Direct Behavior Rating: Overview of Use in Assessing Student Behavior within Multi-Tiered Models of Service Delivery

Communication

Assessment

Intervention

Defensible | Flexible

Repeatable | Efficient

www.directbehaviorrating.org

Direct Behavior Rating

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Presentation for RISPA – Nov 2013

Purpose:

- To review critical features of Direct Behavior Rating (DBR) as a flexible, defensible, repeatable and efficient approach to behavior assessment
- To understand how DBR might be applied within multi-tiered models of service delivery (RTI) – assessment for screening and progress monitoring purposes.
- To build skill in using DBR within decision making about student behavior supports.

Purposes of Assessment

- Screening
  - Who needs help?
- Diagnosis
  - Why is the problem occurring?
- Progress Monitoring
  - Is intervention working?
- Evaluation
  - How well are we doing overall?

Emphasized within a Multi-Tiered Service Delivery Framework (RTI)

School-based behavior assessment within RTI

- Current methods of behavior assessment were not built for multi-tiered assessment

- New options must possess four desirable characteristics…

| Defensible | Efficient | Flexible | Repeatable | **Desirable Features** |

(Chafouleas, 2011; Chafouleas, Christ, & Riley-Tillman, 2009; Chafouleas, Volpe, Gresham, & Cook, 2010)

Direct
Behavior
Rating as
an option...

DIRECT BEHAVIOR RATING :
What is DBR?

An <u>emerging alternative</u> to systematic direct observation and behavior rating scales which involves *brief rating* of target behavior following a specified observation period
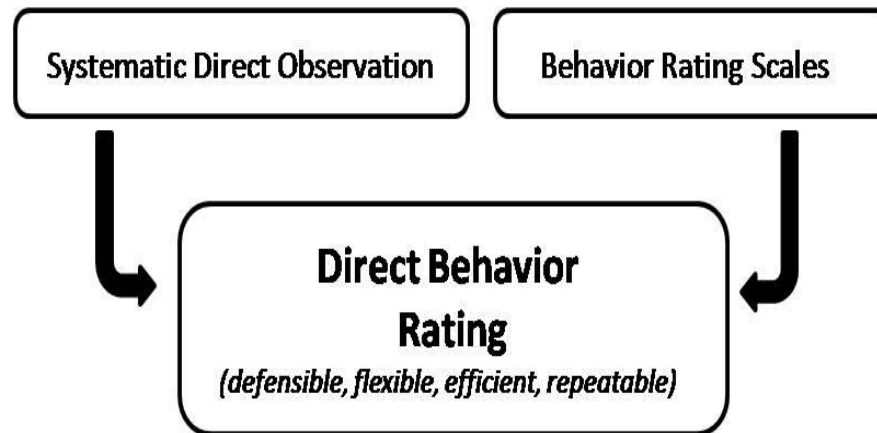
Chafouleas, Riley-Tillman, & Christ (2009); Chafouleas, Riley-Tillman, & Sugai (2007); Chafouleas, Riley-Tillman, & McDougal (2002); Christ, Riley-Tillman, & Chafouleas (2009)

Example Scale Formats for DBR

Single Item Scale

Academically Engaged

% of Total Time

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

0%   50%   100%
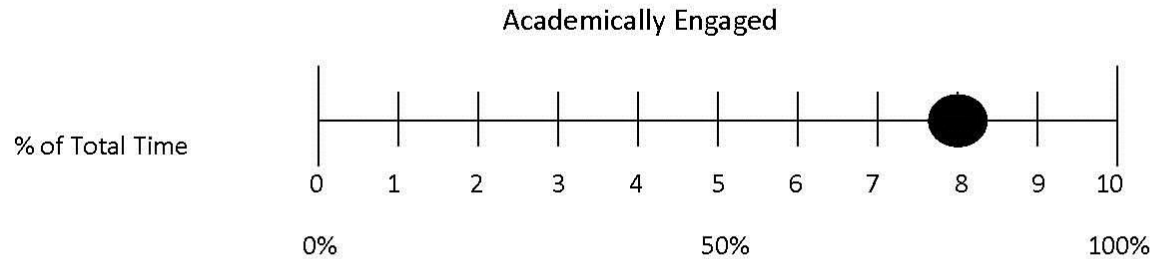
Interpretation: The student displayed academically engaged behavior during 80% of the observation period.

Multi-Item Scale

	Never		Always
Did the student follow class rules?	0	①	2
Did the student follow teacher directions?	0	1	②
Did the student do his/her best work?	0	1	②

Total number of points earned: ____5____

Interpretation: The student earned 84% (5/6) of possible points during the observation period.

A little background…

Other Names for DBR-like Tools:
- Home-School Note
- Behavior Report Card
- Daily Progress Report
- Good Behavior Note
- Check-In Check-Out Card
- Performance-based behavioral recording

