Direct Behavior Rating (DBR): Defining features and assessment applications within a tiered service delivery model

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Presentation for 2011 NEPBS

CBER

Purpose:

- To review options in student behavior assessment within a tiered service delivery model.
- To define Direct Behavior Rating (DBR) and illustrate how it may be integrated within tiered service delivery models (e.g., RTI).

My Background

- Current Position at UCONN
  - Professor of School Psychology
  - Research Scientist with the Center for Behavioral Education and Research

- Training
  - School psychology and administration
- Urban and rural school-based practitioner
  - Pre-referral intervention teams, augmentative communication, district crisis team, parent educator, alternative settings for behavior
- Research to get my degree
  - Early literacy assessment
- Current research
  - Behavior assessment research

What is "response to intervention"?

BASIC QUESTION: **How do we know if X is working?**

- Foundations within *data-based decision making*
- Roots of data-based decision making come from *the problem-solving model*
- Model became clearly articulated within psychology and then education through applied behavior analysis --- behavioral consultation or pre-referral teams
- Initial focus on the individual "case" but now applied to multi-tiered frameworks ("all cases")
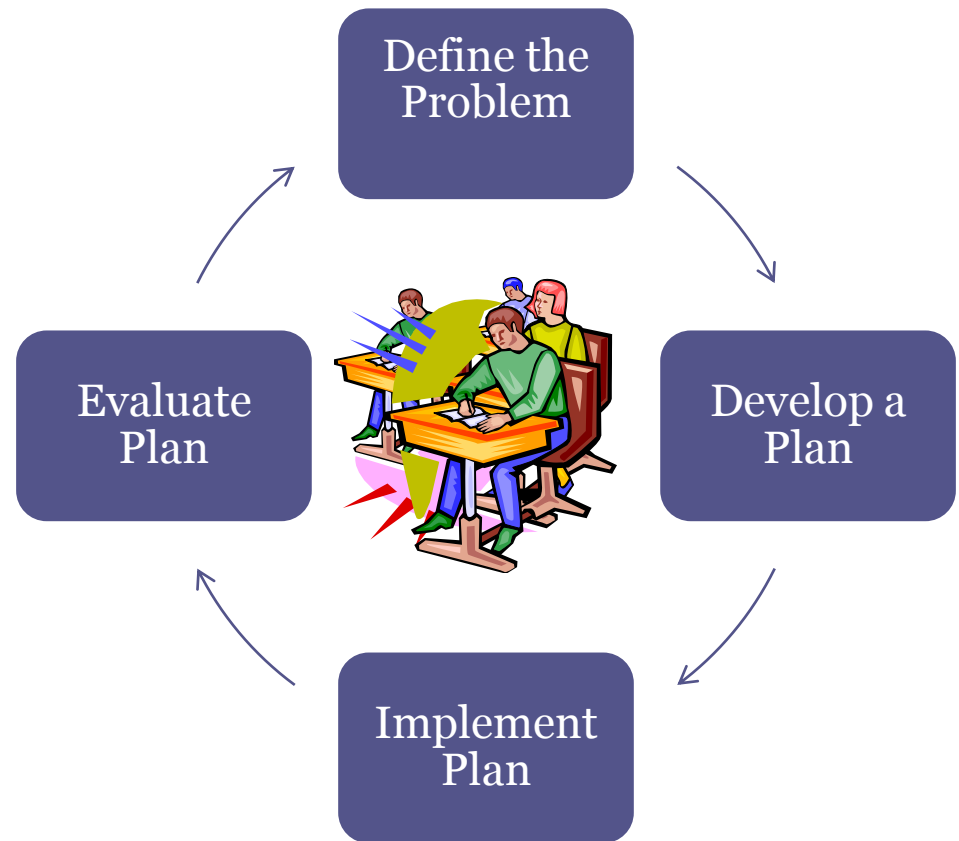
(Bergan, 1977, Bergan&Kratochwill, 1990; Tilly, 2009; Reschly& Bergstrom, 2009)

Define the Problem

Develop a Plan

Implement Plan

Evaluate Plan

How to purposes of assessment fit into "response to intervention"?

