situ repertoire

  - Assess, and if necessary, train both

# Training

- Assess regularly, as skills can fade
- Use competency-based training
- Use a Behavioral Skills Training (BST; Wurtele et al., 1986) model to train

  - Provide Instructions
  - Model
  - Have trainee perform
  - Provide feedback

# Performance Analysis

- Functional Assessment

  – Standard for identifying function of problem behavior
    - Clinical/educational environments

  – Organizational settings equivalent
    - Performance analysis/performance diagnostics
    - Identify variables responsible for employee performance problems in organizational settings
      – Insufficient training
      – Insufficient consequences
      – Competing contingencies

# Performance Analysis

- Performance Analysis Methods
  - Indirect Methods

  - Descriptive Analysis
    - Pampino, Wilder, & Binder (2005)

  - AB (Experimental) Analysis
    - Therrien, Wilder, Rodriguez, & Wine (2005)
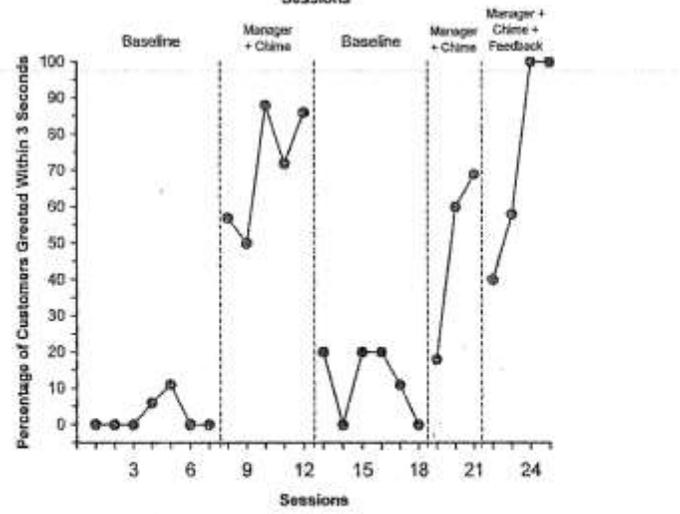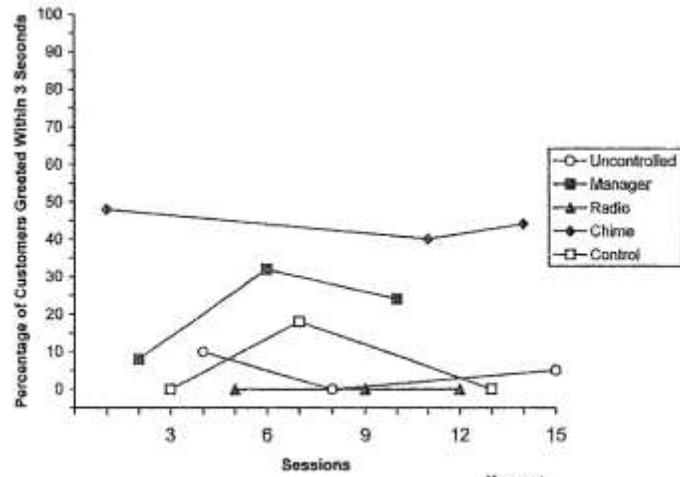
Figure 1. Percentage of customer greeting by employees within 3 s across the various conditions of the preintervention analysis (top) and percentage of customer greeting by employees within 3 s across the intervention evaluation (bottom).

# Performance Diagnostic Checklist

Answer each of the following questions, providing data in support of your answer if possible.

## Antecedents and Information

Yes No

O O Is there a written job description telling exactly what is expected of the employee?

O O Has the employee received adequate instruction about what to do?
(not training - explicit instructions like "I want you to do this, this, and this before we leave today...")

O O Are employees aware of the mission of the department/organization?
Can they tell you what it is?

O O Are there job or task aids in the employees' immediate environment?
Visible while completing the task in question? Reminders to prompt the task at the correct time/duration?

O O Is the supervisor present during task completion?

O O Are there frequently updated, challenging, and attainable goals set that employees are comfortable with/feel are fair?

## Equipment and Processes

Yes No

O O If equipment is required, is it reliable? In good working order? Ergonomically correct?

O O Is the equipment & environment optimally arranged in a physical sense?

O O Are larger processes suffering from certain incomplete tasks along the way (process disconnects)?

O O Are these processes arranged in a logical manner, without unnecessary repetition? Are they maximally efficient?

O O Are there any other obstacles that are keeping the employee from completing the task?

## Knowledge and Skills

Yes No

O O Can the employee tell you he/she is supposed to be doing and how to do it?
Have they mastered the task? If fluency is necessary, are they fluent?

O O Can the employee physically demonstrate completion of the task? Have they mastered the task? If fluency is necessary, are they fluent?

O O Does the employee have the capacity to learn how to complete the job?

## Consequences

Yes No

O O Are there consequences delivered contingent on the task?
-frequency? (list)_____
-immediacy? (list)_____
-consistency/probability? (list)_____
-positive or negative? (circle one)
-Are there premack reinforcers?

O O Do employees see the effects of performance? (How? Natural /arranged)

O O Do supervisors deliver feedback? (How? Written / verbal; direct /indirect)

O O Is there performance monitoring? (Self / supervisor direct / supervisor indirect)

O O Is there a response effort associated with performing?

O O Are there other behaviors competing with the desired performance?

# Performance Analysis

- Performance Diagnostic Checklist - Human Services (PDC-HS; Carr et al., 2013)

  – Applied questions from original PDC (Austin, 2000) to common human service performance problems

  – PDC-HS ties variables responsible for poor performance in human service settings to interventions

# Performance Analysis

- PDC-HS may help supervisors / managers / owners:

  - Understand performance problems that do not respond to simple and quick solutions

  - Develop a more sensitive, targeted intervention for performance problems

# Performance Analysis

- PDC-HS Content
  - 20 questions
  - 4 categories
    – Training
    – Task Clarification & Prompting
    – Resources, Materials & Processes
    – Performance Consequences, Effort, and Competition
  - Designed to be conducted by a behavior analyst during an interview with the employee's direct supervisor or manager
  - 13 questions answered based on informant report, 7 based on direct observation

## PDC-HS

*Performance Diagnostic Checklist – Human Services*

Employee's Name: _____    Interviewer: _____    Date: _____

Describe Performance Concern: _____

**Instructions:** Answer the questions below about the employee's specific performance problem (not the employee in general). The problem should be operationalized as either a behavioral excess or deficit. Items with an asterisk (*) should be answered only after the information is verified through direct observation.

### TRAINING

| | | |
|---|---|---|
| 1 | ❍ Yes  ❍ No | Has the employee received formal training on this task? If yes, check all applicable training methods: ❍ Instructions   ❍ Demonstration   ❍ Rehearsal |
| 2* | ❍ Yes  ❍ No | Can the employee accurately describe the target task and when it should be performed?* |
| 3 | ❍ Yes  ❍ No | Is there evidence that the employee has accurately completed the task in the past? |
| 4* | ❍ Yes  ❍ No  ❍ N/A | If the task needs to be completed quickly, can the employee perform it at the appropriate speed?* |

### TASK CLARIFICATION & PROMPTING

| | | |
|---|---|---|
| 1 | ❍ Yes  ❍ No | Has the employee been informed that he/she is expected to perform the task? |
| 2* | ❍ Yes  ❍ No | Can the employee state the purpose of the task? |
| 3* | ❍ Yes  ❍ No | Is a job aid (e.g., a checklist, data sheet) for completing the task visibly located in the task area? |
| 4 | ❍ Yes  ❍ No | Is the employee ever verbally, textually, or electronically reminded to complete the task? |
| 5 | ❍ Yes  ❍ No | Is the task being performed in an environment well-suited for task completion (e.g., not noisy or crowded)? |

### RESOURCES, MATERIALS, & PROCESSES

| | | |
|---|---|---|
| 1 | ❍ Yes  ❍ No | Are there sufficient numbers of trained staff available in the program? |
| 2* | ❍ Yes  ❍ No  ❍ N/A | If materials (e.g., teaching stimuli, preferred items) are required for task completion, are they readily available (e.g., easy to find, nearby)? If no materials are required, proceed to question 5. List materials below and indicate their availability. Item 1: _____  Item 2: _____  Item 3: _____  Item 4: _____ |
| 3 | ❍ N/A | purpose? |
| 4* | ❍ Yes  ❍ No  ❍ N/A | Are the materials necessary to complete the task well organized for their intended purpose? |
| 5 | ❍ Yes  ❍ No | Is performance suffering from other tasks not being completed first? If so, indicate those tasks below. Task 1: _____  Task 2: _____  Task 3: _____  Task 4: _____ |
| 6 | ❍ Yes  ❍ No  ❍ N/A | If you answered YES for Question 5, are other employees responsible for completing any of the earlier tasks in the process? If so, indicate the employee(s) below. Task 1: _____  Task 2: _____  Task 3: _____  Task 4: _____ |

### PERFORMANCE CONSEQUENCES, EFFORT, & COMPLETION

| | | |
|---|---|---|
| 1 | ❍ Yes  ❍ No | Is the employee ever directly monitored by a supervisor? If so, indicate the frequency of monitoring. ❍ hourly  ❍ daily  ❍ weekly  ❍ monthly  ❍ Other: _____ |
| 2 | ❍ Yes  ❍ No | Does the employee ever receive feedback about the performance? If yes, indicate below. By whom? _____  How often? _____  Delay from task? _____  Check all that apply: Feedback Focus: ❍ Positive   ❍ Corrective  Feedback Type: ❍ Written   ❍ Verbal   ❍ Graphed   ❍ Other: _____ |
| 3 | ❍ Yes  ❍ No | Does the employee ever see the effects of accurate task completion? If yes, how? _____ |
| 4 | ❍ Yes  ❍ No | Is the task particularly effortful or difficult? |
| 5 | ❍ Yes  ❍ No | Do other tasks appear to take precedence over the target task? If yes, indicate these tasks below. Task 1: _____  Task 2: _____  Task 3: _____  Task 4: _____ |

## INTERVENTION PLANNING

**Instructions:** Each item scored as *NO* on the PDC-HS should be considered as an opportunity for intervention with priority given to areas in which multiple items are endorsed. Interventions may be implemented concurrently or consecutively, with the latter option being preferred for settings in which staff resources are limited. Sample interventions and illustrative literature citations for each area are provided below.