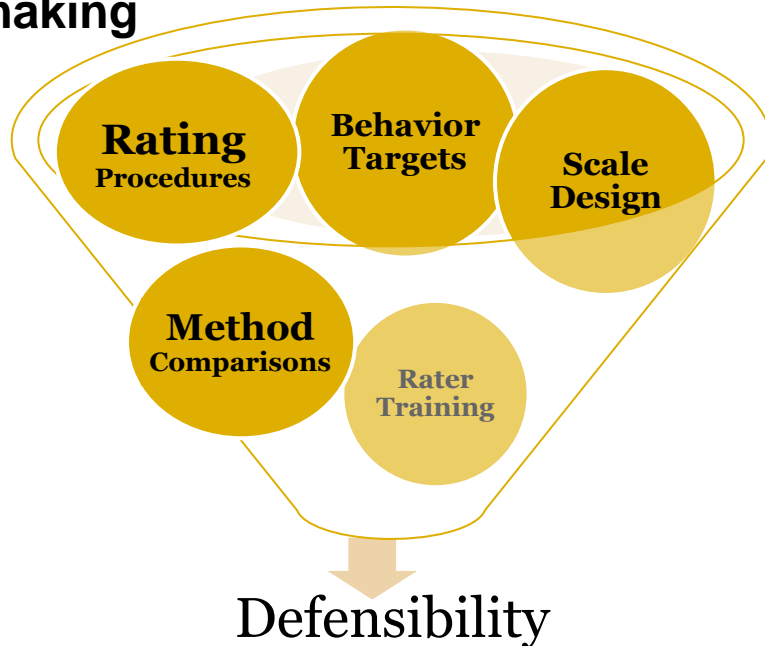**Contemporary Defining Features:**

SDO

BRS
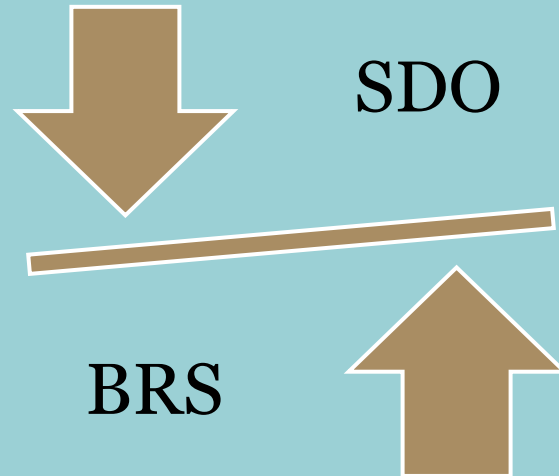
Used repeatedly to represent behavior that occurs over a specified period of time (e.g., 4 weeks) and under specific and similar conditions (e.g., 45 min. morning seat work)
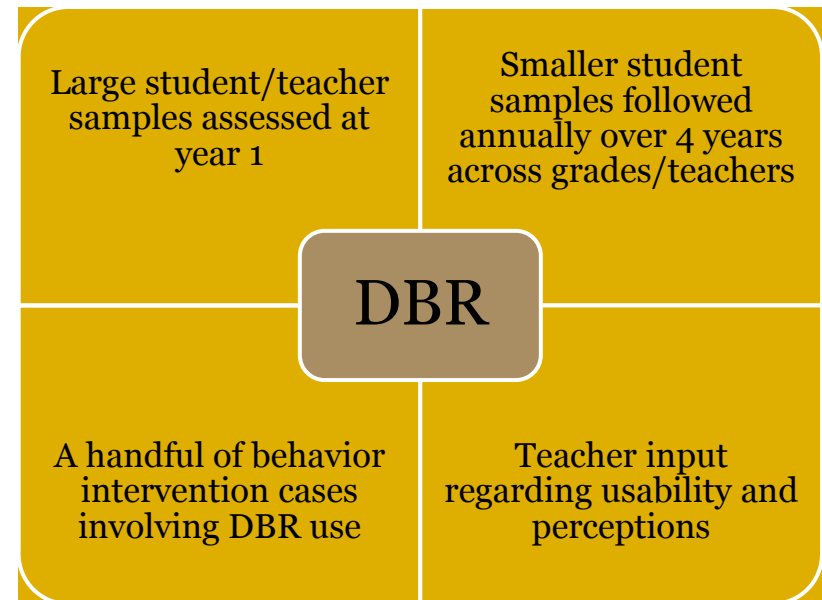
RESEARCH: Project VIABLE (2006-2011) and Project VIABLE II (2009-current)

Develop instrumentation and procedures, then evaluate defensibility of DBR in decision-making

Evaluate defensibility and usability of DBR in decision-making at larger scale

Rating Procedures

Behavior Targets

Scale Design

Method Comparisons

Rater Training

Defensibility

Large student/teacher samples assessed at year 1	Smaller student samples followed annually over 4 years across grades/teachers
DBR	
A handful of behavior intervention cases involving DBR use	Teacher input regarding usability and perceptions

How does DBR work?

DBR Structure: Example scales

Academically Engaged

Place a mark along the line that best reflects the percentage of total time the student was Academically Engaged during math today.

Place a mark along the line that best reflects the percentage of total time the student was academically engaged during math today.

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

0%   50%   100%

Never   Sometimes   Always

Academically Engaged

Circle the number that best represents the student's attention during circle time.

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
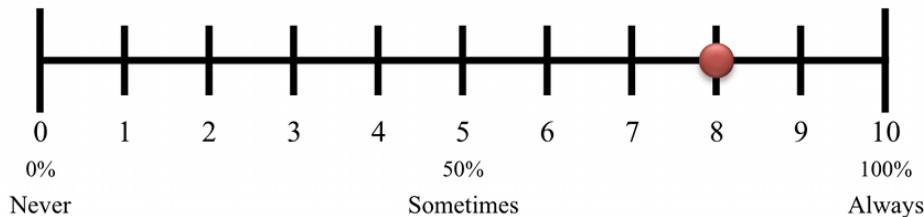
Interpretation: The student displayed *academically engaged* behavior during 80% of large group math instruction today.
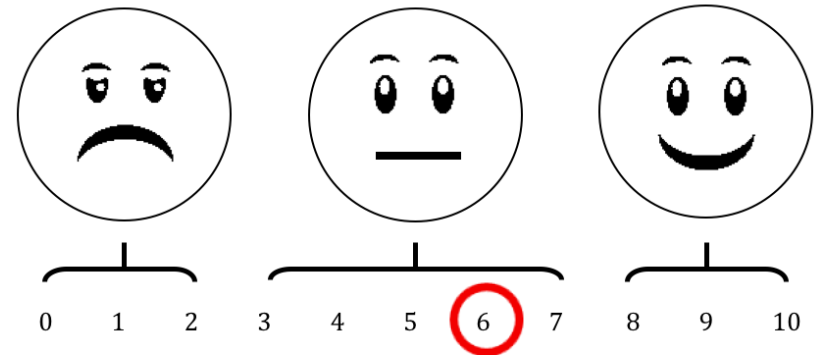
Interpretation: The student received a 6 for *attention* during group circle time activities today.

DBR Targets: "The Big 3" General Outcomes

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

Respectful:
Compliant and polite behavior in response to adult direction and/or interactions with peers and adults.

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

How do I use the DBR scale?

- Ratings should indicate how much you did the behavior.

- *For example*: During Independent Reading, if you paid attention about half of the time, that would be like a so-so face – and you could give a rating of 5.

Academically Engaged
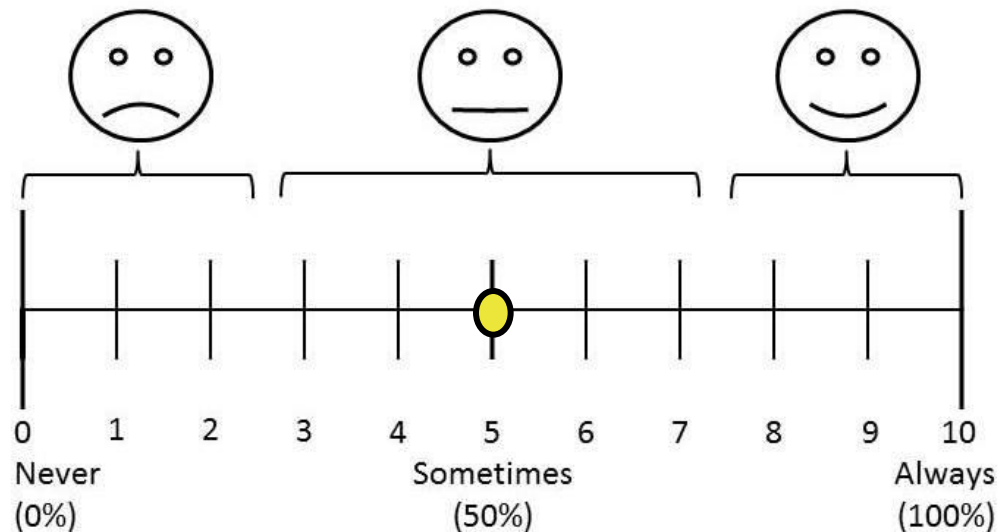
How do I use the DBR scale?

