Tier 3 Strategies: A Look at Functional Assessment-Based Interventions (FABI)

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Functional Assessment-Based Interventions

Agenda

• Comprehensive, Integrated, Three-Tiered (CI3T) Models of Prevention
• Overview of functional assessment-based interventions (FABI)
  – Function-based interventions
  – What are FABIs?
  – Why are FABIs effective?
  – What does the supporting research for FABIs say?
  – What are the benefits and challenges?
• How do I implement FABIs in my classroom?
  – Step 1: Identifying students who need a FABI
  – Step 2: Conducting the functional assessment
  – Step 3: Collecting baseline data
  – Step 4: Designing the intervention: Using the Function-Based Intervention Decision Model
  – Step 5: Testing the intervention
  – Ethical Considerations
  – Generalization and Maintenance
• Frequently Asked Questions (FAQ): What if Scenarios
Comprehensive, Integrated, Three-Tiered Model of Prevention
(Lane, Kalberg, & Menzies, 2009)

Tier 3
Tertiary Prevention (≤5%)
Goal: Reduce Harm
Specialized individual systems for students with high risk

Tier 2
Secondary Prevention (≤15%)

Goal: Reverse Harm
Specialized group systems for students at risk

Tier 1
Primary Prevention (≤2%)

Goal: Prevent Harm
School/classroom-wide systems for all students, staff, & settings

Comprehensive, Integrated, Three-Tiered Model of Prevention

Ci3T Primary (Tier 1) Plan: Procedures for Teaching
Ci3T Primary (Tier 1) Plan: Procedures for Reinforcing
Ci3T Primary (Tier 1) Plan: Procedures for Monitoring
Comprehensive, Integrated, Three-Tiered Model of Prevention (Lane, Kalberg, & Menzies, 2009)

Primary Prevention (Tier 1)
- ≈80%

Secondary Prevention (Tier 2)
- ≈15%

Tertiary Prevention (Tier 3)
- ≈5%

Secondary (Tier 2) Intervention Grids

Tertiary (Tier 3) Intervention Grids

Schoolwide Positive Behavior Support

Low Intensity Strategies
- Basic Classroom Management
- Effective Instruction
- Low Intensity Strategies

Higher Intensity Strategies
- Functional Assessment-Based Intervention
- Assessment

(Lane, Menzies, Bruhn, & Cresbetti, 2011)
OVERVIEW OF FUNCTIONAL ASSESSMENT-BASED INTERVENTIONS (FABI)

Function-based Interventions

• In this presentation, one systematic approach to functional based interventions using the FABI Model is presented.

• However, there are many variations to conducting functional behavior assessment (FBA) and writing behavior intervention plans (BIP).
What are FABIs?

• FABI refers to an intervention that is constructed based on the function of the behavior, determined by conducting a functional assessment.

• The function of the behavior refers to the purpose the behavior serves:
  – to get (access) something or
  – to get out of (avoid) something

Unique Features: FABI Model

Function Matrix to analyze data to determine the hypothesis
• Form of Reinforcement: Access (positive reinforcement) or Avoid (negative reinforcement)
• Stimulus: attention; activity or tangible; sensory

Function-Based Intervention Decision Model to determine the intervention focus
• Method 1: Teach the Replacement Behavior
• Method 2: Improve the Environment
• Method 1 and 2: Teach the Replacement Behavior and Improve the Environment
• Method 3: Adjust the Contingencies

ARE Components: a systematic method of constructing the intervention
• Antecedent Adjustments
• Reinforcement Adjustments
• Extinction

Why are FABIs effective?

Emphasis is on skill building and supporting pro-social behavior (replacement behavior) that serve the same function(s) as the target behavior (problem behavior).

The intervention is based on the communicative intent of target behavior.

That is, what the student is trying to access or avoid:
  – Attention
  – Tangibles / Activities
  – Sensory
The Acting-Out Cycle

What does the supporting research for FABIs say?