| Area | Item # | Sample Intervention(s) | Literature Citations |
|---|---|---|---|
| Training | 1, 2, 3, 4 | Behavioral skills training (i.e., instructions, modeling, rehearsal, feedback) | Barnes, Dunning, & Rehfeldt (2011) Nabeyama & Sturmey (2010) |
| | | Improved personnel selection | Gatewood, Feild, & Barrick (2008) |
| Task Clarification & Prompting | 1, 2 | Task clarification & checklists | Cunningham & Austin (2007) Gravina, VanWagner, & Austin (2008) Bacon, Fulton, & Malott (1982) |
| | 3, 4 | Prompts | May, Austin, & Dymond (2011) Petscher & Bailey (2006) |
| | 5 | Change/alter task location | Green, Reid, Passante, & Canipe (2008) |
| Resources, Materials, & Processes | 1 | Adjust staffing | Strouse, Carroll-Hernandez, Sherman, & Sheldon (2003) |
| | 2, 3, 4 | Improve access to (2), redesign (3), or reorganize (4) task materials | Casella, Wilder, Neidert, Rey, Compton & Chong (2010) |
| | 5, 6 | Reassess task process and personnel | Diener, McGee, & Miguel (2009) McGee & Diener (2010) |
| Performance Consequences, Effort, & Competition | 1 | Increased supervisor presence | Brackett, Reid, & Green (2007) Mozingo, Smith, Riordan, Reiss, & Bailey (2006) |
| | 2 | Performance feedback | Arco (2008) Green, Rollyson, Passante, & Reid (2002) |
| | 3 | Regularly highlight task outcomes | Methot, Williams, Cummings, & Bradshaw (1996) |
| | 4 | Reduce task effort | Casella, Wilder, Neidert, Rey, Compton, & Chong (2010) |
| | 5 | Reduce aversive task properties | Green, Reid, Passante, & |

# An Assessment-based Solution to a Human-Service Employee Performance Problem

An Initial Evaluation of the *Performance Diagnostic Checklist – Human Services*

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Leigh Ann Strain
Little Tree Preschool

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**PRACTICE POINTS**

- The Performance Diagnostic Checklist (PDC) has been used in a number of investigations to assess the environmental determinants of poor employee performance.

- The PDC was revised to explicitly assess the performance of employees in human-service settings who are responsible for providing care to others: the Performance Diagnostic Checklist – Human Services (PDC-HS).

- The PDC-HS was implemented at a center-based autism treatment facility to identify the variables contributing to employees' poor cleaning of treatment rooms.

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The PDC-HS implicated a lack of proper training on participant duties and a lack of performance feedback as contributors to the performance problems. As a result, an intervention targeting training on participant duties and performance feedback was implemented across eight treatment rooms; the intervention increased performance in all rooms. This preliminary validation study suggests the PDC-HS may prove useful in solving performance problems in human-service settings.
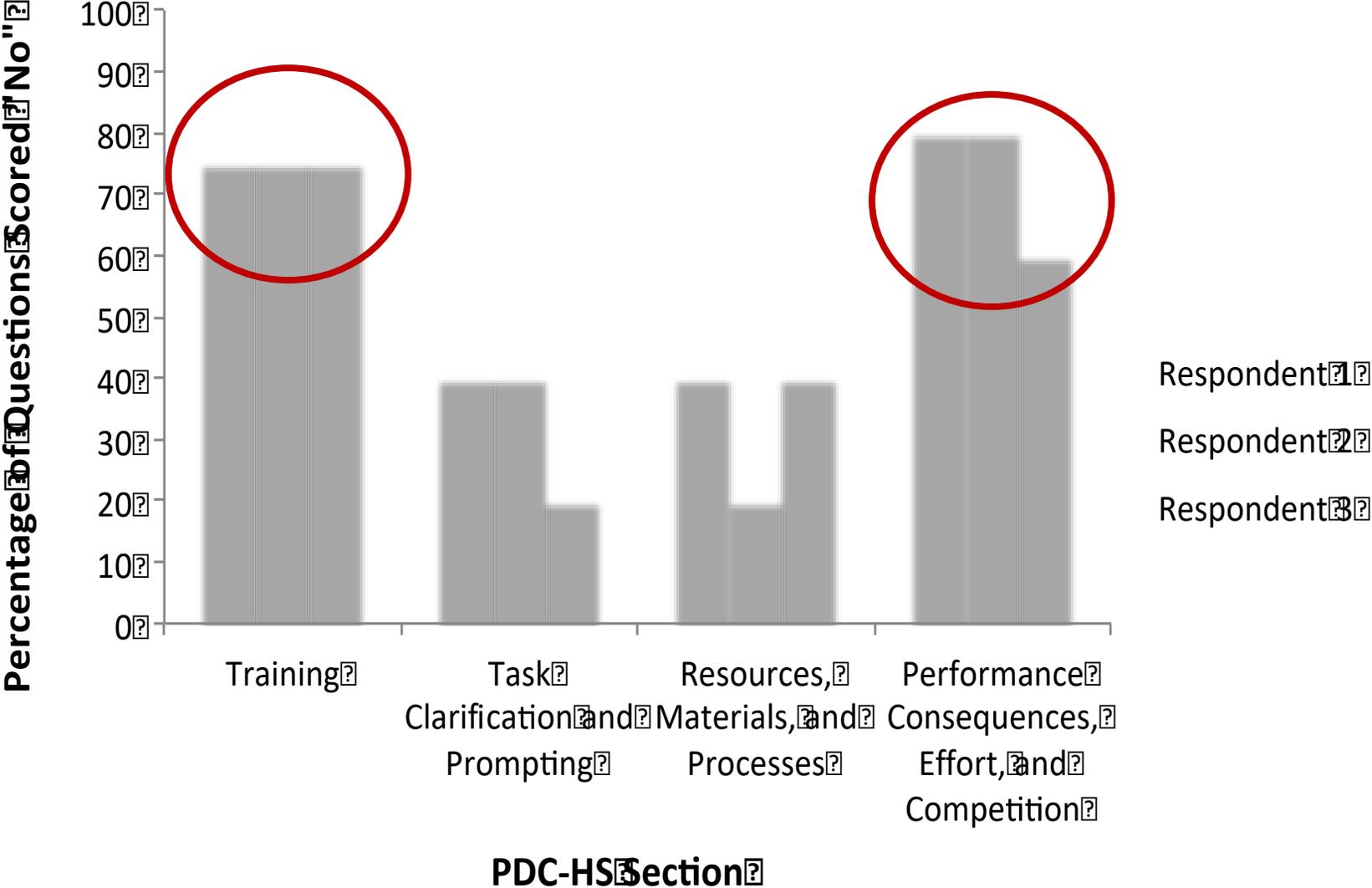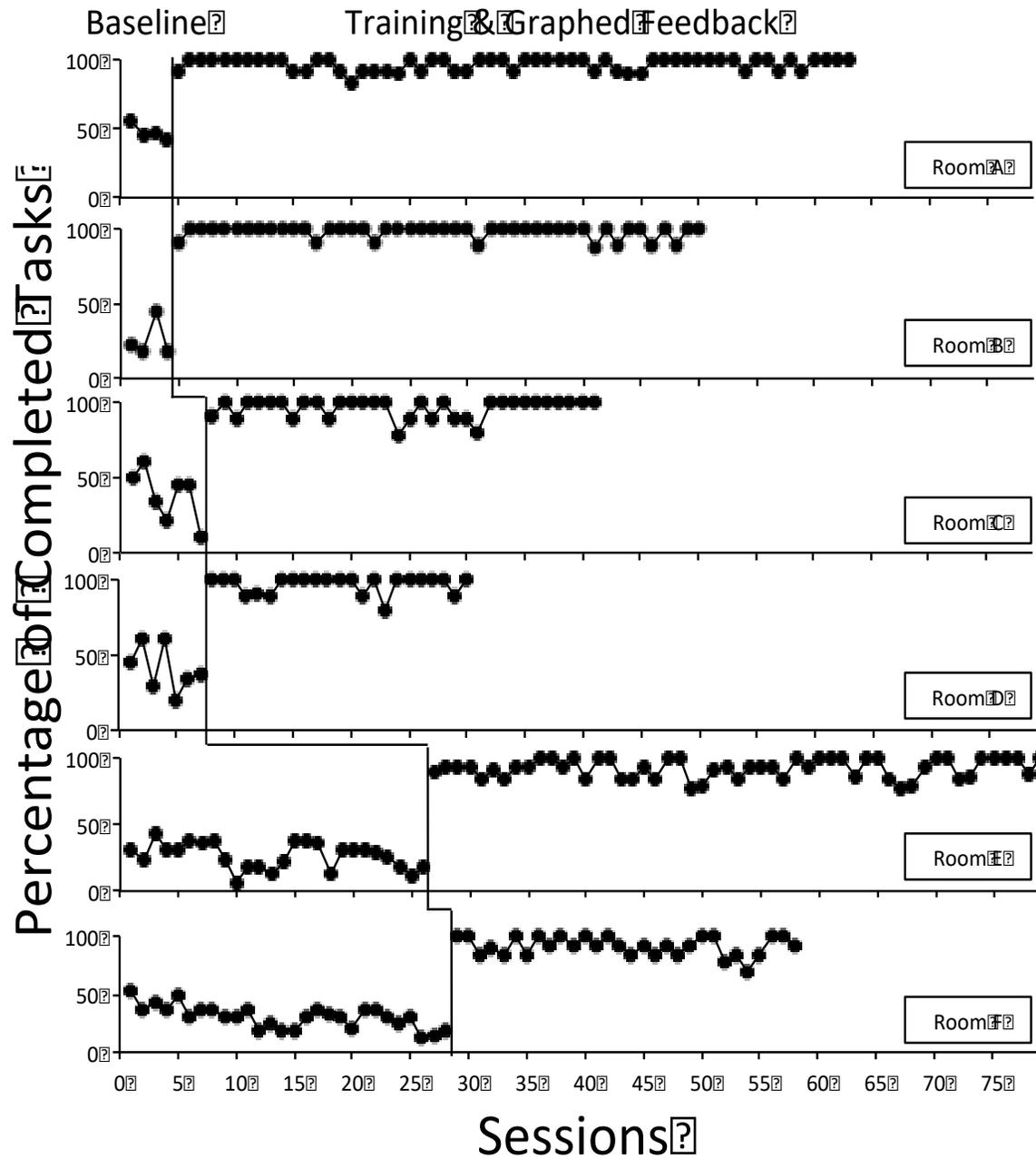
| Room | Baseline (Mean) | Intervention (Mean) |
|---|---|---|
| A | 47% | 97% |
| B | 26% | 98% |
| C | 38% | 96% |
| D | 41% | 97% |
| E | 27% | 92% |
| F | 31% | 92% |