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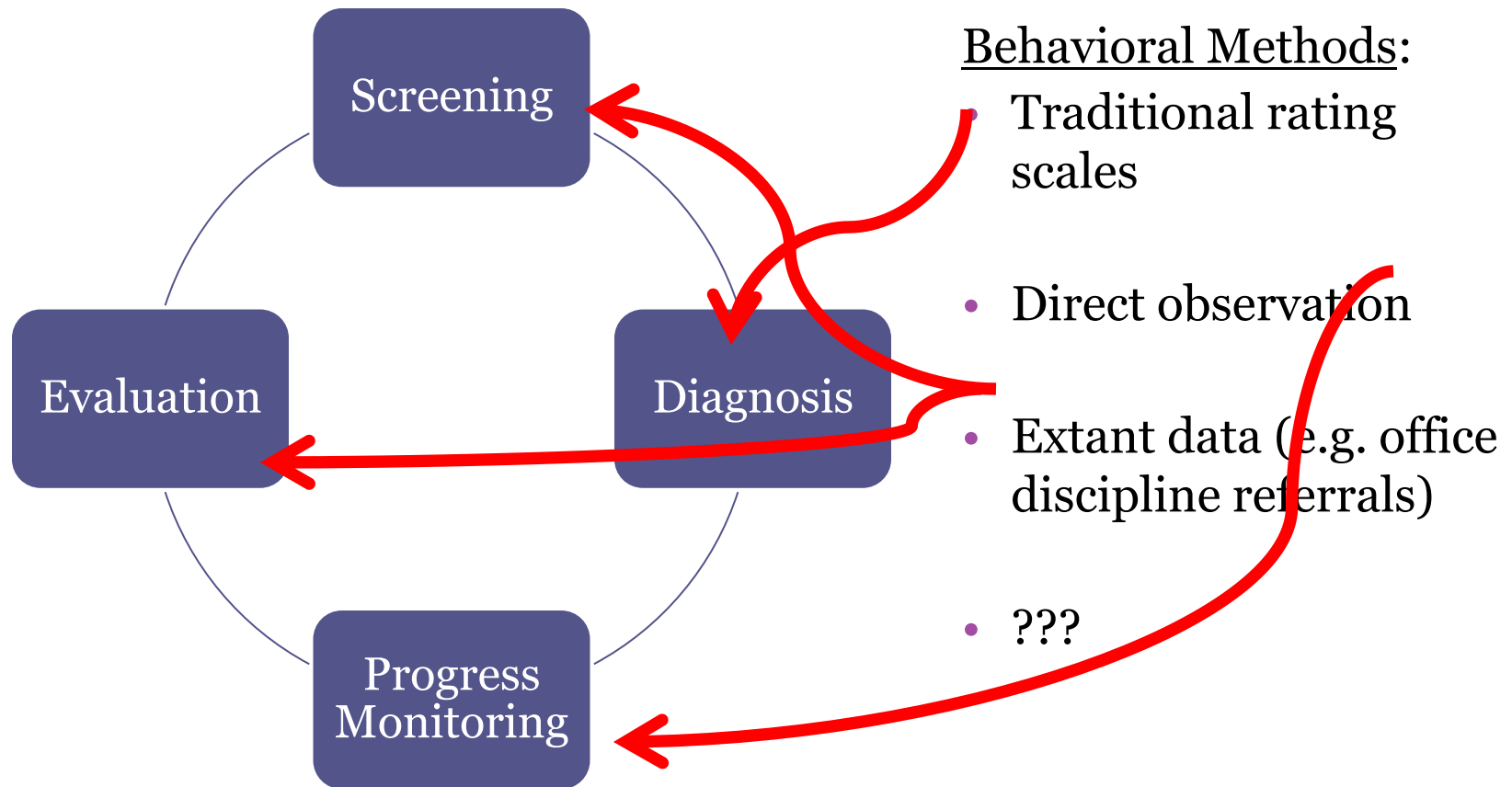- Progress Monitoring
  - Is intervention working?
- Evaluation
  - How well are we doing overall?