<table>
<thead>
<tr>
<th>Student populations</th>
<th>Target Behavior</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism spectrum disorder (Gann et al., 2014)</td>
<td>Noncompliance (Lane et al., 2007)</td>
<td>Method 1: Teach the replacement behavior (Liaupsin et al., 2006)</td>
</tr>
<tr>
<td>Attention-related difficulties (Stahr et al., 2006)</td>
<td>Nonparticipation (Lane et al., 2007)</td>
<td>Method 2: Improve the environment (Garmer et al., 2011; Majeika et al., 2011)</td>
</tr>
<tr>
<td>With or at-risk for emotional-behavioral disorders (Janney et al., 2013; Lane et al., 2006)</td>
<td>Off-task (Gann et al., 2004; Lane et al., 2009; Wood et al., 2007)</td>
<td>Method 3: Adjust the contingencies (Wood et al., 2007)</td>
</tr>
<tr>
<td>Challenging behaviors (Umbreit et al., 2004)</td>
<td>Profanity and negative social interactions (Lane et al., 2007; Turton et al., 2007)</td>
<td>Method 1 &amp; 2: Teach the replacement behavior and improve the environment (Gann et al., 2014; Liaupsin et al., 2006; Turton et al., 2007)</td>
</tr>
<tr>
<td>Early childhood settings (Wood et al., 2007)</td>
<td>Disruptive behaviors (Lane et al., 2007; Turton et al., 2011)</td>
<td></td>
</tr>
<tr>
<td>Elementary settings (Germer et al., 2011; Lane et al., 2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary settings (Lane et al., 2007; Liaupsin et al., 2006; Majeika et al., 2011)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What are the benefits and challenges?

Benefits
- Proactive rather than reactive
- Yield desired outcomes for a variety of students with a range of target behaviors and in a variety of environments (Lane, Rogers et al., 2007)
- Team-based approach with opportunities to include parent and student voice

Challenges
- Can be resource intensive
- Requires training and practice
- Time for teams to work together and collect data
How do I implement FABIs in my classroom?

**STEPS**

1. Identify Students
2. Functional Assessment
3. Baseline Data
4. Intervention Development
5. Testing the Intervention

**CitiT: FABI**

Functional Assessment-Based Interventions

*Functional Assessment-Based Interventions (FABI, Umbreit, Ferro, Laajoki & Lane, 2007).*

A systematic approach to conducting the functional behavior assessment (FBA) and developing intervention plans (IPs).

- **FBA Overview**
- **Video Modules**
- **Implementation Materials**
How do I implement FABIs in my classroom?

Step 1: Identify Students

<table>
<thead>
<tr>
<th>Support</th>
<th>Description</th>
<th>Softwared Data: Entry Criteria</th>
<th>Data to Monitor</th>
<th>Exit Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>One of each of the following:</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SRSS‐E7: High (9‐21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SRSS‐I5: High (4‐15)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>SSiS‐PSG Ranking of 1, 2, or 3 on the Motivation to Learn</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office discipline referrals (ODRs) 6 or more within a grading period</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Academic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Progress report: 1 or more course failures</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Missing Assignments: 5 or more within a grading period</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>AimsWeb: Intensive Level (Math or Reading)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The FABI will be faded once a functional relation is demonstrated using a validated single‐case experimental design (e.g., withdrawal).

Behavior integrity:
- IRP‐15 (teacher)
- CIRP (student)

Social validity:
- MT‐13 (teacher)
- SF1 (student)
Step 1: Identify Students

Use data to identify students who need support

Systematic Screeners
Behavioral Measures
Academic Measures

Step 2: Functional Assessment

Functional Assessment Methods

• Informal Observation
• Records Review
• Interviews (Teacher, Parent, Student)
• Rating Scales
• A-B-C Data Collection

Operational Definitions

• Operational definitions include:
  – Label
  – Definition
  – Examples
  – Nonexamples
• Pass the following criterion
  – Measurable, observable, repeatable
  – Dead man’s test
  – Stranger test
### Possible Target Behaviors