▸ Ratings should indicate how much you did the behavior.

▸ Another way to anchor your rating is to think in terms of Low, Medium, and High.

	Low					Medium					High
	0	1	2	3	4	5	6	7	8	9	10
	Never					**Sometimes**					**Always**

How do I use the DBR scale?

> BEFORE rating, pay attention to the **behavior** <u>and</u> the **scale**.

For example, *lower* score for 'Disruptive' shows better behavior, whereas a *higher* score on the other items indicates better behavior.

Academically Engaged

Disruptive
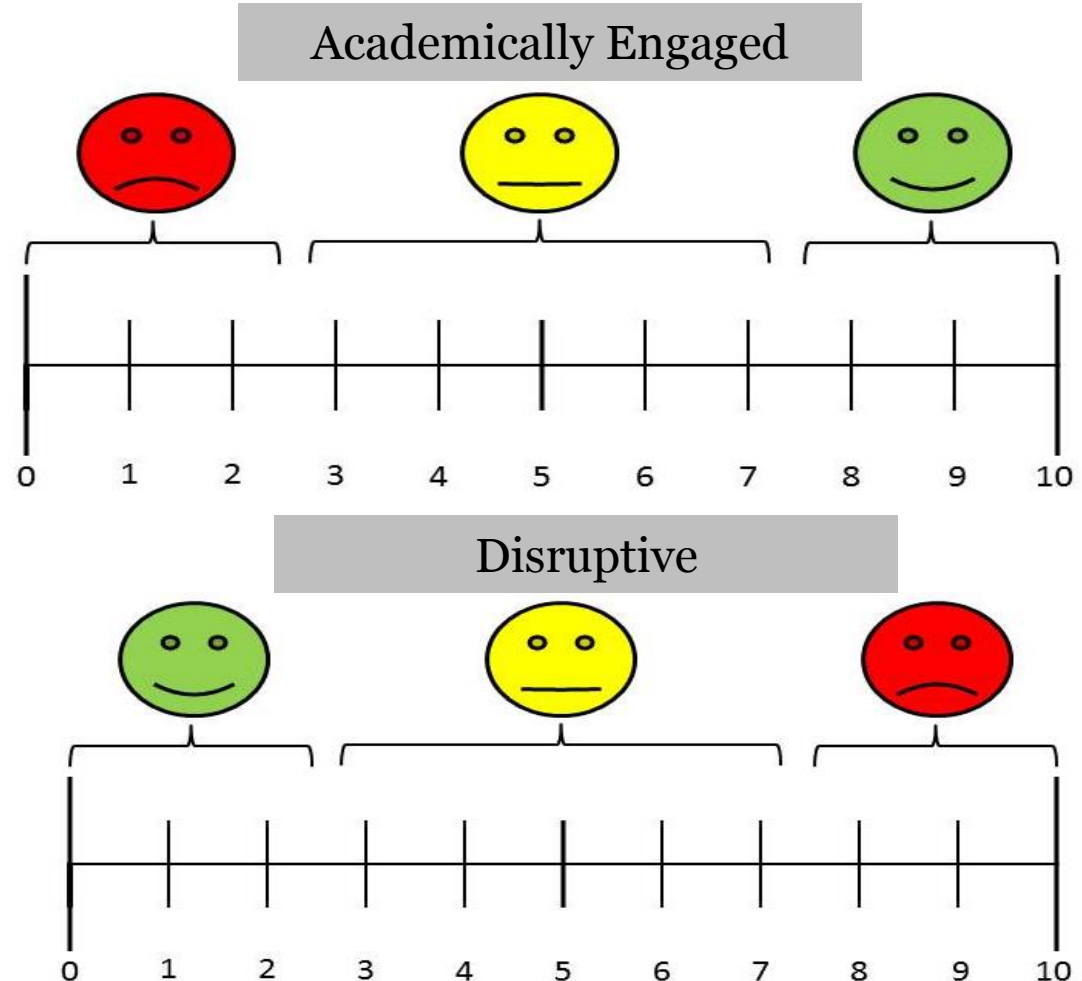
Practice!

But first, a few logistical points to consider…

1) Complete top portion of the form, and review the behavior definitions and rating directions

Direct Behavior Rating (DBR) Form: 3 Standard Behaviors

Date: M T W Th F	Student: Rater:	Activity Description:
Observation Time: Start:_____ End: _____ ☐ Check if no observation today	**Behavior Descriptions:** **Academically engaged** is actively or passively participating in the classroom activity. For example: writing, raising hand, answering a question, talking about a lesson, listening to the teacher, reading silently, or looking at instructional materials. **Respectful** is defined as compliant and polite behavior in response to adult directions and/or peer interactions. For example: follows teacher direction, pro-social interaction with peers, positive response to adult request, verbal or physical disruption without a negative tone/connotation. **Disruptive** is student action that interrupts regular school or classroom activity. For example: out of seat, fidgeting, playing with objects, acting aggressively, talking/yelling about things that are unrelated to classroom instruction.	

2) Have the form ready for completion following each pre-identified observation period

✓ For example: Reading block, independent seat work

3) Immediately following the activity period, complete the ratings.

✓ Only complete the ratings if…

✓ you are confident you directly observed the student for a sufficient amount of time

✓ you are able to complete the form soon after the end of the activity

| Date: M T W Th F	Student: Rater:	Activity Description:
Observation Time: Start: _____ End: _____ ☐ Check if no observation today	Behavior Descriptions: **Academically engaged** is actively or passively participating in the classroom activity. For example: writing, raising hand, answering a question, talking about a lesson, listening to the teacher, reading silently, or looking at instructional materials. **Respectful** is defined as compliant and polite behavior in response to adult directions and/or peer interactions. For example: follows teacher direction, pro-social interaction with peers, positive response to adult request, verbal or physical disruption without a negative tone/connotation. **Disruptive** is student action that interrupts regular school or classroom activity. For example: out of seat, fidgeting, playing with objects, acting aggressively, talking/yelling about things that are unrelated to classroom instruction.	

4) Immediately following the activity period, complete the ratings.

- ✓ Only complete the ratings if…
- ✓ you are confident you directly observed the student for a sufficient amount of time
- ✓ you are able to complete the form soon after the end of the activity

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Let's Practice…

- **<u>Academically Engaged</u>:**
  Participating in the classroom activity.

‣ *Examples*: writing, raising hand, answering a question, talking about a lesson, listening to the teacher, reading silently, or looking at instructional materials.

