THE FBA/BIP TECHNICAL ADEQUACY TOOL FOR EVALUATION (TATE): APPLICATIONS FOR IMPROVING PRACTICE

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OBJECTIVES

• Identify essential features for effective FBA/BIP behavior intervention processes
• Describe the purpose and use of the Technical Adequacy Evaluation Tool
• Apply a scoring rubric to case examples
• Discuss further use of the evaluation in their settings
DISCUSSION

• What makes an FBA/BIP technically adequate?
• How do you know this?
CONTEXT FOR FBA/BIPS IN SCHOOLS
CONTEXT FOR FBAS/BIPS

• FBA/BIP—substantial evidence base
• Behavior ‘gold’ standard for nearly 20 years
• Systemic and skill issues impeding implementation
• Wealth of literature providing evidence-basis
  • BUT, does not address the contextual fit of FBA in school culture (Scott & Kamps, 2007)
    • Educators’ willingness and ability to engage in process
    • Level and intensity of FBA necessary to result in improvements
• Conceptually, FBA seen as tool for use in multi-tiered system of supports rather than separate process
  • If part of process, may change traditional definition of what and who is involved in FBA
CURRENT STATUS OF FBA/BIP IMPLEMENTATION IN SCHOOLS

• No systematic policies adopted at federal level or guidance on key components (Scott & Kamps, 2007)

• Three primary flaws in school-setting use (Scott, Liaupsin, Nelson, & McIntyre, 2005).
  • Used as reactive process
  • “Expert” model vs. collaborative model
  • Rigid, rigorous procedures not feasible in public school settings

• In response, schools have “implemented a variety of inexact practices and procedures that have been loosely labeled as FBA, the majority of which are not tied to any solid evidence base. (Scott, Anderson, & Spaulding, 2008)
TECHNICAL ADEQUACY RESEARCH

• Recent studies conducted exploring technical adequacy of FBAs
RESULTS OF TECHNICAL ADEQUACY RESEARCH

• Limited input from teachers and others
• Target behaviors missing or inadequately defined
• FBA hypotheses flawed—attempt to assign one function/hypothesis to group of target behaviors (e.g., treated all behaviors as one behavior—collected data and developed interventions)
• Behavior intervention strategies not linked with hypothesis statement(s)
  • Predominant type of BIP “hierarchical stock list of possible positive and negative consequences” that follow any problem behavior (Van Acker et al.)
• Replacement behaviors not included
  • Van Acker—46% FBA/BIPs reviewed only included aversive strategies
• No follow-through on next steps (promote and check maintenance and generalization of behavior change)
TATE-DEVELOPMENT AND USE OF TOOL
PURPOSE OF TATE

• Develop a “district/educator” friendly tool that could be used by practitioners to evaluate FBA/BIPs

• Determine the technical adequacy of FBA/BIPs and establish baseline for:
  • District
  • Campus/School
  • Individual

• Second step in requesting Tier 3 technical assistance from Florida PBS/RTI:B Project (Interview of Tier 3 process first step)

• Provide information to generate data to guide district action planning
DEVELOPMENT OF TOOL

• Review of literature to identify essential components for adequate FBA/BIPs
• Original measure included 24 items (FBA/BIP)
• Edited to 20 items
• Sent out to three national experts (Terry Scott, Cindy Anderson, Glen Dunlap) to review
  • Is the item essential?
  • Is the item worded clearly?
• Final tool contains 18 items (9 FBA/9 BIP)
• Rubric provides scoring guidelines
• Scores range from 0-2 for each item.
PRELIMINARY FINDINGS-INTERRATER RELIABILITY

• n = 151

• 13 Florida School Districts

• 3 Sources
  • 35.1% FL Department of Education
  • 11.3% Volunteer
  • 53.6% FL PBS Project Evaluation Project

• n = 38 (25.2%) evaluated by two trained raters
# INTER-RATER RELIABILITY (N = 38)

**Total Scale Scores- Intraclclass Correlations (ICC)**  
**p < 0.001**

### INDIVIDUAL ITEM SCORES-WEIGHTED COHEN’S KAPPA

#### FBA (Items 1-9)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<tbody>
<tr>
<td>Kappa</td>
<td>0.82</td>
<td>0.57</td>
<td>0.76</td>
<td>0.85</td>
<td>0.86</td>
<td>0.88</td>
<td>0.63</td>
<td>0.70</td>
<td>0.87</td>
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#### BIP (Items 10-18)