| Room | Baseline (Mean) | PDC-HS Intervention | Non PDC-HS Intervention |
|------|-----------------|---------------------|-------------------------|
| G | 25% | 36% | 100% |
| H | 18% | 12% | 80% |
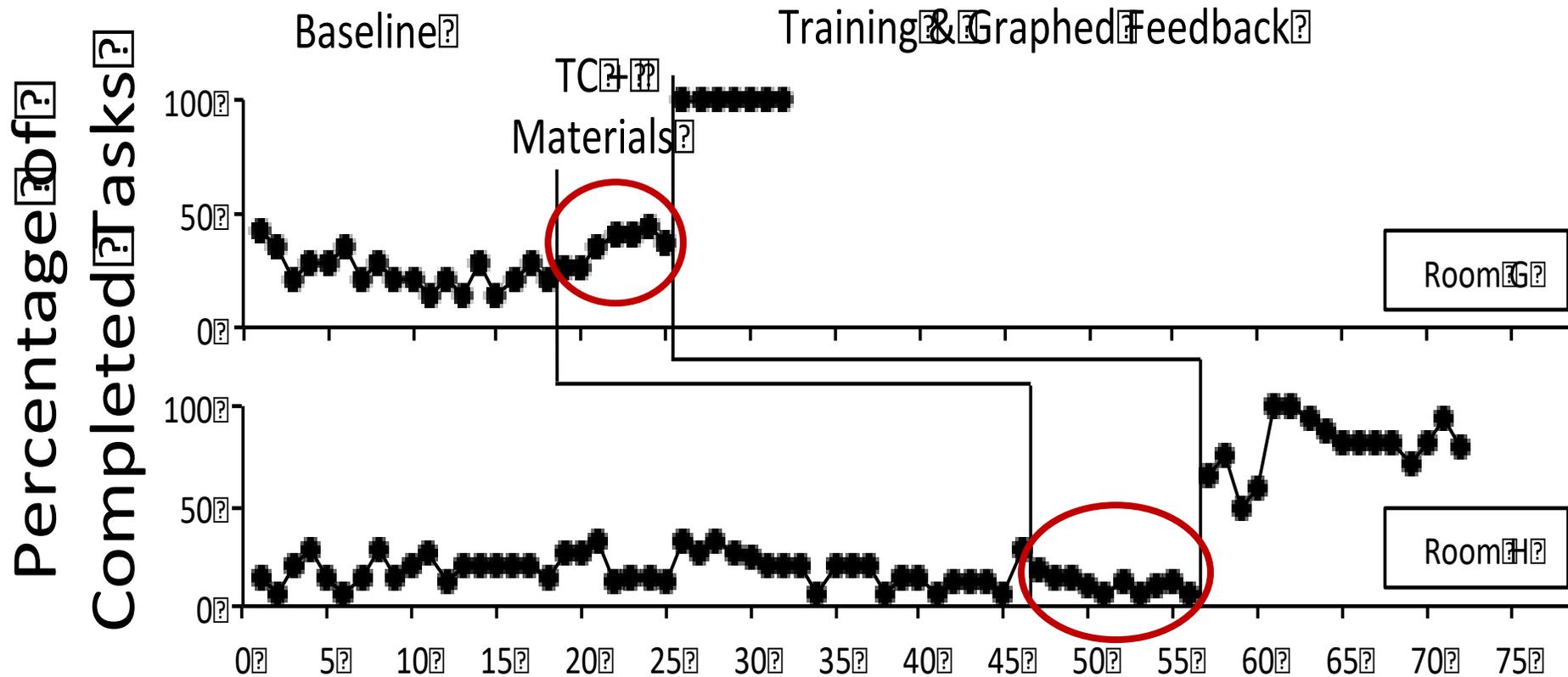
# AN EVALUATION OF THE PERFORMANCE DIAGNOSTIC CHECKLIST–HUMAN SERVICES TO ASSESS AN EMPLOYEE PERFORMANCE PROBLEM IN A CENTER-BASED AUTISM TREATMENT FACILITY

KYLE DITZIAN, DAVID A. WILDER, ALLISON KING, AND JEANINE TANZ

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The Performance Diagnostic Checklist–Human Services (PDC-HS) is an informant-based tool designed to assess the environmental variables that contribute to poor employee performance in human services settings. We administered the PDC-HS to 3 supervisors to assess the variables that contributed to poor performance by 4 staff members when securing clients in therapy rooms at a treatment center for children with autism. The PDC-HS identified a lack of appropriate consequences as contributing to poor staff performance. We then evaluated a PDC-HS-indicated intervention as well as an intervention not suggested by PDC-HS results. The PDC-HS-indicated intervention (graphed feedback) was effective to increase performance; the non-PDC-HS-based intervention was ineffective.

*Key words:*   autism treatment, human services employees, performance analysis, performance management, staff management