- Off-task
- Noncompliant
- Negative Social Interactions
- Aggression*
- Tantrum

### Operational Definition of Behavior

**Target Behavior:**

Refer to any behavior that involves

**Examples:**

**Non-examples:**

### David's Target behavior: Off-task behavior

Off-task behavior refers to engaging in behaviors or making verbal comments unrelated to instructional tasks, including:

**Examples:**
- leaving assigned instructional area without teacher permission
- inappropriately making comments to teacher or peers unrelated to instruction
- attending to anything other than the academic task
- doing unassigned tasks
- using instructional materials inappropriately
- taking more than 30 s to prepare for instructional task

**Non-examples:**
- staying in assigned instructional area
- appropriately making comments to teacher or peers related to instruction
- attending to academic tasks
- working on assigned task
- using instructional materials appropriately
- preparing for instructional task in less than 30 s

Germer et al., 2011
A = Antecedent
- The entire set of conditions in which a behavior occurs.
- Includes the context in which the behavior occurs and specific events immediately preceding the behavior.

B = Behavior
- The activity of living organisms.
- The organism's interaction with its environment that results in a measurable change in at least one aspect of the environment.
- During the observations: Focus on the identified target behavior.

C = Consequences
- The event(s) that follows the behavior.
- If the consequence makes the behavior more likely to occur it is called a reinforcer.
- If it makes it less likely to occur, it is called a punisher.
A-B-C Data: Example

A teacher hands out math computation worksheet, starts the timer, and tells students they will be timed in completing the math worksheet. The student then tears up the worksheet. The teacher scolds the student and has the student clean up the mess without completing the worksheet.

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Step 2: Functional Assessment

Identifying the Function of the Behavior

Function Matrix

- The function matrix helps to visually identify the function of the behavior.
- Enter the data gathered from the records review; teacher, parent, and student interviews; and A-B-C data.
- Use the matrix to create a hypothesis statement.

<table>
<thead>
<tr>
<th>Function Matrix</th>
<th>Positive Reinforcement (Access something)</th>
<th>Negative Reinforcement (Avoid something)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tangled Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensory</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Illustration: Function Matrix

<table>
<thead>
<tr>
<th>Positive Reinforcement</th>
<th>Negative Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention:</td>
<td>ABC data: 97 incidences during morning work time. 1.1, 1.2, 1.3, 1.6, 1.8, 1.10, 1.15, 1.16, 1.17, 1.18, 1.20, 1.21, 1.22, 1.23, 1.24, 1.25, 1.26, 1.27, 1.30a, 1.31, 1.34a, 1.37, 1.38a, 1.40a, 1.41a, 1.42, 1.43, 1.46a, 1.48a, 1.50, 1.51, 1.53, 1.54a, 1.55, 1.56a, 1.58, 1.59a, 1.60, 1.61a, 1.62a, 1.63a, 1.64a, 1.66a, 1.67a, 1.68, 2.2a, 2.5a, 2.6a, 2.7, 2.9, 2.12, 2.13a, 2.14a, 2.15a, 2.16, 2.18, 2.19a, 2.20a, 2.21, 2.22, 2.23, 2.24, 2.25a, 2.27a, 2.28a, 2.29a, 2.30a, 2.32a, 2.33, 2.34, 2.35a, 2.37, 2.38a, 2.39, 2.41a, 2.42a, 2.43a, 2.44a; 3.1a, 3.3, 3.4a, 3.5a, 3.7, 3.8, 3.9, 3.10, 3.11a, 3.12, 3.15c, 3.18a, 3.19, 3.20, 3.23, 3.24a, 3.25, 3.26, 3.28</td>
</tr>
<tr>
<td>Activities/Tangible:</td>
<td>ABC data: 3 incidences during morning work time. 1.4b, 2.8, 3.6b</td>
</tr>
<tr>
<td>Teacher interview:</td>
<td>Motivated to finish morning math work, but does not complete during assigned time; finishes by copying during review of work, likes to turn it in.</td>
</tr>
<tr>
<td>Sensory:</td>
<td>ABC data: 2 incidences during morning work time. 3.15c, 3.21d</td>
</tr>
<tr>
<td>Teacher interview:</td>
<td>“He’s not an unreasonable child… he intends to behave, but can’t. He’s not physically able to sit still.”</td>
</tr>
<tr>
<td>Student interview:</td>
<td>Tends to be off-task “when I feel ticklish”</td>
</tr>
</tbody>
</table>

Illustration: Hypothesized Function

- When presented with an instructional task, **David engages in off-task behavior** (such as leaving instructional areas, inappropriately making comments, and engaging in unassigned tasks) to **access attention and/or to escape tasks**.