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<tr>
<th></th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
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<th>18</th>
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<tbody>
<tr>
<td>Kappa</td>
<td>0.98</td>
<td>0.65</td>
<td>0.57</td>
<td>0.78</td>
<td>0.68</td>
<td>0.73</td>
<td>0.97</td>
<td>0.87</td>
<td>-0.03*</td>
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*BIP Item 9 (Fidelity)-no variability in data (e.g., almost 100% of BIPs scored 0).*

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<thead>
<tr>
<th></th>
<th>ICC</th>
<th>Lower</th>
<th>Upper</th>
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<tbody>
<tr>
<td>FBA</td>
<td>0.92**</td>
<td>0.85</td>
<td>0.96</td>
</tr>
<tr>
<td>BIP</td>
<td>0.93**</td>
<td>0.86</td>
<td>0.96</td>
</tr>
<tr>
<td>TOTAL</td>
<td>0.94**</td>
<td>0.88</td>
<td>0.97</td>
</tr>
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</table>
VALIDITY

• Convergent Validity—degree to which two measures of theoretically related constructs are in fact related

• Behavior Support Plan Quality Evaluation (BSP-QE; Browning Wright, Mayer, Cook, Crews, Kraemer, & Gale, 2007) used as other measure

• Two graduate assistants, (School Psychology, Applied Behavior Analysis) were trained and reached IRR scoring BSP-QEs

• After achieving >80% IRR on BSP-QE, randomly selected 30 FBA/BIPs scored by the TATE to be evaluated with the BSP-QE
VALIDITY RELATED CORRELATIONS BETWEEN TATE AND BSP-QE SCALES (N = 30)

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</thead>
<tbody>
<tr>
<td>1. TATE Mean Score</td>
<td>0.862**</td>
<td>0.868**</td>
<td>0.427*</td>
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<tr>
<td>2. TATE FBA Mean Score</td>
<td>0.507**</td>
<td>0.231</td>
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<tr>
<td>3. TATE BIP Mean Score</td>
<td></td>
<td></td>
<td>0.491**</td>
<td></td>
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<tr>
<td>4. BS-QE Mean Score</td>
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</table>

*Note.* *p* < .05, **p* < .01; N = 30 TATE FBA = Technical Adequacy Tool for Evaluation-Functional Behavior Assessment Scale; TATE BIP = Technical Adequacy Tool for Evaluation-Behavior Intervention Plan Scale; BSP QE = Behavior Support Plan Quality Evaluation

**Cohen's scale for effect sizes: small = 0.10-0.23; medium = 0.24-0.36; large = >0.36**
## TATE RESULTS FROM FLORIDA FBA/BIPS- OVERALL