Emphasized by the National Center on Response to Intervention

How does this work for behavioral domains of student functioning?

Screening

Evaluation

Diagnosis

Progress Monitoring

Behavioral Methods:
- Traditional rating scales

- Direct observation

- Extant data (e.g. office discipline referrals)

- ???

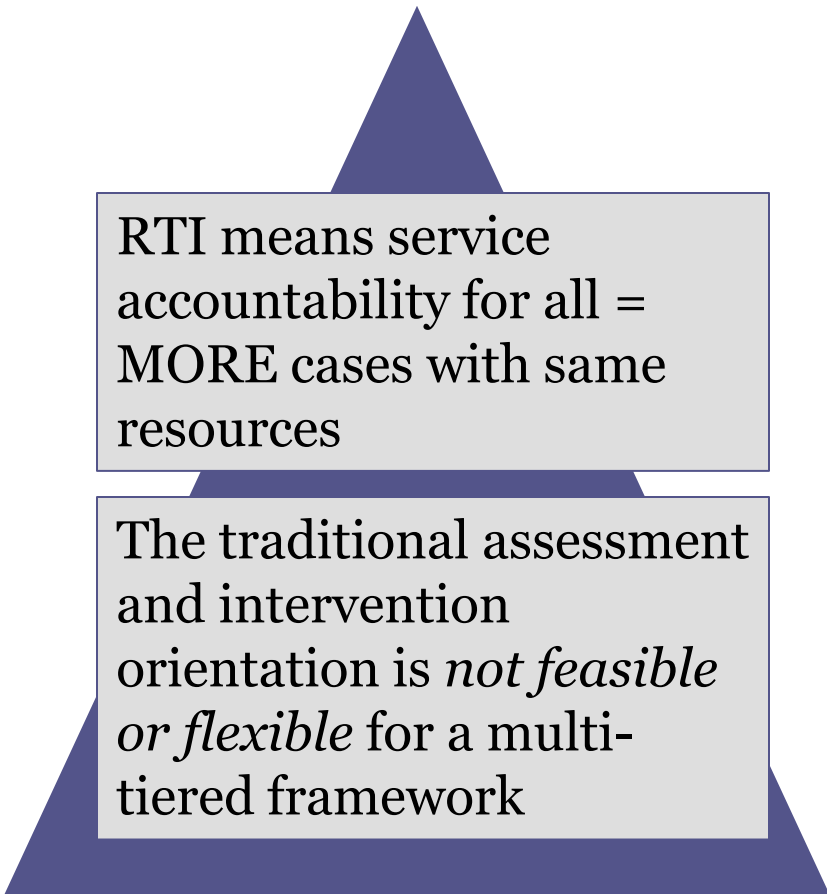# School-based behavior assessment: THE PROBLEM FOR RESEARCH

- Current methods of behavior assessment were not built for utility in problem-solving assessments

- There is need to develop and evaluate new options that possess desirable characteristics for screening and progress monitoring…

(Chafouleas, Volpe, Gresham, & Cook, 2010)

Desirable Characteristics

- **Defensible**
  - established through psychometric research to provide evidence of reliability and validity for interpretation and use
- **Flexible**
  - established by methods useful in guiding a variety of assessment questions and situations
- **Efficient**
  - established by methods that require relatively few resources (feasible and reasonable)
- **Repeatable**
  - established by methods that yield necessary time series to evaluate intervention effectiveness

Source: Chafouleas, Riley-Tillman, & Christ, 2009; Chafouleas, Riley-Tillman, & Sugai, 2007; Christ, Riley-Tillman, & Chafouleas, 2009)

School-based behavior assessment and RTI: THE PROBLEM FOR <u>YOU</u>

RTI means service accountability for all = MORE cases with same resources

The traditional assessment and intervention orientation is *not feasible or flexible* for a multi-tiered framework

<u>Solution</u>?