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# PDC-HS Results
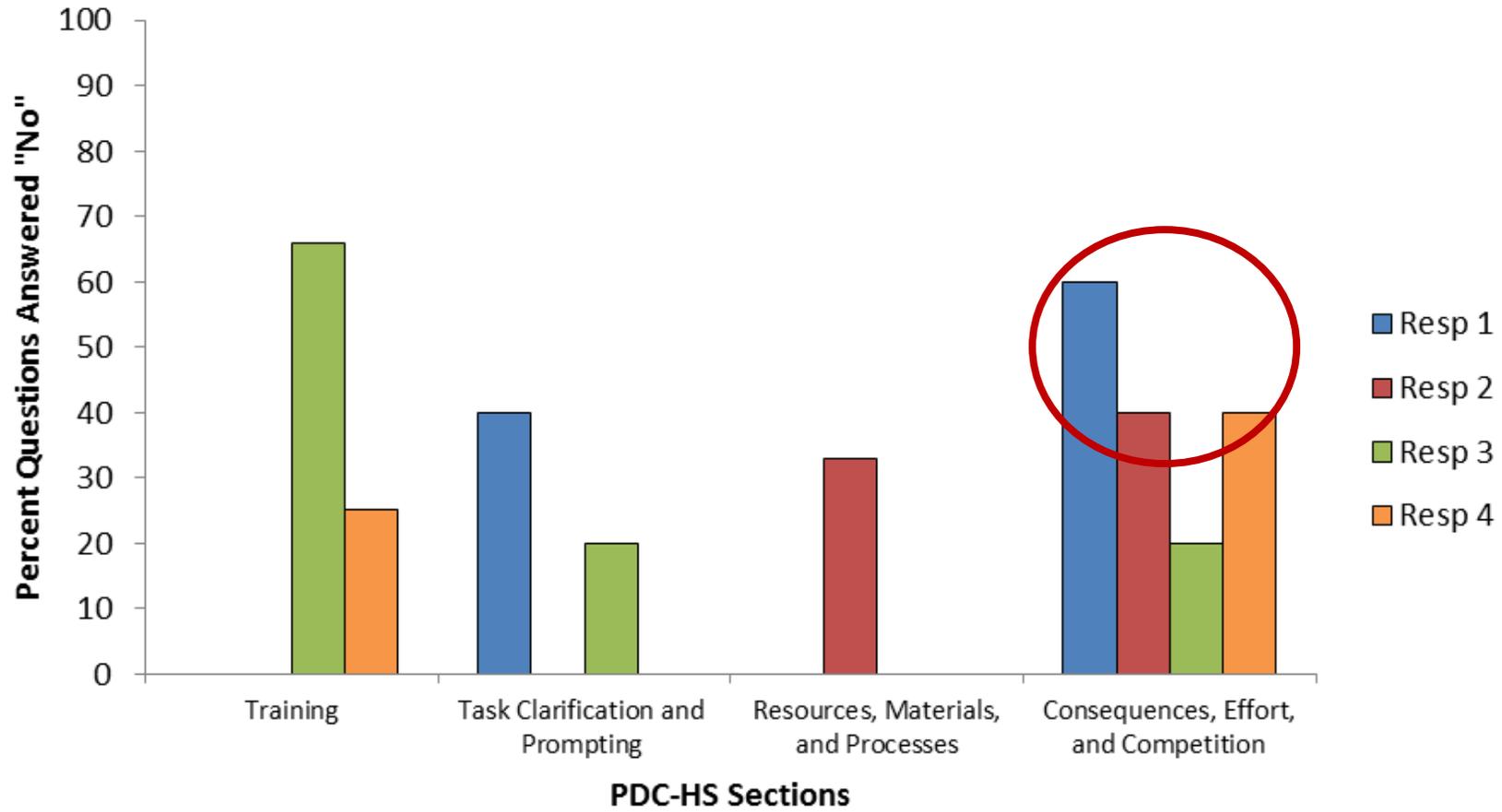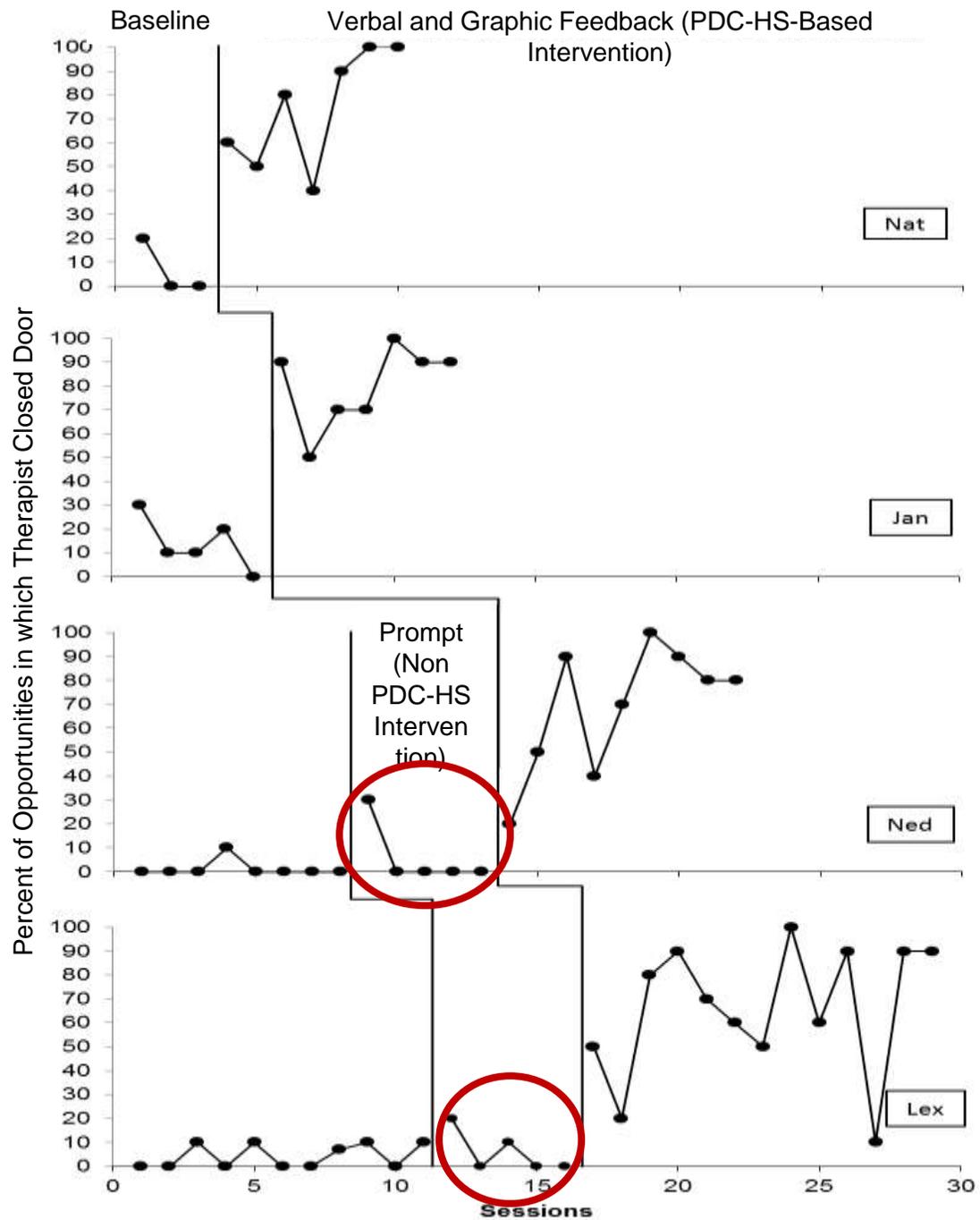
| Partic ipant | Baseline (Mean) | PDC-HS Int. | Non PDC-HS Int. |
|---|---|---|---|
| Nat | 7% | 74% | - |
| Jan | 14% | 80% | - |
| Ned | 1% | 69% | 6% |
| Lex | 4% | 66% | 6% |
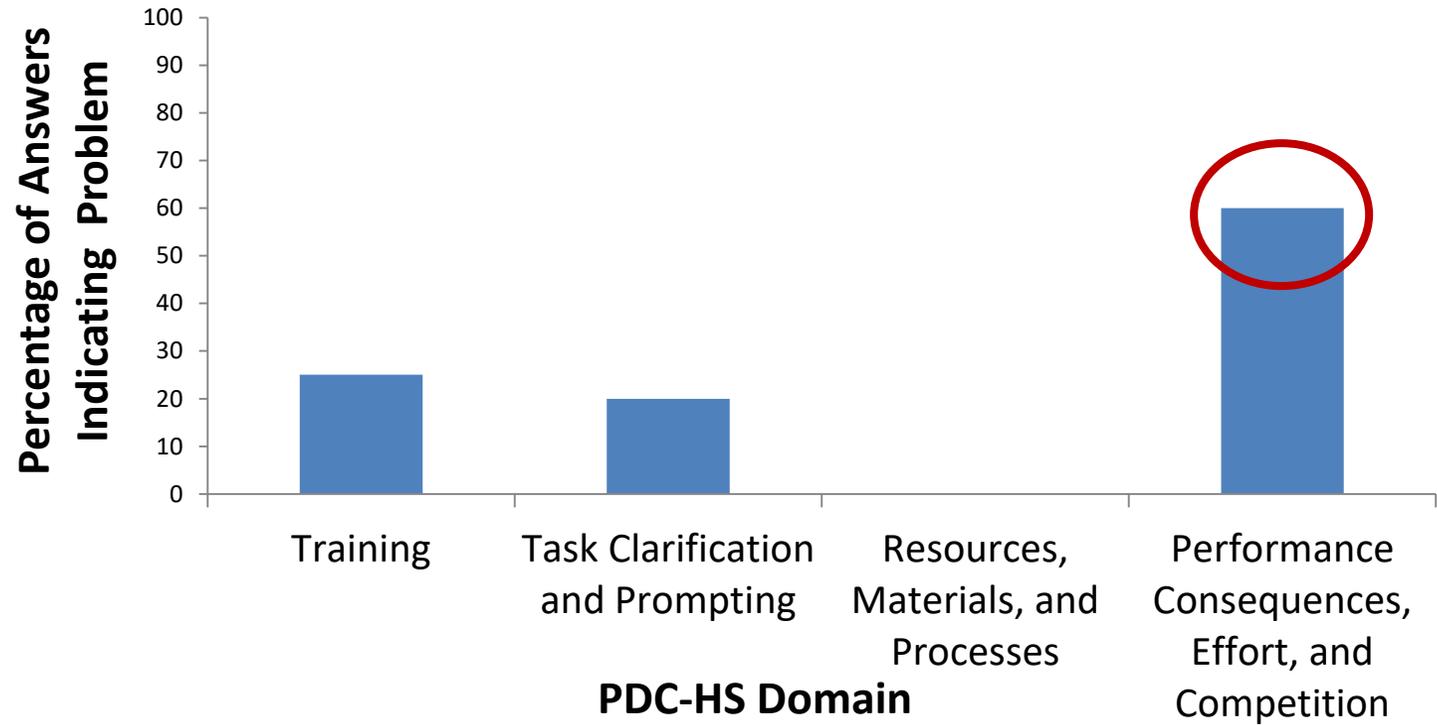
PDC-HS Results for Dyad 2
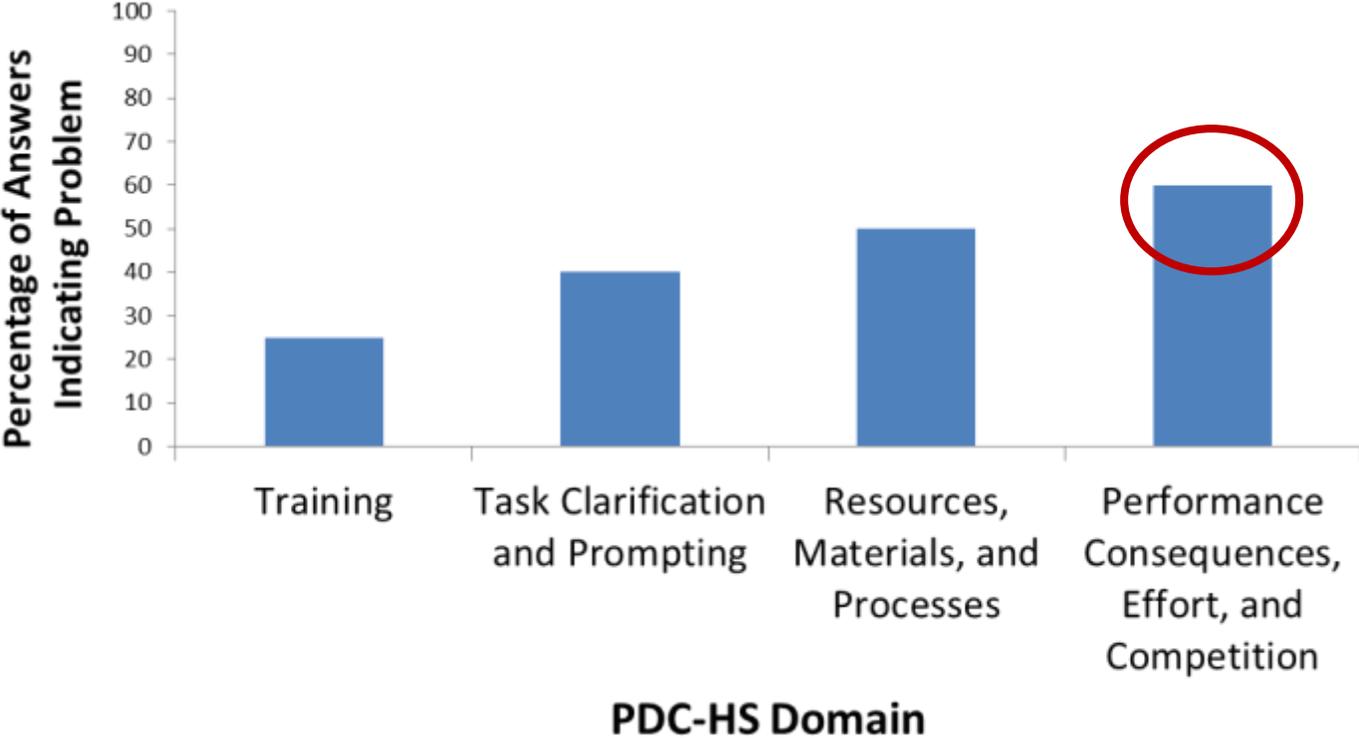
PDC-HS Results for Dyad 3