Following the video, we will rate Jessie's <u>Academically Engaged</u> behavior

How would you rate Jessie's **Academically Engaged** behavior?
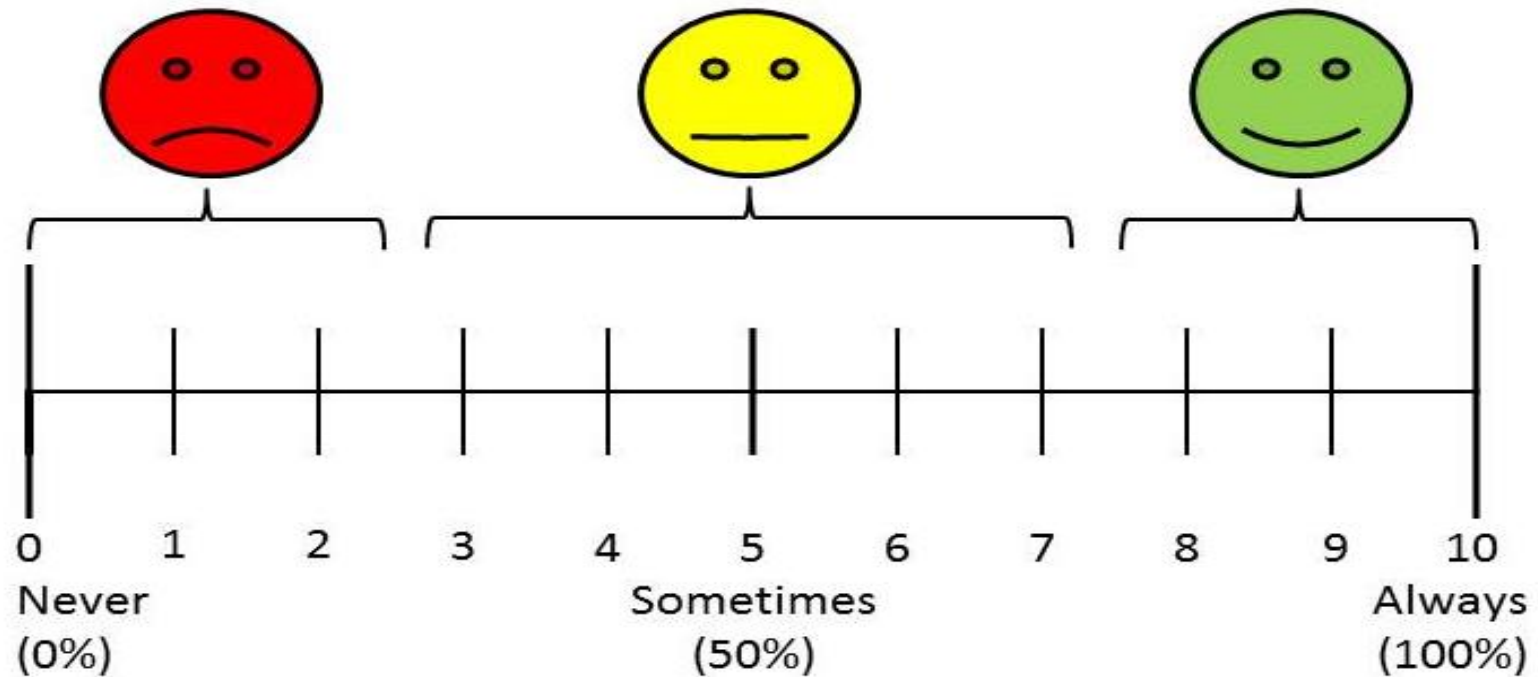
Academically Engaged

Participating in the classroom activity.

For example: writing, raising hand, answering a question, talking about a lesson, listening to the teacher, reading silently, or looking at instructional materials.
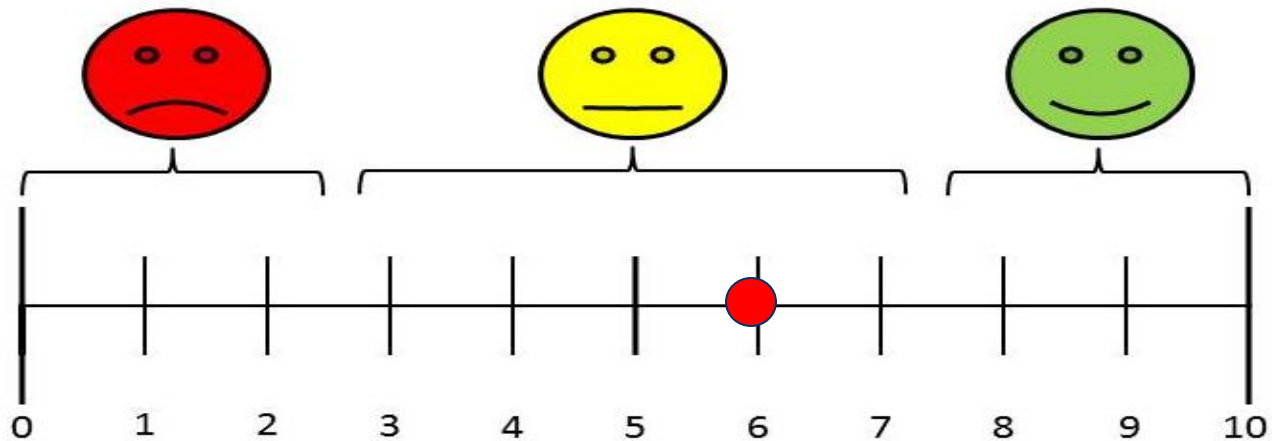
	Low				Medium			High		
0	1	2	3	4	5	6	7	8	9	10
Never	Occasionally		A little less than half the time		Sometimes	A little more than half the time		Very frequently		Always

Let's Practice…

- ## **<u>Disruptive</u>:**
  Action that interrupts regular school or classroom activity.

  ▸ *Examples*: out of seat, fidgeting, playing with objects, acting aggressively, talking/yelling about things that are unrelated to classroom instruction.