- Quickly design interventions at all tiers

- Collect relevant formative data in a highly feasible manner

- Include a consistent way to analyze data that is quick and easy for anyone to do

What is Direct Behavior Rating?

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


Systematic Direct Observation   **Behavior Rating Scales**

Direct Behavior Rating
(defensible, flexible, efficient, repeatable)
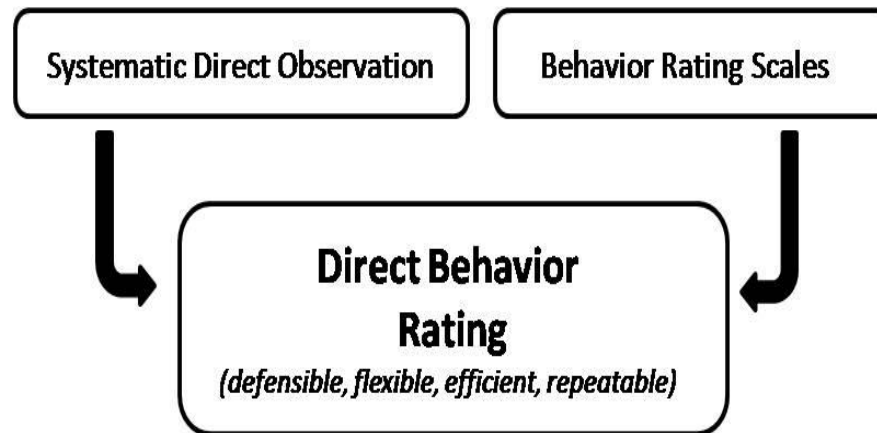
Chafouleas, Riley-Tillman, & Christ (2009); Chafouleas, Riley-Tillman, & Sugai (2007); Chafouleas, Riley-Tillman, & McDougal (2002); Christ, Riley-Tillman, & Chafouleas (2009)

Example Scale Formats for DBR

Source: Chafouleas, Riley-Tillman, & Christ (2009)

Single Item Scale

Academically Engaged

% of Total Time

0   1   2   3   4   5   6   7   8   9   10

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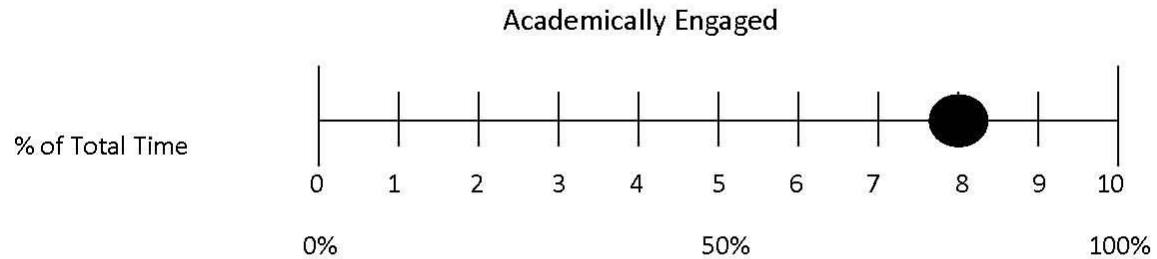
Interpretation: The student displayed academically engaged behavior during 80% of the observation period.