In other words, when David is off-task he gets attention from his teacher and peers and does not have to complete assignments (positive reinforcement-attention and negative reinforcement-activity).

Selecting a Replacement Behavior

- If a student is not engaging in the target behavior, they must do something in its place.
- The selection of the replacement behavior requires information gathered via the teacher and parent interview.
- The replacement behavior either needs to be in the student’s repertoire or taught explicitly so the student can do the replacement behavior.
Replacement Behavior

- ... what did you want the student to do instead of the target behavior
- Components:
  - Label
  - Operational definition
  - Examples
  - Non-examples

On-task behavior refers to engaging in behaviors or making verbal comments related to instructional tasks, including:

**Examples**
- staying in assigned instructional area
- appropriately making comments to teacher or peers related to instruction
- attending to academic tasks
- working on assigned task
- using instructional materials appropriately
- preparing for instructional task in less than 30 s

**Non-examples**
- leaving assigned instructional area without teacher permission
- inappropriately making comments to teacher or peers unrelated to instruction
- attending to anything other than the academic task
- doing unassigned tasks
- using instructional materials inappropriately
- taking more than 30 s to prepare for instructional task

Germer et al., 2011

David’s Replacement behavior: On-task behavior

Step 3: Baseline Data

ABAB Withdrawal Design

A, represents baseline (current practices in place).
A2 represents withdrawal of intervention (return to baseline practices).

STUDENT OUTCOME MEASURE
ABAB Withdrawal Design

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

In other phases the intervention IS in place.

B1 represents the first introduction of the intervention.

B2 represents the reintroduction of the intervention.

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**Step 3: Baseline Data**

- **Baseline** – Establish current level of behavior BEFORE intervention begins
  - **Intervention**
  - **Withdrawal**
  - **Reintroduction**
Step 4: Intervention Development

Method 1: Teach the replacement behavior
Method 1 & 2: Teach the replacement behavior and improve the environment
Method 2: Improve the environment
Method 3: Adjust the contingencies

Conduct FBA
Select Replacement Behavior

Can the student perform the replacement behavior?

Do antecedent conditions represent effective practices?

Method 1: Teach the replacement behavior
Method 2: Improve the environment
Method 3: Adjust the contingencies

Function-Based Intervention Decision Model

Method 1
Method 2
Method 3

Teach the Replacement Behavior
Improve the Environment
Adjust the Contingencies

Method 1 and 2

A - R - E Intervention Components

- Adjust Antecedents
  - Physical room arrangement
  - Visual/audio cues
  - Securing attention
  - Self-monitoring checklists
- Adjust Reinforcement Rates
  - Tangible or non-tangible
  - Behavior specific praise
  - Make it contingent upon performing replacement behavior
- Extinguish Target Behavior
  - Brief verbal prompt, then ignore
  - Removing the student, or removing the class
  - Emergency procedures
**A-R-E Intervention Components**