Following the video, we will rate Tyler's Disruptive behavior

How would you rate Tyler's **Disruptive** behavior?
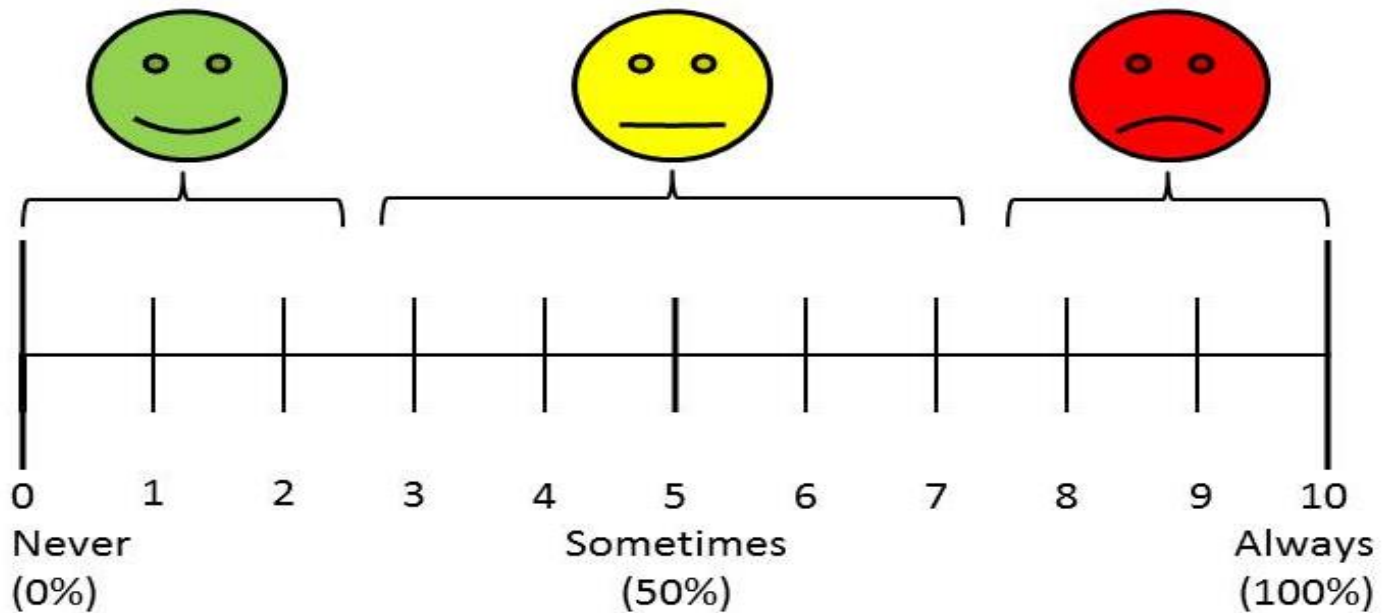
Disruptive

Action that interrupts regular school or classroom activity.

For example: out of seat, fidgeting, playing with objects, acting aggressively, talking/yelling about things that are unrelated to classroom instruction.
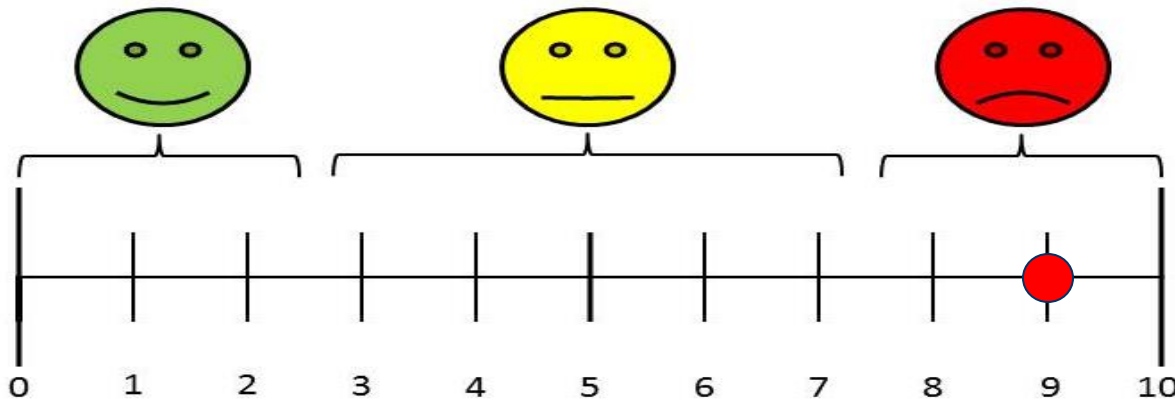
Low			Medium				High		
0	1	2	3	4	5	6	7	8	9	10
Never	Occasionally		A little less than half the time		Sometimes	A little more than half the time		Very frequently		Always

Practice... Questions and Comments?

Visit the On-Line Training Module

Applications for DBR-SIS across Tiers for Screening and Progress Monitoring

Tier 3 (5%)
Multi Method using SDO, DBRs and/or Rating Scales

Tier 2 (15%)
Direct Behavior Ratings and Extant Data

Tier 1 (80%)
Extant Data and Direct Behavior Ratings
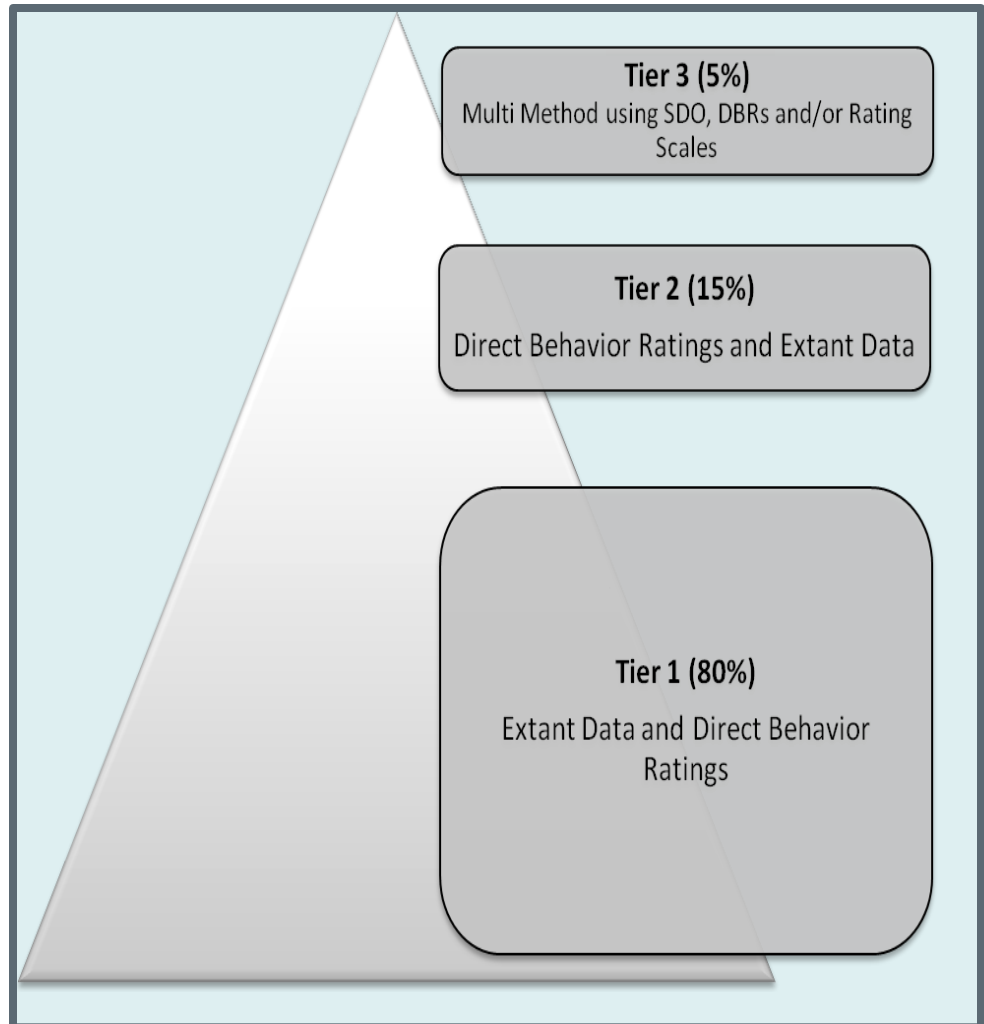
Screening...

