DIRECT BEHAVIOR RATINGS
THE NEW EMERGING ALTERNATIVE

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A “Brief” Background

- Education in America – The Challenge of a “Fair and Free” public education
- The “Solution” Part 1 - A factory based approach
  - What this does well – effective education for the 60-80% of children
  - What this does poorly – effective education for the rest of kids
A “Brief” Background Continued...

- The “Solution” Part 2 – The quest for the right way to teach
  - Who this might work for?
    - 60-80% of children
  - What this will not work for
    - Effective education for the rest of kids
- The “Solution Part 3 – Data driven education...
The never ending brief background...

- Data Driven Education
  - Use outcome data to validate if an educational approach is working
  - For this to work – there must be a steady stream of outcome data and a manner in which to analyze

- How widespread is this?
  - Models of data driven approach (e.g. Response to Intervention and Positive Behavior Interventions and Supports) have been mandated in two states (Florida and Illinois) and many states are not far behind.
The current dilemma for educational professionals

1) Problem Solving Models (RTI or PBS) essentially mean interventions for everyone in need

2) No Child Left Behind and IDEIA mandate accountability, or that we have defensible outcome data on all interventions

3) Traditional models have been focused on spending a great deal of time coming up with recommendations about a child's needs
   - Assessment orientation – Hours of assessment and report writing followed by meeting time
   - Traditional Consultation orientation – A number of consultation sessions allowing a consultee to come up with intervention ideas
An Efficient Problem Solving Process

- Thus, it is even more critical for the problem solving process to be highly efficient.
- How close are we to an efficient school-wide problem solving model?
  - We have the interventions
  - We have the academic assessment methods
  - We have the intervention methodology

- But...we are missing a significant piece of the puzzle — Social Behavior Assessment Methods
Formative Assessment

- Direct academic assessment
  - Proposed in the early 1980s by Stan Deno from the University of Minnesota.
  - Based on taking many short samples (1-2 min) of academic performance in a standard format then graphing the outcome data.
  - In the last three decades there have been hundreds of articles, book and software programs based on this class of assessment.
- What about behavior assessment?
Behavior Ratings Scales or Systematic Direct Observation?

- **Behavior Rating Scales**
  - Good at establishing ratings of generalized states of behavior but not built to be responsive to change
    - “He is a hyperactive child”
  - Problem – we know behavior changes based on environment

- **Systematic Direct Observation**
  - Excellent at establishing exactly what happened in the observation period
    - “He was of-task for 12 of 20 intervals observed”
  - Problem – as behavior changes, knowing what happened in one observation does not give us an idea of what will happen next
An emerging alternative to behavior rating scales, systematic direct observation and to informal observations is direct behavior ratings (DBR) which combines the advantages of both.
A Simple Starting Point...

- What do teachers do?
  - Home-School Note
  - Behavior Report Card
  - Daily Progress Report
  - Good Behavior Note
  - Check-In Check-Out Card
  - Performance-based behavioral recording

(Riley-Tillman, Chafouleas, & Briesch, 2007)
Who already uses Daily Behavior Report Cards?

- 60% of teachers surveyed already use DBRCs to change student behavior
- 32% to monitor or observe student behavior
- 81% to identify positive behaviors, 77% to identify negative behaviors
- 86% use with individual students, 19% with whole class, 9% with small groups
- 32% use DBRCs “routinely” as part of classroom management plan

(Chafouleas, Riley-Tillman, & Sassu, 2006)
A New Class of Assessment - Direct Behavior Ratings

- Refer to a hybrid of assessment tools that combine characteristics of systematic direct observation and behavior rating scales.

- These tools are designed to be used in a formative (repeated) fashion to represent behavior that occurs over a specified period of time (e.g., 4 weeks) and under specific and similar conditions (e.g., 45 min. morning seat work).

- Using these tools requires rating target behavior on a scale (e.g., rating the degree to which Johnny was actively engaged.)