PDC-HS Results for Dyad 4

Figure: Dyad 3 Mands (top panel) and Dyad 3 Tacts (bottom panel). Responses per Minute plotted against Session. Phases: Baseline, Add Resources (easy access to teaching items), BL, and Behavioral Skills Training.
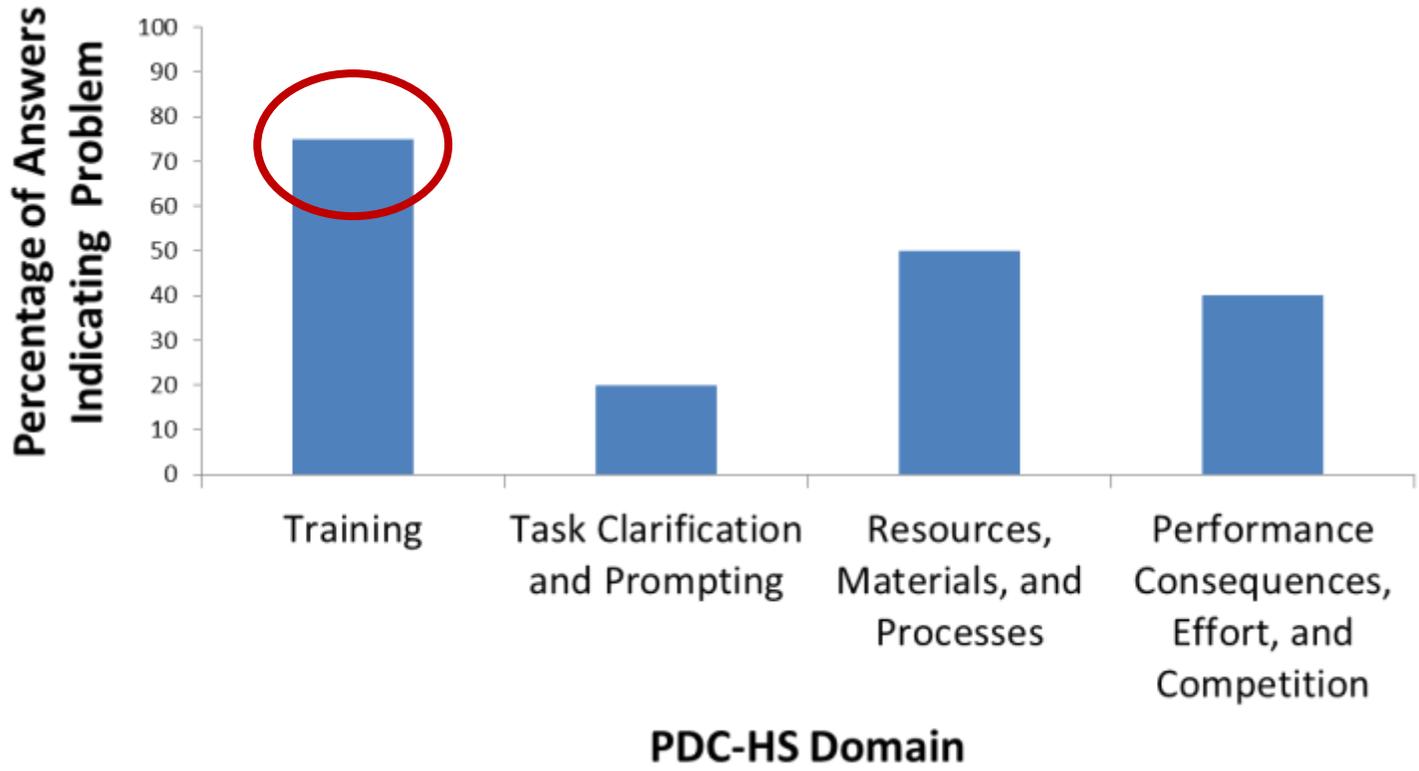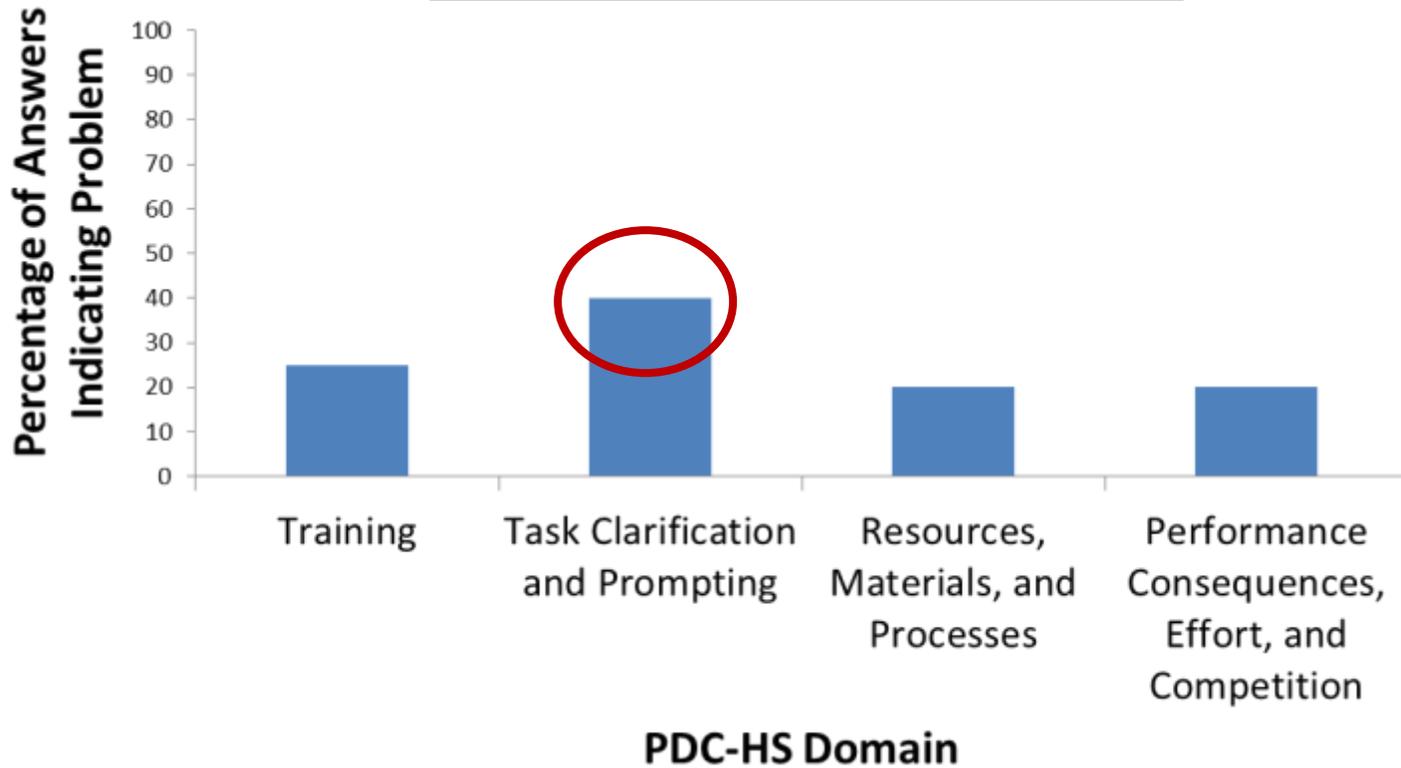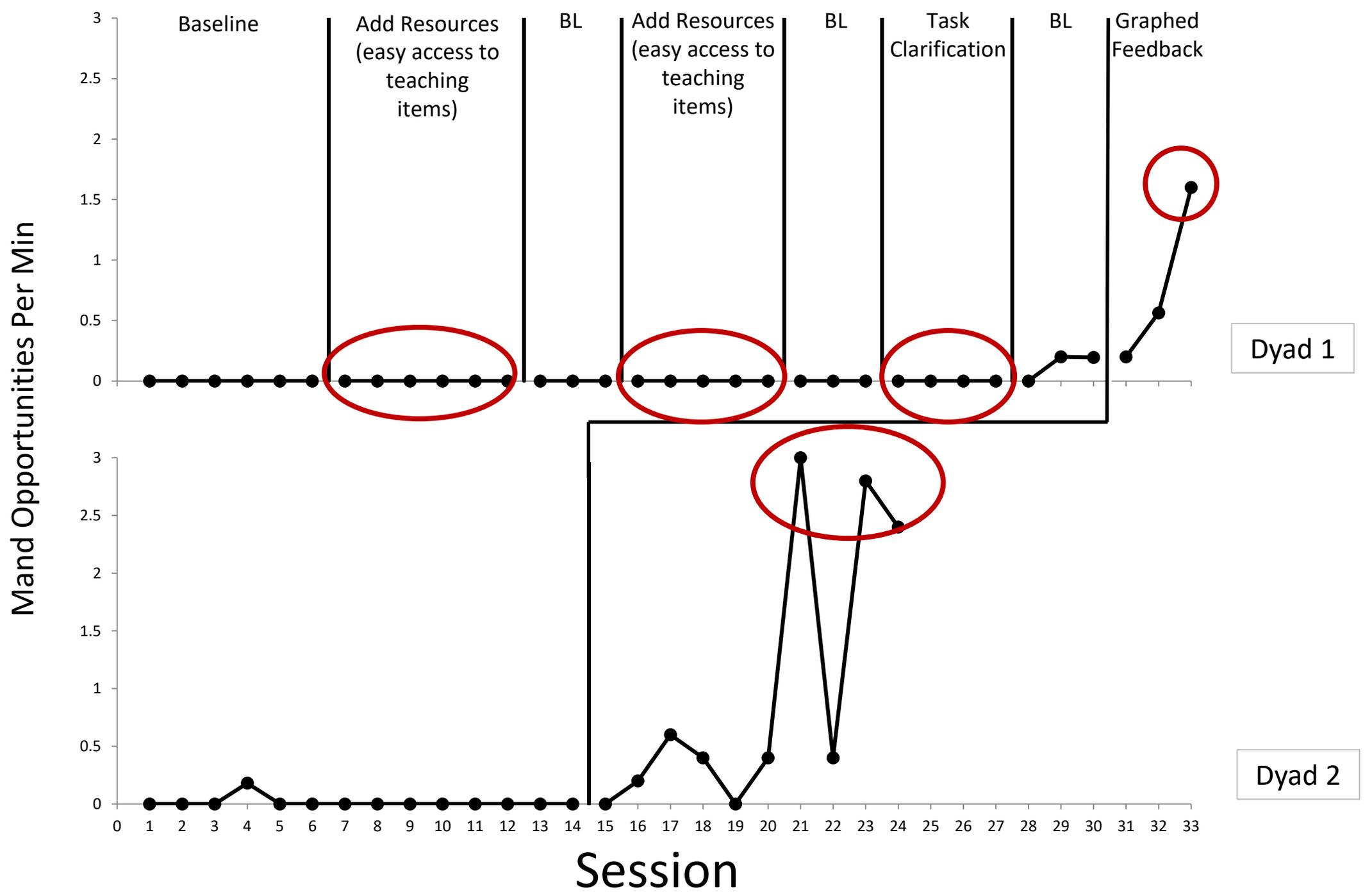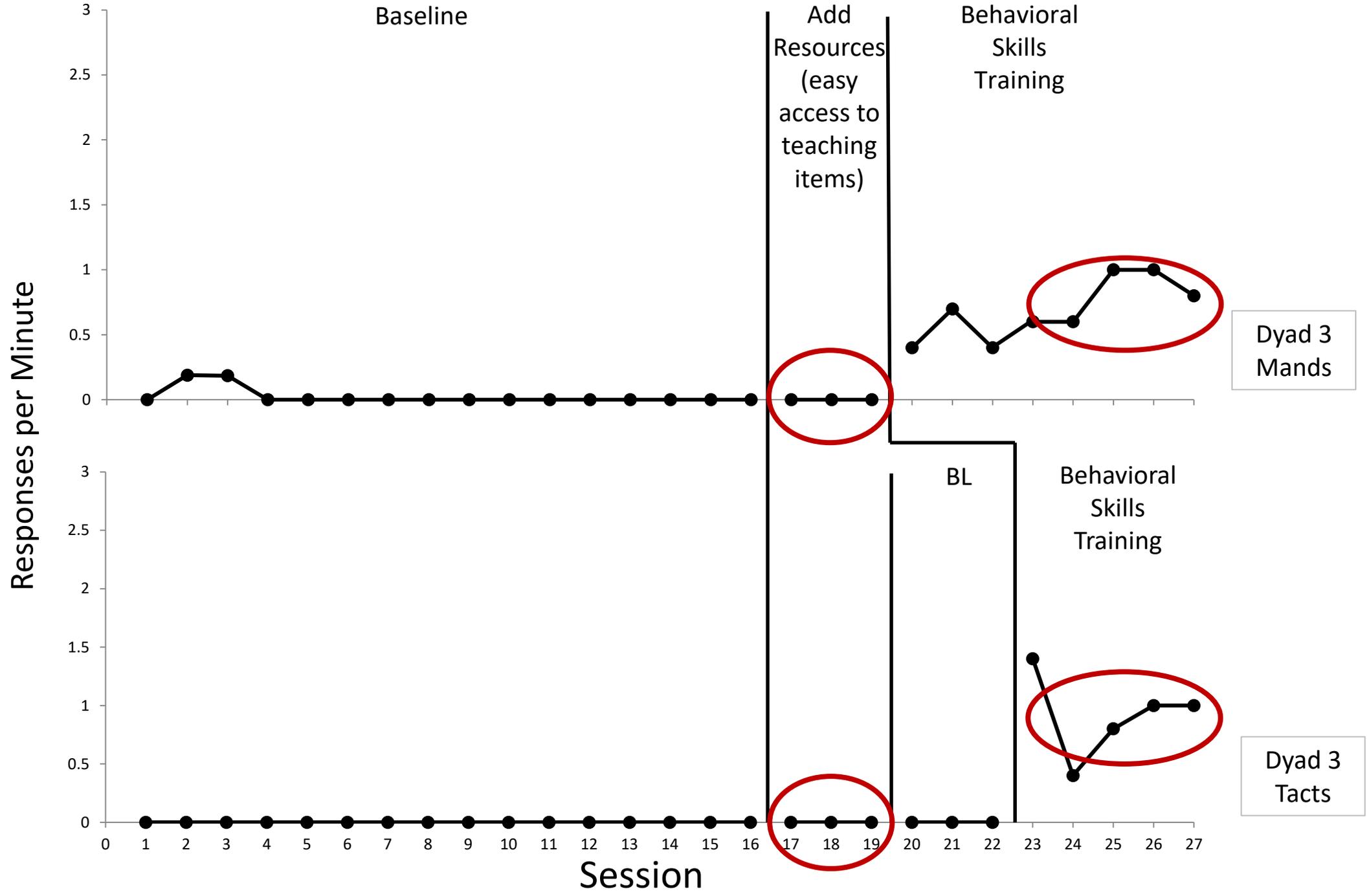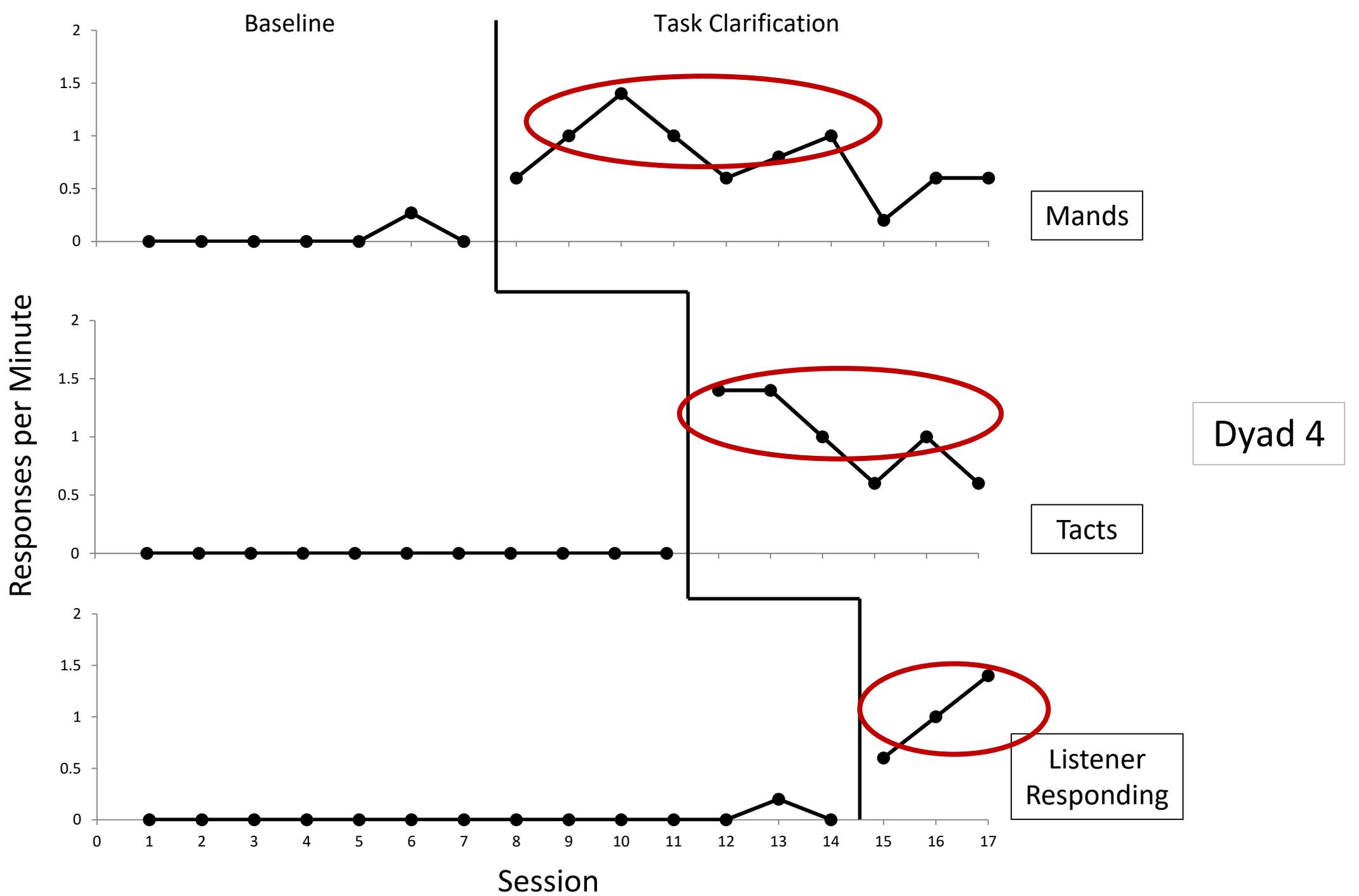
# Experiment II