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)

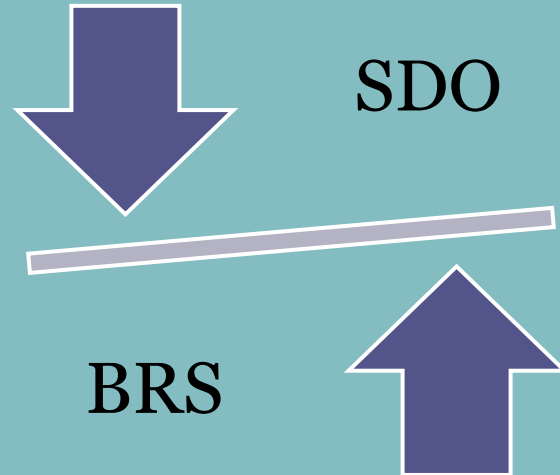Total number of points earned: _____5_____

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
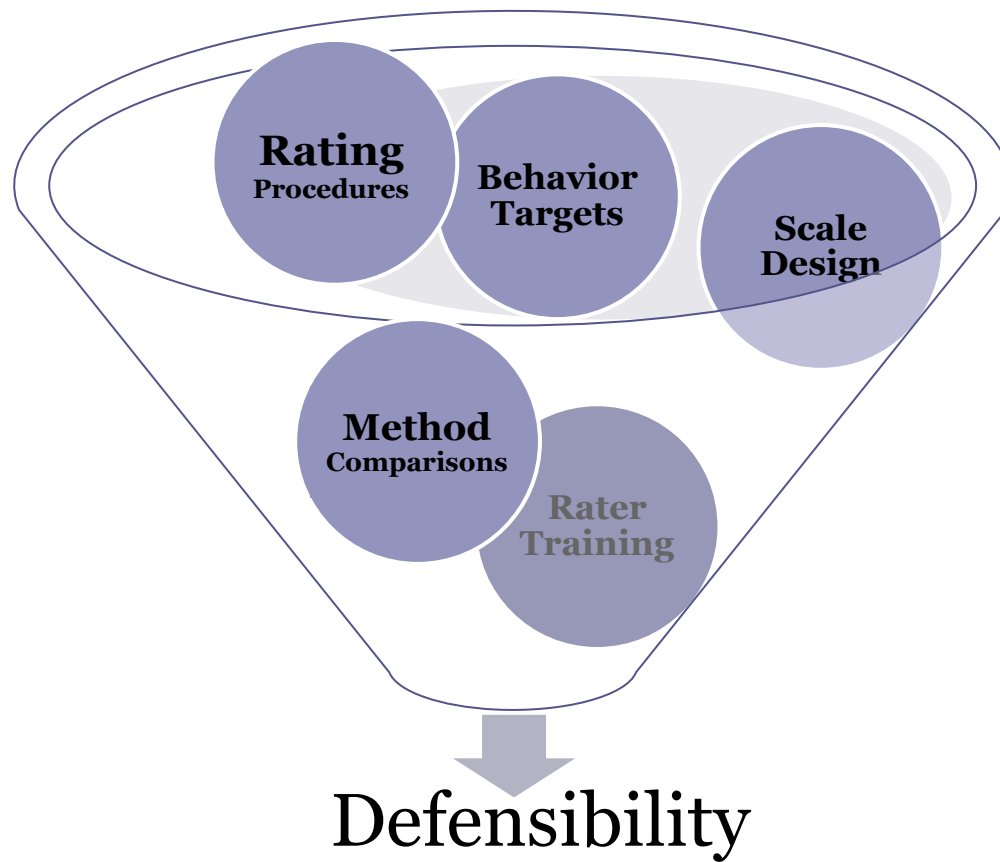- Performance-based behavioral recording

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)

Project VIABLE (2006-2011)