- So, teachers might be asked to rate on a scale from 1 (not at all) to 10 (always) the degree to which Johnny was actively engaged in work activities during independent seat work this morning.
Direct Behavior Ratings

- **DBR: Direct**
  - The direct component of the measure implies that the observation and rating occur at the time and place that behavior occurs (Christ, Riley-Tillman, & Chafouleas, 2009).

- **DBR: Behavior**
  - The behavior component of DBR establishes that target behaviors must be clearly defined or operationalized to minimize confusion for the rater and internal validity.

- **DBR: Rating**
  - The rating component of DBR establishes that the rater’s perceptions are recorded in a standardized manner.
**Standard DBR - SIS**

**DBR Form:**

- **Date:**
- **Student:**
- **Autism Description:**

**Observation Time:**

- **Start:**
- **End:**

- **Check if no observations today:**

**Behavior Description:**

Academically engaged is actively engaged and participating in the classroom activity. For example, writing, reading, following instructions, asking a question, listening to the teacher, completing tasks, or listening to instructional material.

Disruptive behavior is defined as unusual and inappropriate behaviors that interfere with the learning environment or classroom setting. For example, out of place, talking out of turn, interfering with tasks, exhibiting disruptive behavior, or otherwise behaving in a manner that is not consistent with classroom norms.

- **If done:**

**Directions for Using a Direct Behavior Rating (DBR):**

**What is a DBR?**

- DBR is a tool that monitors a child's behavior during a specified period of time (e.g., a session of a group activity).
- It allows for the assessment of behavior in context.
- It provides a way to observe and record behavior in a structured manner.

**Step 1:**

- Complete all observations, including noting the observation period.

**Step 2:**

- Check the description for academic or disruptive behaviors.

**Step 3:**

- Decide whether the behavior was observed as academic or disruptive.

**Step 4:**

- Complete the observation checklist, recording the behavior observed during the observation period.

**Academically Engaged:**

- **% of Total Time:**
  - **0%**
  - **5%**
  - **15%**
  - **50%**
  - **75%**
  - **100%**

**Disruptive Behavior:**

- **% of Total Time:**
  - **0%**
  - **5%**
  - **15%**
  - **50%**
  - **75%**
  - **100%**

**Optimal Behavior:**

- **% of Total Time:**
  - **0%**
  - **5%**
  - **15%**
  - **50%**
  - **75%**
  - **100%**

**Examples:**

**Academically Engaged:**

- Mr. Smith is noting the % of total time that John was academically engaged during math activities (10-10:45am).
- John displayed a significant % of the total observation period.

**Disruptive Behavior:**

- Mr. Green is noting the % of total time that John displayed disruptive behavior. John displayed disruptive behavior during 45% of the total observation period.

**Optimal Behavior:**

- Mrs. Johnson is noting the % of total time that John displayed optimal behavior. John displayed optimal behavior during 60% of the total observation period.

**Notes:**

- [Notes or comments can be added as needed.]
What behaviors are rated?

**Academic Engagement:**
Actively or passively participating in the classroom activity.

**Compliance/Respect:**
To initiate/complete a response to an adult request in a timely and socially acceptable manner.

**Disruptive Behavior:**
A student action that interrupts regular school or classroom activity.

*Working Risk-Resilience Model for School-Based Behavior*
The Thorny Issue

- Are DBRs a reliable and valid measure of social behavior?
  - Do they concur with measures like SDO and BRS when appropriate?
  - Are they sensitive to change?
  - What about the details?
    - Behavior
    - Duration of Observation
    - Training
    - Scaling
    - And on and on....
2000 – 2005

Daily Behavior Report Cards
Good Bad or In Between
Chafouleas, Riley-Tillman, & McDougal, 2002

□ A review article of “Daily Behavior Report Cards”
□ Highlighted the communication and intervention applications
□ Suggested an assessment application
  ▪ Postulated a framework for using DBRC as a formative assessment measure
□ Started the ball rolling in terms of DBRC assessment research
Initial Studies and Findings

- What do Daily Behavior Report Cards (DBRCs) measure? An initial comparison of DBRCs with direct observation for off-task behavior (Chafouleas, McDougal, Riley-Tillman, Panahon, & Hilt, 2005)
  - Results suggested a moderate association between teacher perceptions of behavior as measured by DBRC ratings and direct observation conducted by an external observer.