Goal for Screening... **Correct** Identification of Students in Need
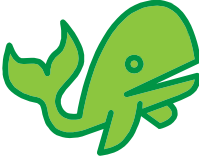
		Condition (as determined by "Gold standard")		
		Condition Positive	Condition Negative	
Test Outcome	Test Outcome Positive	**True Positive**	**False Positive** (Type I error)	**Positive predictive value** = $\dfrac{\Sigma \text{ True Positive}}{\Sigma \text{ Test Outcome Positive}}$
	Test Outcome Negative	**False Negative** (Type II error)	**True Negative**	**Negative predictive value** = $\dfrac{\Sigma \text{ True Negative}}{\Sigma \text{ Test Outcome Negative}}$
		Sensitivity = $\dfrac{\Sigma \text{ True Positive}}{\Sigma \text{ Condition Positive}}$	**Specificity** = $\dfrac{\Sigma \text{ True Negative}}{\Sigma \text{ Condition Negative}}$	

Figure Source: http://en.wikipedia.org/wiki/Sensitivity_and_specificity

Preliminary Research to Identify Individual Student Risk

- Promising results for use of DBR-SIS data to inform screening decisions.

- Focus was on each individual DBR-SIS target, or within a gated approach.

- Overall DBR-SIS diagnostic accuracy was consistently in the moderate range.

  - AE performed consistently well, particularly in higher grade levels.

  - DB performed well in lower grades. Performance in advanced grades varied.

Early Elementary
- DB 2

Late Elementary
- AE 8

Middle
- AE 8
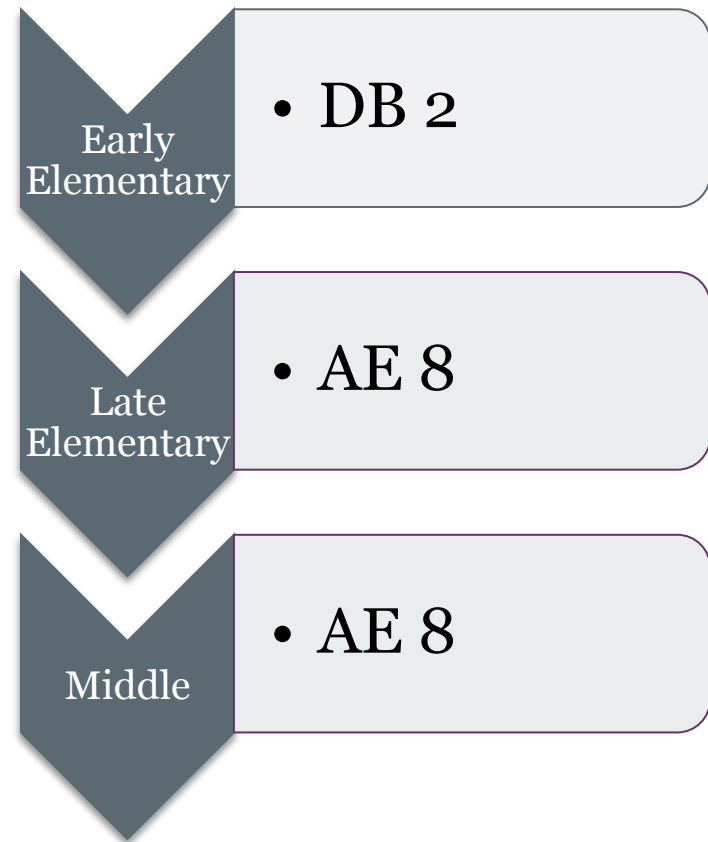
Current Directions

- **Replication of findings** –

  ▫ do we see the same patterns in larger, more diverse samples?

- **Time-specific cut scores** –

  ▫ do risk scores vary across the school year and by grade?

- **Number of screenings needed** –

  ▫ do we need to screen 3x per yr?

- **Strength of approach** –

  ▫ is information consistent across a wider range of grade levels, and is it sufficiently strong for decision making?

VIABLE-II – Year 1 Data

Johnson, Miller, Chafouleas, Welsh, Riley-Tillman, & Fabiano (in prep)

- <u>Sample</u>: Approximately 1800 public-school students enrolled in 192 classrooms in CT, MO, NY
  - lower elementary (1st and 2nd),
  - upper elementary (4th and 5th)
  - middle school (7th and 8th)
- <u>Procedures</u>: teacher rated 3x points over school year
- <u>Conclusion</u>: Time point and grade can vary findings.
  - In Lower Elementary, AE best balance across time.
  - In Upper Elementary, DB best balance during fall and winter but spring AE or DB maybe.
  - For Middle School, AE best balance for fall, but mixed for AE/DB in winter and spring.
- <u>Implication</u>: What happens when you combine scores?

Values and 95% Confidence Intervals for Area Under the Curve (AUC) Statistics for Performance of Average AE, DB, RS by Grade Group and Time Point.
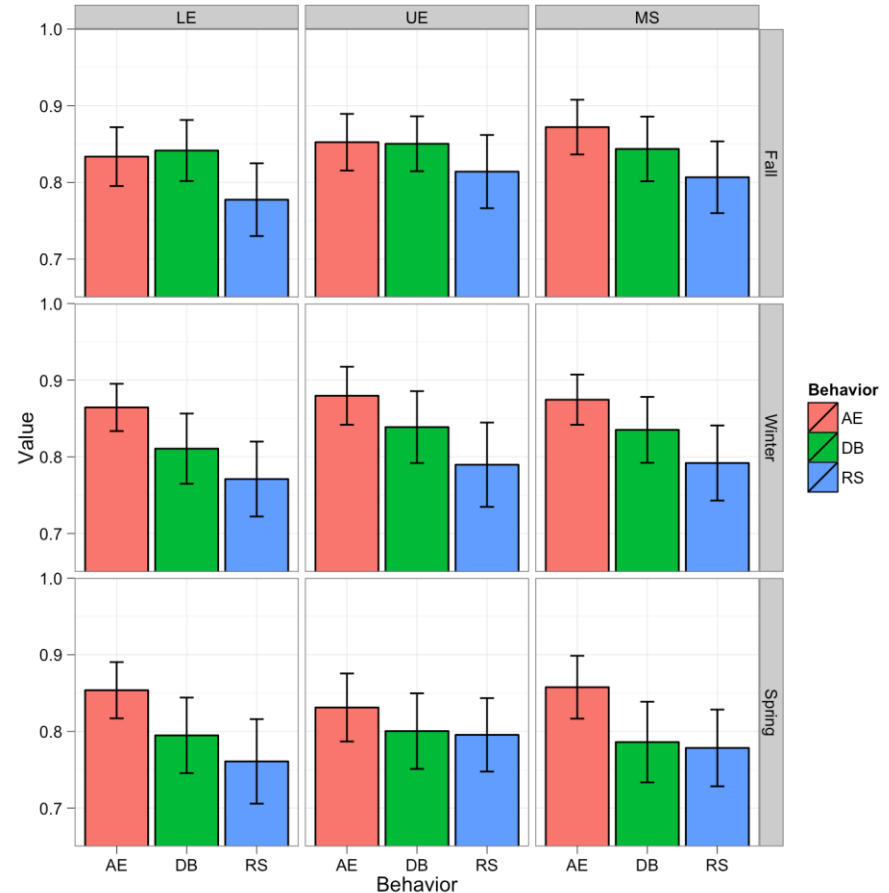
Combined Scores… Optimal Threshold?