- PDC-HS has never been evaluated with employees who have an intellectual disability.

- Thus, the purpose of the current study was to examine the utility of the PDC-HS with adults with disabilities in an integrated employment setting to assess performance problems exhibited by their peers.

# Experiment II: Method

- Participants
  - Four managers with disabilities (Bruce, Michael, Sam, Taylor)
  - One manager without a disability (Ruth)

- Setting
  - Independently owned and operated thrift store
  - Sessions conducted in the laundry room of store

# Experiment II: Method

- Response Measurement and Definitions

  - DV: Percentage of accurate price tag completion

    - Consisted of 5 pieces of information above the perforation and 3 pieces of information below the perforation

  - Each session consisted of 10 pieces of clothing

  - Interobserver agreement

    - Bruce - 30% of sessions, agreement was 98%

    - Sam - 41% of sessions, agreement was 100%

# Experiment II: Method

- Procedure

  – Baseline

  – PDC-HS

  – Intervention

  – Multiple baseline design across participants

  – Treatment integrity

    • Bruce – 92%; Sam – 100%

Dyad 2

Ruth (Store Manager)

Taylor (Supervisor)

Percentage of Questions Scored "No"

Training

Task Clarificaiton and Prompting

Resources, Materials, and Processes

Consequences, Effort, and Competition
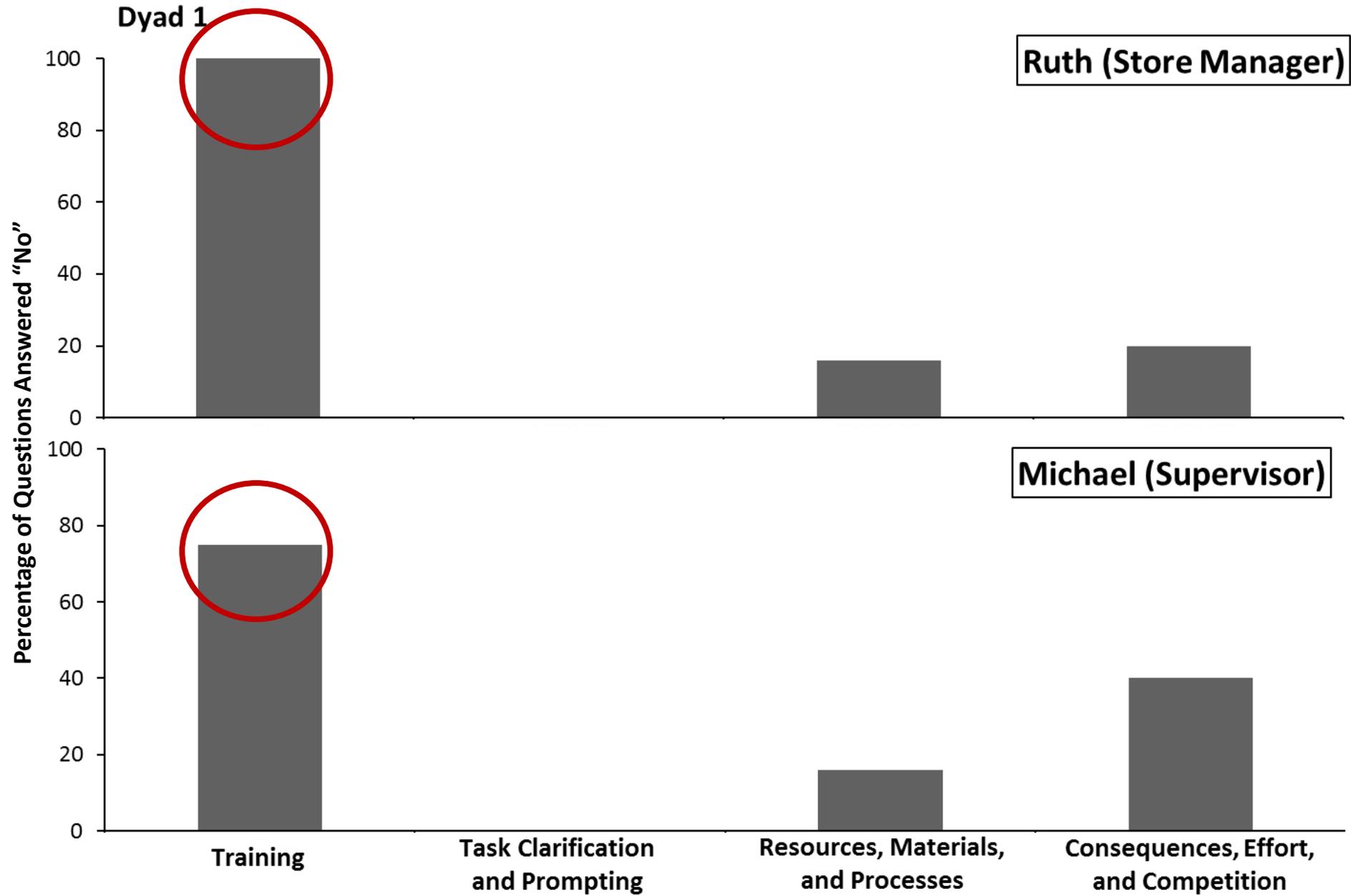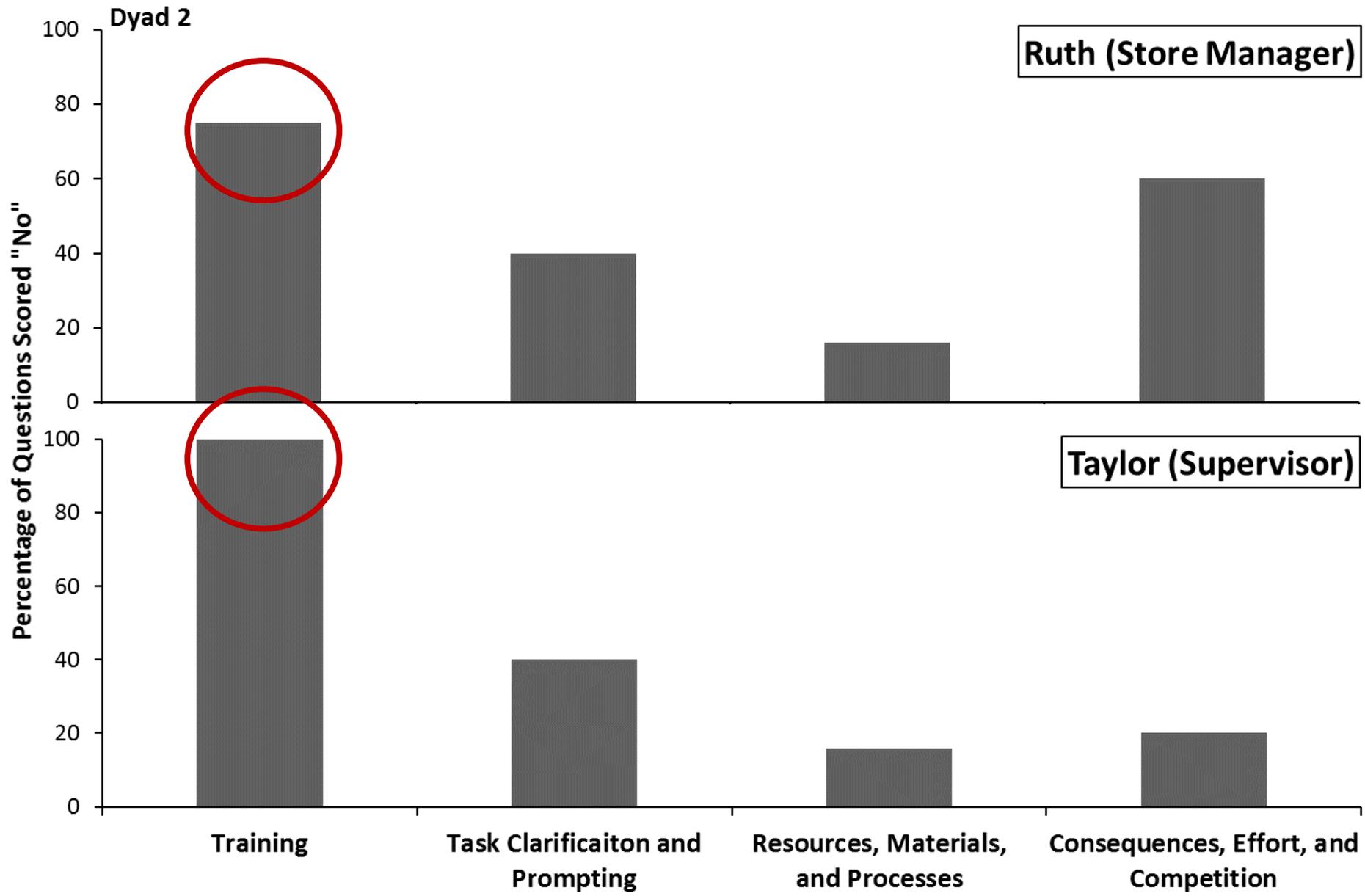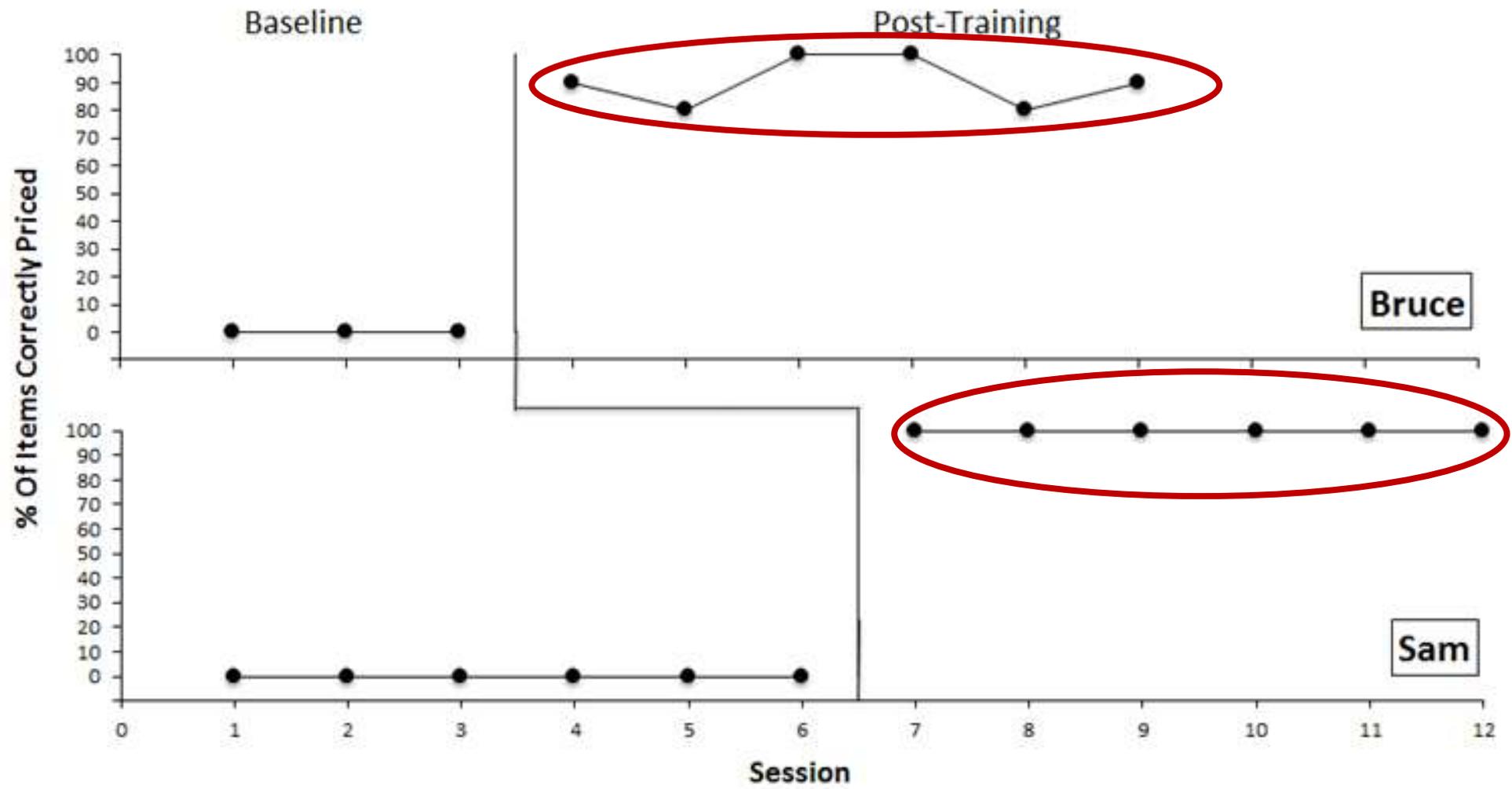
# Experiment II: Results Summary