- An analysis of the similarity of Direct Behavior Ratings and Systematic Direct Observation for off-task and disruptive behaviors (Riley-Tillman, Chafouleas, Sassu, Chanese, & Glazer, 2008)
  - Replication which again suggested a moderate association between teacher perceptions of behavior as measured by DBRC ratings and direct observation conducted by an external observer.
Initial Studies and Findings

- Acceptability and reported use of Daily Behavior Report Cards among teachers (Chafouleas, Riley-Tillman, & Sassu, 2006)
  - Results provide support to previous claims that the DBRC is both a used and accepted tool in practice

- The consistency of Daily Behavior Report Cards in monitoring interventions (Chafouleas, Riley-Tillman, Sassu, LaFrance, & Patwa, 2007)
  - Results suggested similar conclusions might be drawn when visually examining data collected by an external observer using either systematic direct observation or a DBRC
The End of the DBRC Line

- A school practitioner’s guide to using Daily Behavior Report Cards to monitor interventions (Riley-Tillman, Chafouleas, & Briesch, 2007)
  - The first “how to” guide for applied practitioners
  - Focused on the procedures and instrumentation for assessment applications of DBRC
2005 – 2010

Direct Behavior Report Cards
A systematic line of empirical research on DBRs continues through an IES-funded Goal 5 grant (Project VIABLE: R324B060014).

Goals involve development of DBRs for use in progress monitoring through three phases of investigation including
- 1) foundations of measurement
- 2) decision making and validity
- 3) feasibility
Current Research Focuses

- Examining
  - Scaling Issues
    - e.g. 3, 5, 7, 10, 20 and 100 gradients, continuous line, etc.
  - Target Behavior
    - Positive/negative wording, specificity level, specific behaviors, etc.
  - Rater Influence
    - Anchoring, rank order, etc.
  - The Impact of Training
    - Increasing accuracy, types of training, etc.
- Other Applications
  - For example, screening or classwide assessment
Recent DBR Journal Publications (since 2009)


Sample Studies


DBR Training Study 1

- Does Training with Practice/Feedback Help
- 59 undergraduate raters
- 2 behaviors
  - On-Task and Visually Distracted
- 2 conditions
  - Training (practice ratings with feedback)
  - Brief Training (overview with no practice)
- Four 18 1-minute clips viewed
Using Traditional Difference Scores

- An independent samples t-test assuming unequal variances was calculated for each behavior. Trained participants’ DBR ratings were found to be significantly more accurate than briefly familiarized participants’ DBR ratings for both behaviors.

- Standard deviations were calculated for each behavior. There was less variability among the trained participants’ DBR ratings than the briefly familiarized participants’ DBR ratings for both behaviors.
Other accuracy calculations

- Traditional use of difference scores (Observed score - True score)

- Limitations:
  - Fails to take into account the fact that some raters rate everyone in a more extreme fashion (i.e. higher, lower) than other raters
  - Raters penalized for their use of the scale—not for how well they can discriminate among instances of behavior
DBR Training Study 1

- Key point from other studies
  - DBR data is specific to a rater at the initial anchoring, but then seems to follow the behavioral pattern from their
  - In other words, while we don’t get initial true agreement, rank order does not shift over observation.
DBR Training Study 1

Figure 1. This line graph illustrates the mean DBR ratings for the visually distracted behavior that were completed by 26 formally trained participants.

Figure 2. This line graph illustrates the mean DBR ratings for the visually distracted behavior that were completed by 33 briefly familiarized participants.

*Each participant's mean rating is a line on a continuous scale (0-100 mm) as a function of the 4 students in the video clips. Students are labeled 1 through 4.*
Conclusions

- Findings suggest that training of raters in the use of DBRs may be necessary to ensure accurate ratings of student behavior.
  - Both within rater and across raters
- Results provide support for the necessity of investing time and funds for a formal, 30 minute, interactive DBR training that utilizes practice video clips of target behaviors.
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DBR Classwide Case Study

- While there has been a good deal of DBR development at the level of the individual child, formative data must also be available at different levels (e.g. individual, small group, and class) to facilitate decisions about student responsiveness.