Rules utilized for determining optimal threshold for each grade level and time point		
	Sensitivity	Specificity
Best	0.9	0.9
	0.8	.08
	0.9	0.7
	0.8	0.8
	0.8	0.7
Worst	0.7	0.7
	Smallest SN/SP discrepancy	
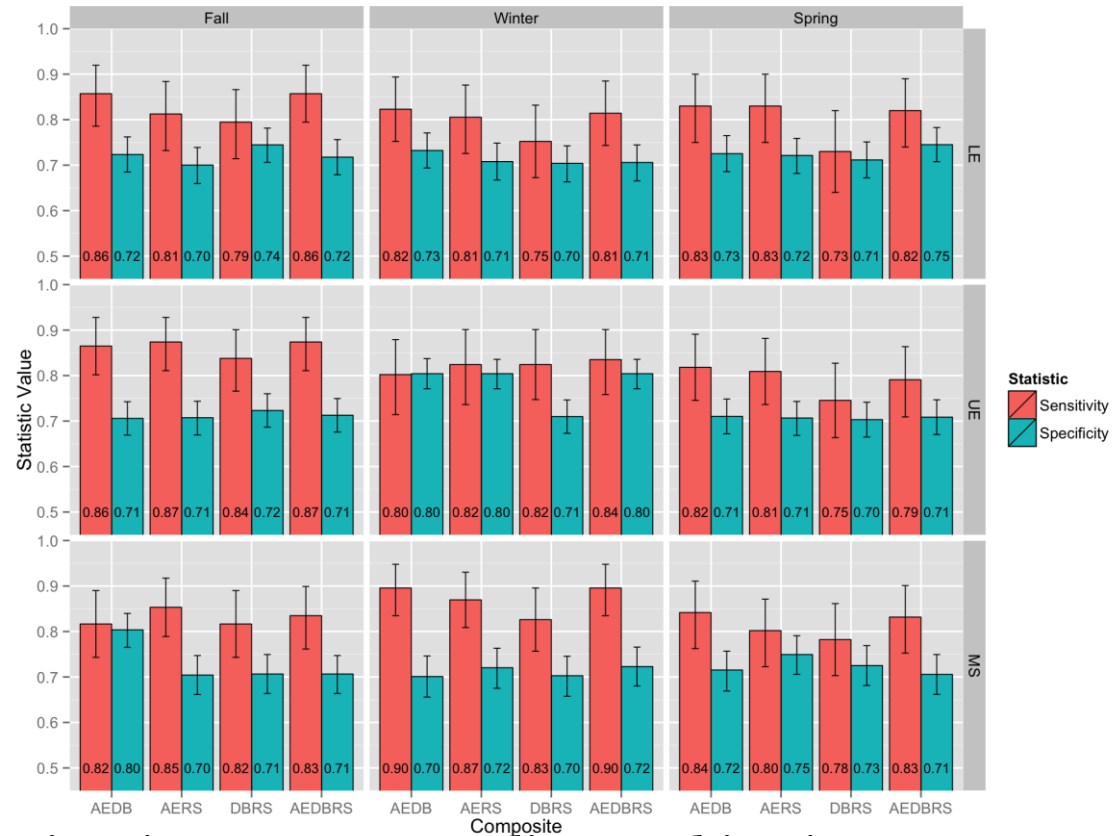
Directions: Recommending combination scores in screening, slightly varied cuts by grade and time.

CLASSWIDE MONITORING/IDENTIFICATION OF SUPPORT: Case Study Comparing Observation and DBR Data

Riley-Tillman, Methe, & Weegar (2009 – *Assessment for Effective Intervention*)

- Sample: First grade classroom with 14 students
- Design: B-A-B-A
- Intervention: modeling and prompting of silent reading
- Measures: researcher-completed SDO, teacher-completed DBR-SIS
- Conclusion: DBR data can be sensitive to classroom-level intervention effects, maps closely to resource-intensive SDO

Systematic Direct Observation and Direct Behavior Rating Data of Engagement
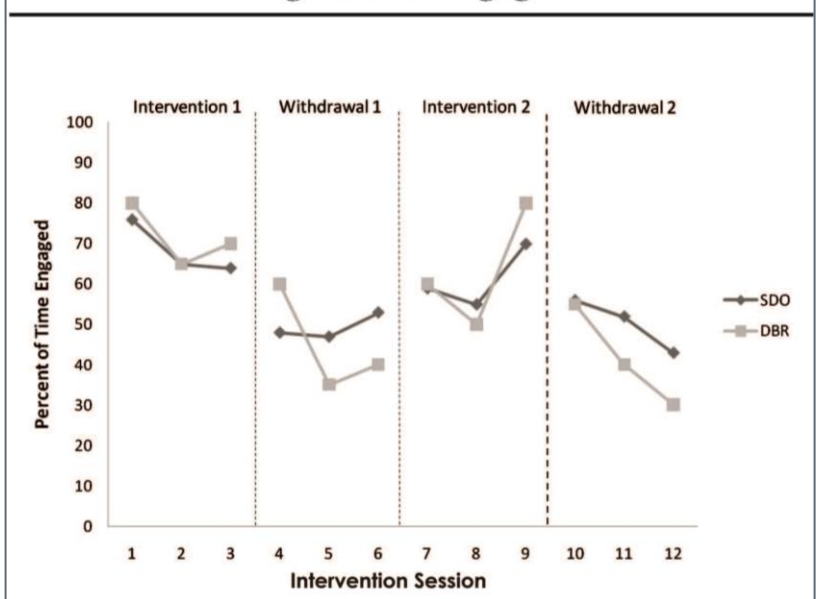
	Phase Mean			
	B1	A1	B2	A2
DBR	72	45	63	42
SDO	68	49	61	50

Progress Monitoring...