<table>
<thead>
<tr>
<th>Components</th>
<th>Intervention Tactics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antecedent</strong></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>David sat facing the whiteboard.</td>
</tr>
<tr>
<td>A2</td>
<td>Step Light was affixed to the side of David’s desk; David used a clothespin to signal which “light” he was on.</td>
</tr>
<tr>
<td>A3</td>
<td>A copy of David’s self-monitoring form was displayed on his desk.</td>
</tr>
<tr>
<td>A4</td>
<td>The teacher reviewed the picture schedule for the morning work period prior to the work period.</td>
</tr>
<tr>
<td>A5</td>
<td>The teacher checked in with David at the beginning of independent tasks to ensure that he understood the assignment.</td>
</tr>
<tr>
<td><strong>Reinforcement</strong></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>The teacher provided behavior-specific praise when David was on-task.</td>
</tr>
<tr>
<td>R2</td>
<td>The teacher acknowledged David’s need for help when his clothespin was on red and assisted him as quickly as possible.</td>
</tr>
<tr>
<td>R3</td>
<td>The teacher checked David’s work upon completion, provided praise, and allowed him to take a short break.</td>
</tr>
<tr>
<td>R4</td>
<td>At the end of the morning independent work period, the teacher helped David complete his self-monitoring form and wrote one specific incidence of good behavior at the bottom.</td>
</tr>
<tr>
<td><strong>Extinction</strong></td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>The teacher provided no praise or attention when David was off-task, with the exception of one verbal or gestural redirect per minute.</td>
</tr>
<tr>
<td>E2</td>
<td>The teacher provided assistance without praise and with minimal interaction when David’s clothespin was on red.</td>
</tr>
<tr>
<td>E3</td>
<td>When David was off-task, the teacher praised other students who were behaving appropriately.</td>
</tr>
</tbody>
</table>

**Step 5: Testing the Intervention**

Using visual analysis, we can determine if the desired behavior is occurring when the intervention is in place and not occurring when the intervention is not in place.

**How well is it working? Examining the Effects**

Is it happening?

What do stakeholders think about the goals, procedures, and outcomes?

How well did this support work for this student?
**Treatment Integrity**

**Definition:** The degree to which intervention procedures are implemented as intended.

**Assessing Treatment Fidelity:**
- Direct Systematic Observation
- Self-reporting
- Rating Scales
- Permanent Product

### Sample Treatment Integrity Checklist

<table>
<thead>
<tr>
<th>Intervention Tactics</th>
<th>Mon.</th>
<th>Tue.</th>
<th>Wed.</th>
<th>Thur</th>
<th>Fri</th>
<th>Component</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. David sat facing the whiteboard</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>A2. Stop Light was affixed to the side of David's desk; David used a clothespin to signal which &quot;light&quot; he was on.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>A3. A copy of David's self-monitoring form was displayed on his desk.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>A4. The teacher reviewed the picture schedule for the morning work period prior to the work period.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>A5. The teacher checked in with David at the beginning of independent work to ensure that he understood the assignment.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>R1. The teacher provided behavior-specific praise when David was on-task.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>R2. The teacher acknowledged David's need for help when his clothespin was on red and assisted him as quickly as possible.</td>
<td>0</td>
<td>1</td>
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<td>0</td>
</tr>
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<td>R3. The teacher checked David's work upon completion, praised him, and allowed him to take a short break.</td>
<td>0</td>
<td>1</td>
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<td>0</td>
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<td>R4. At the end of the morning independent work period, the teacher helped David complete his self-monitoring form and wrote one specific incidence of good behavior at the bottom.</td>
<td>0</td>
<td>1</td>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>E1. The teacher provided no praise or attention when David was off-task, with the exception of one verbal or gestural redirect per minute.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>E2. The teacher provided assistance without praise and with minimal interaction when David's clothespin was on red.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>E3. When David was off-task, the teacher praised other students who were behaving appropriately.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**How well is it working?**

**Examining the Effects**

- **Treatment Integrity:** Is it happening?
- **Social Validity:** What do stakeholders think about the goals, procedures, and outcomes?
- **Experimental Design:** How well did this support work for this student?
Social Validity

• Social significance
  – The value recipients place on the goals and specific behaviors target for intervention
  – Do benefits of intervention outweigh costs?

• Social acceptability
  – Is treatment appropriate for the problem behavior?
  – Is it fair and reasonable? Or is it intrusive?
  – Is it something the treatment agent wants to do?

• Social importance of effects
  – Does change have habilitative validity? (Hawkins, 1991)
  – Is new behavior functional and acceptable?

(Wolf, 1978)

What does the student think about it?

Completed by the student participating in the intervention at two time points: Pre and Post Intervention

What do the adults think about it?