- In reference to social behavior, one of the most prevalent classwide measures is the use of Office Discipline Referrals (ODRs)
  - ODRs have been shown to be useful for educational decision making when used correctly.
  - Unfortunately, ODRs do have some significant limitations.
    - Only focus on negative behaviors
    - Only register at the level of a significant behavior problem
DBR Classwide Case Study - Purpose

- Considering the importance of classwide and group-wide intervention in a problem solving model, it is essential that feasible assessment methods are developed and appropriately validated.

- The purpose of this case study is to examine the use of DBR methodology concurrently with SDO for the monitoring of a classwide intervention.
DBR Classwide Study - Methods

- First-grade reading class with 14 children (6 boys and 8 girls) and a teacher with five years of teaching experience

- B-A-B-A Design
  - Independent Variable
    - Teacher modeling of appropriate silent reading behavior including verbal prompting
      - This intervention has resulted in increased on-task behavior in previous research (Methe & Hintze, 2003)
  - Dependent Variables
    - Classwide on task behavior measured by SDO (trained observer) and DBR (teacher)
      - Collected for 3 sessions per phase
Results – B-A-B-A Graph

Intervention

Withdrawal

Intervention

Withdrawal

SDO

DBR
Results – Level and Variability

- SDO and DBR are quite consistent
  - Phase means are consistent within 8% (ranging from 2-8%)
  - Percent of Nonoverlapping Datapoints (PND) are consistent 2 of 3 opportunities
  - Percent of Datapoints Exceeding the Median (PEM) are fully consistent
Results - Benchmarks

- Pre intervention classwide on task behavior ranged from 36% to 50% with a mean of 43%.

- A series of benchmarks (55%, 60% and 65%) defining levels (moderate, large and very large) of classwide response to intervention were developed.

- Cohen’s Kappa (1960) statistics were calculated measuring the agreement of the two data sources into two mutually exclusive categories (above or below the target benchmark).

  - The resulting statistics were $K = 0.657$ for the 55% benchmark, $K = 0.657$ for the 60% benchmark, and $K = 0.798$ for the 65% benchmark.

  - Using Landis and Koch’s (1977) interpretation guideline for $K$, these results fall in the substantial agreement range.
Results – Evidence of an Intervention Effect

- Both data sources suggest that such a relationship is supported by the outcome data.
  - Horner and colleague (2005) suggest a method for establishing the presence of a functional relationship by examining the SCD for three demonstrations of experimental effects.
  - Using this method to examine the current case study experimental effects can be observed in the B1-A1 phase, A1-B2 phase and B2-A1 for both SDO and DBR outcome data.

- This similarity is critical in that both data sources, if analyzed accurately, should result in the same conclusion that a functional relationship exists between the intervention and the target behavior.
DBR Classwide Case Study - Discussion

- This case study presents a unique application of DRB technology which supports future research examining DBR group assessment.

- This case study should stimulate future analysis on classwide applications of DBRs.
  - Future studies should systematically replicate this case study with multiple raters, target behavior, and settings.
  - If the results of such future research continue to be supportive of the use of DBR at the classwide level, a highly useful method of formative assessment in applied settings incorporating a schoolwide problem solving model would be added to the toolbox of practitioners functioning in schoolwide problem solving models.
DBR Line What have we learned

- Procedures Matter
- Scaling Matters
- Behavior Matters
- Rater Matters
- Training Matters

- There is a considerable amount of work to be done to increase our understanding of the instrumentation and procedures of DBR as well as exploring potential applications
Research Current and Future Directions

- DBR - BASIS

  - A web-based application will serve to increase utility of the DBR in behavioral assessment given ease of data entry, analysis, and presentation.
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  - Training for accuracy
  - Analysis of the utility of BASIS
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Research Extensions