INDIVIDUAL STUDENT MONITORING OF RESPONSE:
DBR-SIS in Behavior Consultation Cases

Chafouleas, Sanetti, Kilgus, & Maggin (2012 – *Exceptional Children*)

Sample: 20 teacher-student dyads in elementary grades

Design and Intervention: A-B intervention involving behavioral consultation and DRC-based intervention. Five options for "change metrics" were calculated.

Measures: researcher-completed SDO, teacher-completed DBR-SIS

Conclusion: Change (in expected directions) in student behavior across phases and sources. High correspondence between DBR-SIS and BOSS absolute change metrics suggests that students were ranked similarly across the two measures with regard to intervention responsiveness. Provides preliminary support for the use of DBR-SIS to differentiate between those who have or have not responded to intervention.

		Descriptive statistics across scales and phases		
			Mean	SD
DBR-SIS	Disruptive Behavior	Baseline	4.26	1.97
		Intervention	2.58	1.41
	Academic Engagement	Baseline	4.97	2.28
		Intervention	6.82	1.50
	Compliance	Baseline	5.74	1.93
		Intervention	7.34	1.31
BOSS	On-task	Baseline	69.98	19.76
		Intervention	81.94	14.22
	Off-task	Baseline	44.82	21.01
		Intervention	28.69	18.54

INDIVIDUAL INTENSIVE STUDENT MONITORING:
Kindergarten Example

Chafouleas, Kilgus, & Hernandez (2009 – *Assessment for Effective Intervention*)

- <u>Sample</u>: full day K inclusive classroom, 2 teachers and 22 students
- <u>Measures</u>: teacher-completed DBR-SIS following am and pm over Nov-March for ALL students
- <u>Conclusion</u>: "Local" cut-score comparisons can be useful in examining individual student performance. Periodic re-assessment of all may be needed to re-confirm appropriate comparison

Target Behavior	Rating Time	FALL M (SD)	SPRING M (SD)
Academic	AM	8.72 (1.31)	9.40 (0.63)
Engagement	PM	8.25 (2.03)	9.37 (0.88)
Disruptive	AM	1.30 (1.47)	0.60 (0.62)
Behavior	PM	1.61 (2.08)	0.42 (0.52)
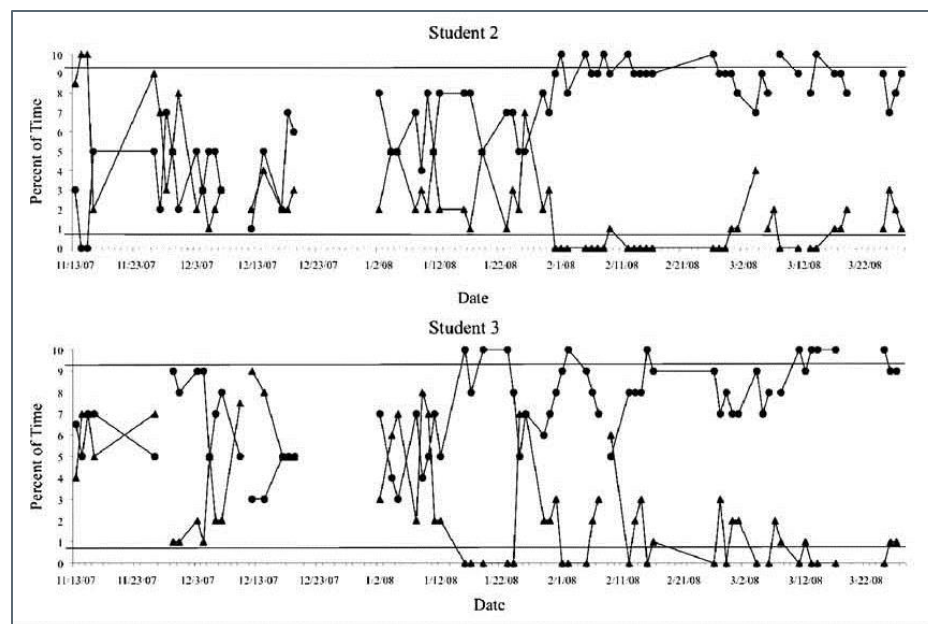
Students as Monitors of Responsiveness

DIRECT BEHAVIOR RATING (DBR) IN INTERVENTIONS TO TEACH STUDENTS HOW TO SELF-MONITOR AND EARN TEAM-BASED REWARDS

By Rose Jaffery and Sandra M. Chafouleas

Direct Behavior Rating

Direct Behavior Rating (DBR) is described as offering an efficient, defensible, repeatable, and flexible tool for linking assessment, communication, and intervention purposes. In this handout, we focus on demonstrations of the *flexibility* of DBR in relation to how it can be used in an evidence-based intervention package. Specifically, the intervention package consists of student self-monitoring and an interdependent group contingency reward system. Flexibility of DBR is demonstrated in that the format of the DBR scales used for self-monitoring is varied based on teacher preference.

What are the intervention components discussed in this handout?
- Students evaluate and record their own behavior (*self-monitoring*) and work in teams (*interdependent group contingency*) to gain points for good behavior in order to earn rewards *(incentives)*.

Information offered through this handout and associated materials include:
- Procedural information about interventions using DBR, self-monitoring, and interdependent group contingency
- Materials for teaching students how to (a) self-monitor their behavior using DBR forms and (b) use teacher feedback and an interdependent

  group contingency incentive system to earn rewards for good behavior.

Why might this intervention package be useful?
- The self-monitoring component can help students learn self-awareness of their own behavior. In order to increase the likelihood that the students will rate their behavior accurately and engage in appropriate behavior, the students earn points for good behavior and can earn bonus points for being accurate self-raters (e.g., coming within 1 point of a teacher's rating).
- If a team's total points meet or exceed a pre-determined weekly goal, each student receives a reward. When rewards are only offered contingent upon a student's entire team engaging in appropriate behavior, students are often encouraged by their peers to act appropriately. This interdependent-group contingency reward system relies on peer influence to shape student behavior.
- The format of the self-monitoring forms allows for daily data collection in order to monitor student progress efficiently over time.

Potential Benefits of Using Interventions with Self-Monitoring and Group Contingencies:

- Provides immediate and consistent feedback about student behavior
- Promotes student awareness of behavior
- Encourages student to take responsibility
- Increases communication between student and adult about student performance
- Helps student develop a sense of independence and self competence

- Coming soon…
  - comparison of teacher ratings, student ratings, and external observations

What are the possibilities across assessment, communication, intervention?

www.directbehaviorratings.org

Questions, comments, and thanks….

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