<table>
<thead>
<tr>
<th>TATE Scale</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<tbody>
<tr>
<td>FBA Scale</td>
<td>143</td>
<td>52%</td>
<td>.15</td>
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<tr>
<td>BIP Scale</td>
<td>135</td>
<td>41%</td>
<td>.15</td>
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<tr>
<td>Total FBA/BIP</td>
<td>135</td>
<td>47%</td>
<td>.12</td>
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<tr>
<td>Component/Item</td>
<td>Mean (0-2)</td>
<td>Standard Deviation</td>
<td></td>
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<tr>
<td>----------------------------------------------------</td>
<td>------------</td>
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<tr>
<td>1. FBA Sources</td>
<td>1.47</td>
<td>.68</td>
<td></td>
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<tr>
<td>2. Operational Definition</td>
<td>1.49</td>
<td>.50</td>
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<tr>
<td>3. Baseline Data</td>
<td>0.95</td>
<td>.66</td>
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<tr>
<td>4. Setting Events</td>
<td>0.35</td>
<td>.56</td>
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<tr>
<td>5. Antecedents Problem Behavior</td>
<td>1.19</td>
<td>.60</td>
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<tr>
<td>6. Antecedents-Absence of Problem Behavior</td>
<td>0.49</td>
<td>.74</td>
<td></td>
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<tr>
<td>7. Consequences</td>
<td>0.79</td>
<td>.79</td>
<td></td>
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<tr>
<td>8. Hypothesis Statement</td>
<td>1.08</td>
<td>.51</td>
<td></td>
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<tr>
<td>9. Valid Function</td>
<td>1.48</td>
<td>.66</td>
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<tr>
<td>Component</td>
<td>Mean (0-2)</td>
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<tr>
<td>-----------------------------------------------------</td>
<td>------------</td>
<td>--------------------</td>
<td></td>
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<tr>
<td>10. Timeline</td>
<td>1.54</td>
<td>.84</td>
<td></td>
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<tr>
<td>11. Hypothesis Match</td>
<td>1.33</td>
<td>.84</td>
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</tr>
<tr>
<td>12. Prevent/Antecedent Strategy</td>
<td>0.72</td>
<td>.62</td>
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<tr>
<td>13. Teach (Replacement behavior) Strategy</td>
<td>0.84</td>
<td>.53</td>
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<tr>
<td>14. Reinforce Strategy</td>
<td>0.69</td>
<td>.56</td>
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<tr>
<td>15. Discontinue Reinforcement Problem Behavior Strategy</td>
<td>0.46</td>
<td>.66</td>
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<tr>
<td>16. Crisis Plan</td>
<td>0.88</td>
<td>.91</td>
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<tr>
<td>17. Progress Monitoring</td>
<td>0.85</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>18. Fidelity</td>
<td>0.09</td>
<td>.31</td>
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</tbody>
</table>
Take out your scoring tool and rubric
ESSENTIAL COMPONENTS OF FBA/BIPS

1. Input obtained from multiple sources
2. Problem behavior that is the focus of the FBA is identified and defined in measurable terms
3. Baseline data is provided on the identified problem behavior
4. Setting events are considered and identified if pattern of predictability is present
5. Antecedent events triggering problem behavior are identified and described adequately
6. Antecedent events present when no problem behavior occurs are identified and described adequately
7. Responses made by others following the problem behavior are identified and described adequately
8. Hypothesis statement is written and uses the information from the FBA
9. Function in hypothesis is valid (negative or positive reinforcement - i.e., escape/avoid/delay; access/obtain)

10. BIP is developed in timely manner after FBA

11. Hypothesis from FBA is included or referenced in BIP

12. A minimum of one antecedent strategy is described that links with the hypothesis and provides enough detail so that it would be implemented consistently each day by multiple people

13. A minimum of one teach (functionally equivalent replacement behavior/alternate skill) strategy is described that links with the hypothesis and provides enough detail so that it could be implemented consistently each day by multiple people

14. A minimum of one reinforcement strategy is described that links with the hypothesis (provides the function and provides enough detail so that it could be implemented consistently each day by multiple people)

15. A minimum of one strategy that changes the response after problem behavior is present, is linked with the hypothesis and provides enough detail so that it could be implemented consistently each day by multiple people.

16. A crisis plan was considered and if necessary, is described in enough detail so that it could be implemented consistently each day by multiple people.

17. An evaluation plan for determining effectiveness is described

18. A plan for measuring fidelity is described
PRACTICE TIME
STRUCTURED GROUP ACTIVITY

• Individually - Read the FBA and BIP Example –
  • As a group, we will do scoring together.
  • We will review 3 components at a time
  • You will determine score that best reflects the information provided
  • We will ask you for your score.
  • You will show your score by raising the card that contains the score you gave the item (i.e., 0, 1, 2)
  • Discussion/Reflection
  • We will continue this sequence until all 18 items are scored
SCORING TIPS

• Scoring Tips
  • Use rubric examples to guide your scoring
    • Match your item with the closest example given on rubric
  • If uncertain of score, decide on one of two strategies:
    • Alternate scoring: First time, give credit for higher score, second time-give credit for lower score
    • or
    • Always give credit for the higher score
DEBRIEF

• What did you like?
• What did you dislike?
• What was easy?
• What was difficult?
• What questions do you still have?
LOOKING AT THE FBA/BIP EXAMPLE MODIFIED TO BE TECHNICALLY ADEQUATE

SCORING OF TECHNICALLY ADEQUATE FBA/BIP
QUESTIONS?