- Reading Comprehension (Shapiro, Riley-Tillman & Chafouleas)
- Healthy Weight DBR (Newman, Lutes, Riley-Tillman)
- What is the rating? (Bowler, Riley-Tillman & Chafouleas)
- ADHD
  - IEP Management (Fabiano)
  - Medication Monitoring (Music, Riley-Tillman, Eckert, McCammon)
- Suicide Assessment DBR (Tomasula, Riley-Tillman, Eckert and Littleton)
DBR and Adolescent Suicide

- While 76.5% of high school systems in the United States have implemented suicide prevention programs (Kann, Telljohann, & Wooley, 2007), it remains unclear whether present programs effectively identify those at risk of engaging in suicidal behaviors (Berman, 2009; Miller, Eckert, & Mazza, 2009).

- Present methods of school-based suicide risk assessment:
  - Gatekeeper training
  - Curriculum-based programming
  - Student self-report screening programs
  - Postvention activities

- Each current method of suicide prevention lacks the ability to briefly measure and monitor student suicidality over time.
DBR and Adolescent Suicide

- Currently, there are no evidence-based prevention programs that formatively measure suicidal behavior or utilize outcome data to monitor students deemed at-risk (www.nrepp.samhsa.gov).

- Given that feasibility and acceptability often thwart suicide prevention work, school personnel and students may be more likely to report suicidality using a familiar assessment method.
Applied Directions

Direct Behavior Ratings
Assessment - Communication - Intervention
www.directbehaviorratings.com/index.html

Direct Behavior Ratings
Allows for feasible and effective assessment of behavior

"I was surprised at how easy it was to complete the Direct Behavior Rating form. This information is really valuable in helping me understand what’s happening in my classroom." Sue, Kindergarten Teacher

What is Direct Behavior Rating (DBR)?
DBR involves rating of behavior following a specified observation period, and then storing or using this information to inform decisions, as an example, a teacher might use DBR to rate how well students self-manage as they play, then teacher might share these ratings with students and also as part of the intervention, or in a consequence (e.g., class rule/behavior rating). DBR can also be used to support planning (e.g., self-management, behavior-oriented), as well as the classroom for teaching information about behavior strengths over time (e.g., monitoring effects of mediation for AOD). Other common terms for DBR focus include home-school, academic, behavior, behavior report, etc.

Why use Direct Behavior Rating?
DBR can facilitate communication among students, parents, and teachers because ratings can provide a simple, inexpensive, and flexible way to provide frequent feedback about behavior. DBR is also supporting an alignment between data collection and intervention - DBR can serve both purposes. For example, DBR can be used to monitor behavior in the classroom as intervention while at the same time serving as an Intervention tool to teach and self-monitoring for students regarding intervention.

DBR for Assessment:
DBR use in assessment provides information to evaluate a student’s behavior and guide decisions relating to behavior supports. For instance, a DBR may be used to answer the question, "What percentage of time is a student disruptive during math class?" or "What percentage of the time is student compliant with adult instructions?"

How can I use a DBR in assessment?
A simple and quick way to complete a DBR form is:

1. Determine the behaviors of interest, either by ranking them among the 10 most disruptive behavior or identifying your own target behavior.
2. Decide how, when, and how often to collect behavior ratings with DBR (e.g., daily, weekly). Ratings can be completed in a matter of seconds.
3. Collect multiple ratings across different situations (e.g., periods, days) and DBR data can be compared.
4. Note any gaps, and evaluate child behavior (see DBR data analysis). Additional Resources:
   - PowerPoint: DBR for Assessment
   - DBR Standard Form Instructions
   - DBR Grading and Intervention
   - Other Resources

DBR for Intervention:
DBR can be used by (e.g., parents, students, staff, administrators) to collect information and assess the effectiveness of an intervention. It is a great tool for everyone because it is quick, flexible, and self-monitoring.
DBR Training for Accuracy

- Access a free online training module to learn more about using DBR to assess behavior. The brief module provides an introduction to DBR, video demonstrations of classroom behavior to illustrate DBR use, and a section to practice and receive individualized feedback on your use of DBR scales.

![Direct Behavior Ratings](image-url)