Completed by adults (e.g., teachers, paraeducators, parents) participating in the intervention at two time points: Pre and post intervention
How well is it working? Examining the Effects

Treatment Integrity
Is it happening?

Social Validity
What do stakeholders think about the goals, procedures, and outcomes?

Experimental Design
How well did this support work for this student?

Collecting Data
Defining Behavior

Event Recording
https://vimeo.com/137862234

Momentary Time Sampling
https://vimeo.com/138030792

Is my student’s behavior low, moderate, or high?

Low

Moderate

High

Level
Is my student’s behavior increasing, decreasing, or staying the same (flat)?

Increasing Trend

Decreasing Trend

Flat/Zero Trend

Is my student’s behavior stable?

Stable

Variable

How well is it working?
Examining the Effects

Treatment Integrity
Social Validity
Experimental Design

Monitor with:
FABI Step 5
Summary Template.xls
Illustration 2: David 2nd Grader


David’s Target Behavior: Off-task Behavior

Off-task behavior refers to engaging in behaviors or making verbal comments unrelated to instructional tasks, including:

- **Examples**
  - Leaving assigned instructional area without teacher permission
  - Inappropriately making comments to teacher or peers unrelated to instruction
  - Attending to anything other than the academic task
  - Doing unassigned tasks
  - Using instructional materials inappropriately
  - Taking more than 30 s to prepare for instructional task

- **Non-Examples**
  - Staying in assigned instructional area
  - Appropriately making comments to teacher or peers related to instruction
  - Attending to academic tasks
  - Working on assigned task
  - Using instructional materials appropriately
  - Preparing for instructional task in less than 30 s

Function Matrix (Umbreit, Ferro, Liaupsin, & Lane, 2007)

<table>
<thead>
<tr>
<th>Function Matrix</th>
<th>Positive Reinforcement</th>
<th>Negative Reinforcement</th>
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<tbody>
<tr>
<td>Example #1</td>
<td>1.1, 1.2, 1.3, 1.6, 1.8, 1.10, 1.15, 1.16, 1.17, 1.18, 1.20, 1.21, 1.22, 1.23, 1.24, 1.25, 1.26, 1.27, 1.30a, 1.31, 1.34a, 1.37, 1.38a, 1.40a, 1.41a, 1.42, 1.43, 1.46a, 1.48a, 1.50, 1.51, 1.53, 1.54a, 1.55, 1.56a, 1.58, 1.59a, 1.60, 1.61a, 1.62a, 1.63a, 1.64a, 1.66a, 1.67a, 1.68, 2.2a, 2.5a, 2.6a, 2.7, 2.9, 2.12, 2.13a, 2.14a, 2.15a, 2.16, 2.18, 2.19a, 2.20a, 2.21, 2.22, 2.23, 2.24, 2.25a, 2.27a, 2.28a, 2.29a, 2.30a, 2.32a, 2.33, 2.34, 2.35a, 2.37, 2.38a, 2.39, 2.41a, 2.42a, 2.43a, 2.44a; 3.1a, 3.3, 3.4a, 3.5a, 3.7, 3.8, 3.9, 3.10, 3.11a, 3.12, 3.15c, 3.18a, 3.19, 3.20, 3.23, 3.24a, 3.25, 3.26, 3.28</td>
<td></td>
</tr>
<tr>
<td>Example #2</td>
<td>1.4b, 2.8, 3.6b</td>
<td></td>
</tr>
<tr>
<td>Example #3</td>
<td>3.15c, 3.21d</td>
<td></td>
</tr>
</tbody>
</table>

Teacher interviews:
- He never finishes an assignment
- It typically happens during independent work, when he is doing something he otherwise enjoys
- He is bored with the work
- The 2nd grade level work might be too hard but he has average math and reading ability compared to class
- There’s nothing that interests him enough
- He’s not an unreasonable child... he intends to behave, but can’t. He’s not physically able to sit still.
- There’s nothing that interests him enough

Student interview: Tends to be off-task when “bored or frustrated”

(Germer et al., 2011)
David's Replacement behavior: On-task behavior

On-task behavior refers to engaging in behaviors or making verbal comments related to instructional tasks, including:

Examples

• staying in assigned instructional area
• appropriately making comments to teacher or peers related to instruction
• attending to academic tasks
• working on assigned task
• using instructional materials appropriately
• preparing for instructional task in less than 30 s

Non-Examples

• leaving assigned instructional area without teacher permission
• inappropriately making comments to teacher or peers unrelated to instruction
• attending to anything other than the academic task
• doing unassigned tasks
• using instructional materials inappropriately
• taking more than 30 s to prepare for instructional task

Germer et al., 2011

Hypothesized Function

➢ When presented with an instructional task, David engages in off-task behavior (such as leaving instructional areas, inappropriately making comments, and engaging in unassigned tasks) to access attention and/or to escape tasks.

➢ In other words, when David is off-task he gets attention from his teacher and peers and does not have to complete assignments (positive reinforcement-attention and negative reinforcement-activity).

Function-Based Intervention Decision Model

Method 2: Improve the environment was selected as the basis for the intervention.

Germer et al., 2011
David's Intervention Outcomes (On–Task Behavior)

David's percentage of on-task behavior during data probes as measured by liaisons. Closed circles denote David's percentage of on-task behavior. Open circles represent David's percentage of on-task behavior during generalization probes in the afternoon. (Germer et al., 2011)

A-R-E Intervention Components

Component 1- Adjust the Antecedents

- David sat facing the whiteboard.
- David used the stoplight system as instructed.
- A copy of David’s self-monitoring form was displayed on his desk.
- The teacher reviewed the picture schedule for the morning work period prior to the work period.
- The teacher checked in with David at the beginning of independent tasks to ensure that he understood the assignment. (Germer et al., 2011)
Stoplight System

- Affixed to the side of David’s desk
  - David used a clothespin to signal which “light” he was on
- Green, yellow, and red “lights”
  - Green: “I’m doing my work!”
  - Yellow: “I’m asking a friend for help!”
  - Red: “I still need help! I’m asking my teacher.”
- “I’m done!” to signal completion

A-R-E Intervention Components

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<th>Components</th>
<th>Intervention Tactics</th>
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<td>A1</td>
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<td>Stop Light was affixed to the side of David’s desk; David used a clothespin to signal which “light” he was on.</td>
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<td>A3</td>
<td>A copy of David’s self-monitoring form was displayed on his desk.</td>
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<td>A4</td>
<td>The teacher reviewed the picture schedule for the morning work period prior to the work period.</td>
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<td>The teacher checked in with David at the beginning of independent tasks to ensure that he understood the assignment.</td>
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<td>R1</td>
<td>The teacher provided behavior-specific praise when David was on-task.</td>
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<td>R2</td>
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<td>R3</td>
<td>The teacher checked David’s work upon completion, provided praise, and allowed him to take a short break.</td>
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<td>E1</td>
<td>At the end of the morning independent work period, the teacher helped David complete his self-monitoring form and wrote one specific incidence of good behavior at the bottom.</td>
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Component 2 – Adjust the Reinforcement Contingencies

- The teacher provided behavior-specific praise when David was on-task.
- The teacher acknowledged David’s need for help when his clothespin was on red and assisted him as quickly as possible.
- The teacher checked David’s work upon completion, provided praise, and allowed him to take a short break.
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**A-R-E Intervention Components**

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<td>Extinction</td>
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**Component 3 - Extinction**

- The teacher provided **no praise or attention** when David was off-task, with the exception of one verbal or gestural redirect per minute.
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### David’s Intervention Outcomes (On–Task Behavior)

David’s percentage of on-task behavior during data probes as measured by liaisons. Closed circles denote David’s percentage of on-task behavior. Open circles represent David’s percentage of on-task behavior during generalization probes in the afternoon. (Germer et al., 2011)

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### Recommended Resources

Questions: wendy.oakes@asu.edu kathleen.lane@ku.edu


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Recommended Resources


Low intensity strategies to consider as part of A-R-E


Applied Behavior Analysis Textbook

ci3t.org