- PDC-HS can be used to support the job performance of individuals with disabilities in an integrated work setting

- Social Validity

  - Michael and Taylor (supervisors) reported increased confidence in directing employees

  - Bruce and Sam (supervisees) reported that they were satisfied with the training

# Experiment II: Discussion

- Limitations

  - Only one PDC-HS derived intervention (i.e., training) was evaluated

  - Way in which DV was measured

# Experiment II: Discussion

– Individuals with disabilities can be taught to manage and supervise their peer's work performance (Lerman, Hawkins, Hillman, Shireman, & Nissen, 2015; Lerman, Hawkins, Hoffman, and Caccavale, 2013)

– Future research

- Other methods of supporting individuals with disabilities in integrated employment settings

- Modifications to PDC-HS to make it more user-friendly
  – Simplified wording
  – Abridged list of interventions

- Internet-based methods of increasing the employability of individuals with disabilities

# Focus on Consequences

- In general, managers / supervisors focus on antecedents
  - Instructions / rules
  - Training
  - Handbooks
  - E-mail prompts

- However, the behavior analytic approach to management, as well as empirical research, suggests that consequences are equally, if not more, important

# Focus on Consequences

- Provide frequent, relatively immediate, and consistent consequences for both good and problematic performance
  - 4:1 ratio

- Monitor the performance of your reports via direct observation

- Number of direct reports should be < 8 (Davison, 2003)

# Feedback

- The most commonly used, least expensive, and perhaps most effective PM intervention (Alvero et al., 2001)

  - Create a culture of feedback
    - 360 degree feedback
      - Employee receives (and provides) feedback to all those around her, including supervisor, peers in lateral position, and reports on a regular basis

# Feedback

- Consider using performance scorecards (Abernathy, 2000; Riggs & Felix, 1983)

  - Provide a standard, objective method of providing feedback and allows examination of both within-employee performance over time as well as between-employee performance

## Performance Objectives

Left template:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|

(A) Pinpoints

Possible Objective Scores (C) / (B)
- −5
- −4  Normalized Performance Scale (B)
- −3
- −2
- −1

Actual Performance Scores (D)
Normalized Performance Scores (E)
Weight Factor (F)
Performance Index (G)

Productivity Index (H)

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Performer's Name ___Bill___
Performer's Reporting Period ___Monthly___
Company ___Framelogics___

### Performance Objectives

| Pinpoints (A) | 1 Total Billings | 2 Quality of Presentation | 3 Average Number of Days to Return Phone Calls | 4 % of Proposals Approved by Staff | 5 Total Dollars Committed to Hardware Purchases | 6 | 7 |
|---|---|---|---|---|---|---|---|
| | 170* | 9.5 | 1.0 | 95 | 3000 | | |
| | 140* | 8.5 | 2.0 | 85 | 5000 | | |
| | 110* | 7.5 | 3.0 | 75 | 7000 | | |
| | 90* | 6.5 | 4.0 | 65 | 9000 | | |
| | 40* | 5.5 | 5.0 | 55 | 11,000 | | |
| Actual Performance Scores (D) | 45 | 7.4 | 6.0 | 90 | 6350 | | |
| Normalized Performance Scores (E) | 1 | 3 | 1 | 4 | 3 | | |
| Weight Factor (F) | 40 | 20 | 15 | 15 | 10 | | |
| Performance Index (G) | 40 | 60 | 15 | 60 | 30 | | |

Possible Objective Scores (C)

Normalized Performance Scale (B)
- −5
- −4
- −3
- −2
- −1

*In Thousands

Productivity Index (H)
205

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Adapted from Chase and Smith (1994)

# Process Analysis and Intervention

- Don't forget about the processes

- Process mapping (Rummler & Brache, 1995)
  - Create a "should" process map and an "is" process map

  - Make the "should" map look more like the "is" map

# Example of an "Is" Process Map
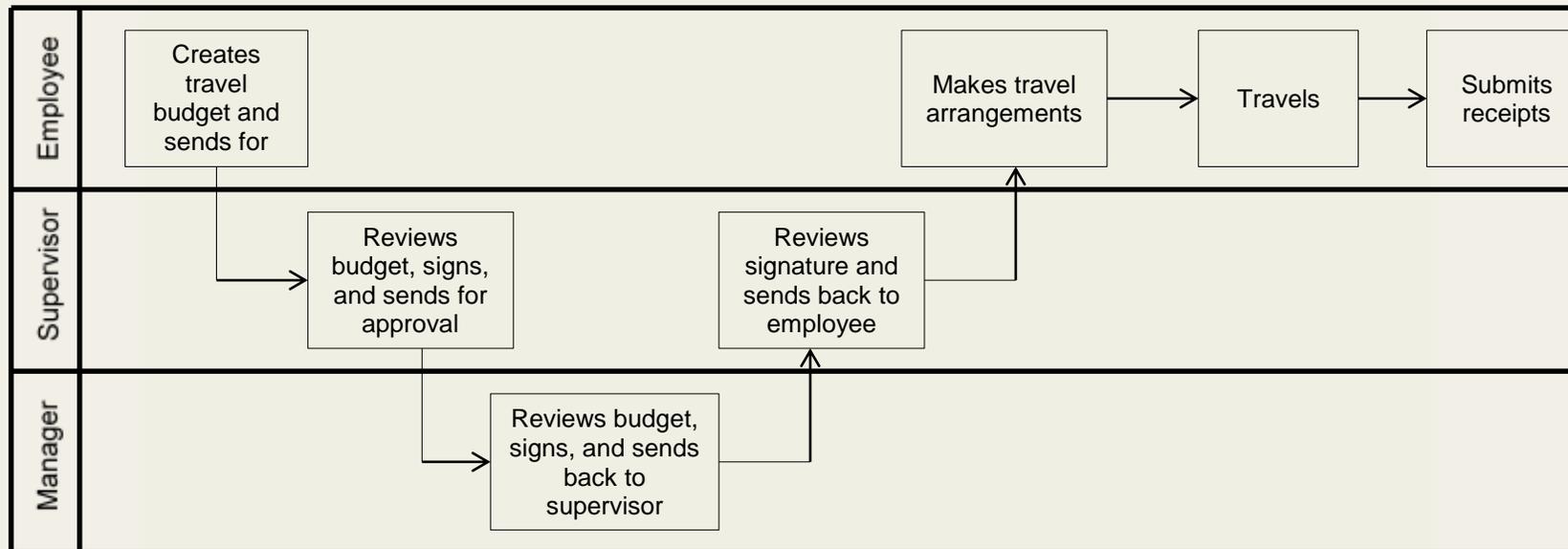


Adapted from Wilder, D., & Gravina, N. (in press). Organizational behavior management. In W. Fisher, C. Piazza, & H. Roane (Eds.), *Handbook of Applied Behavior Analysis* (2nd ed.). New York: Guilford Press.

# Example of a "Should" Process Map
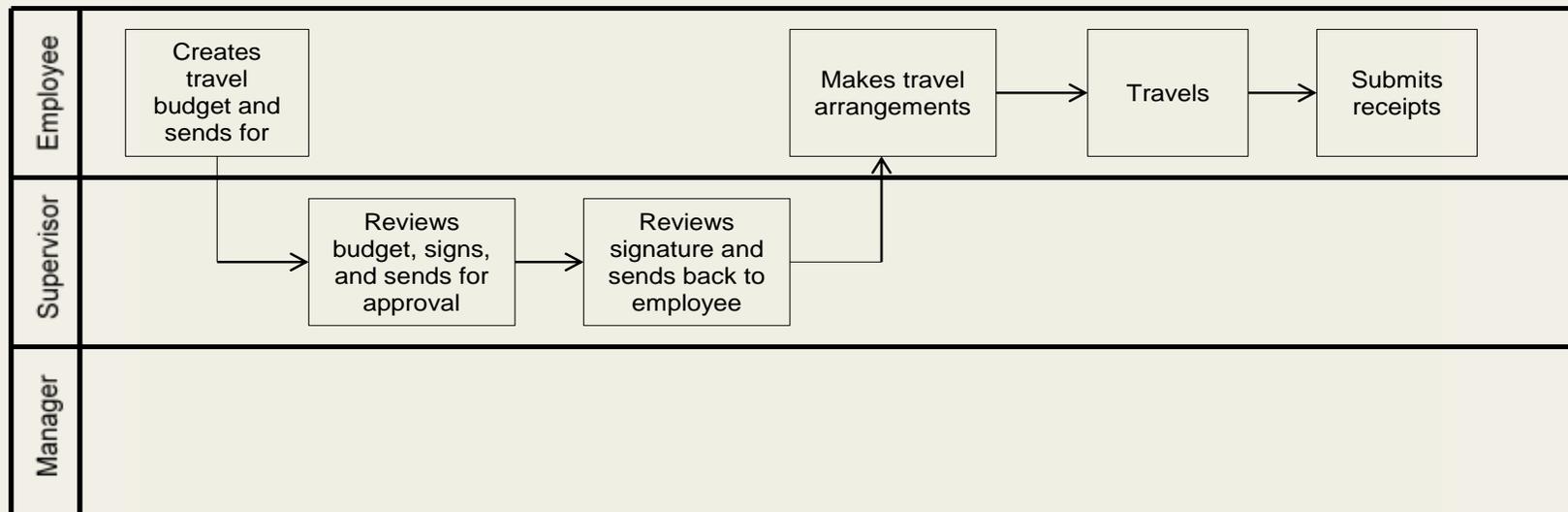


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# Summary: Best Practices in PM for ABA Service Programs

- Use in-situ based assessment to select employees.
- When training, use a competency based model such as BST.
- Use performance analysis methods such as the PDC-HS to identify cause of performance problems.
- Create and develop employee policies and handbooks, but don't neglect to use consequences associated with policies and directives.
- Use feedback liberally but wisely; consider using a performance scorecard.
- Don't forget the processes – conduct process maps when a process is problematic.

# Integrating OBM Procedures into ABA Service Provision

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# THANK YOU

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To access the PDC-HS free of charge:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4788645/