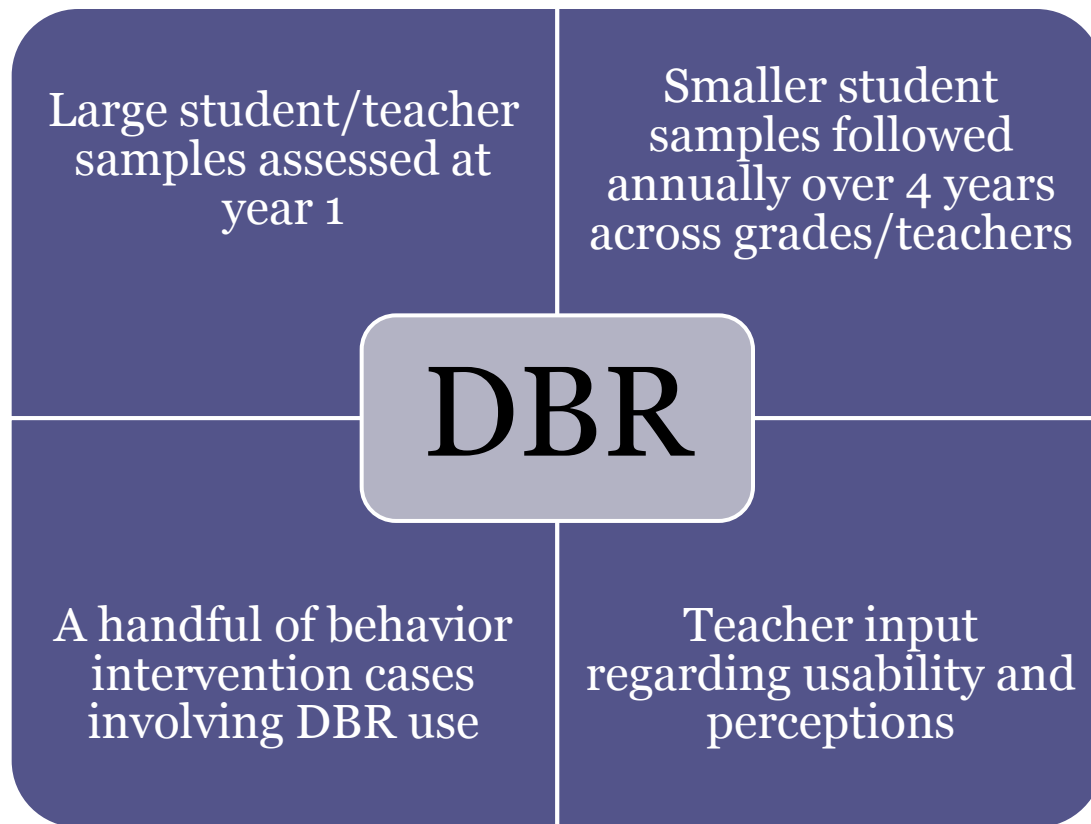**Develop** instrumentation and procedures, then **evaluate** defensibility of DBR in decision-making

Rating Procedures

Behavior Targets

Scale Design

Method Comparisons

Rater Training

Defensibility

University of Connecticut

East Carolina University

UNIVERSITY OF MINNESOTA

Project VIABLE-II (2011-2015)

<u>Evaluate</u> defensibility and usability of DBR in decision-making at larger scale

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

DBR-SIS 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:
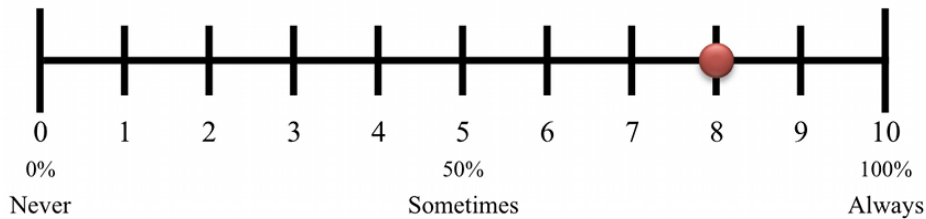A student action that interrupts regular school or classroom activity.

Academically Engaged

KEYS TO SUCCESS

Respectful

Non-Disruptive
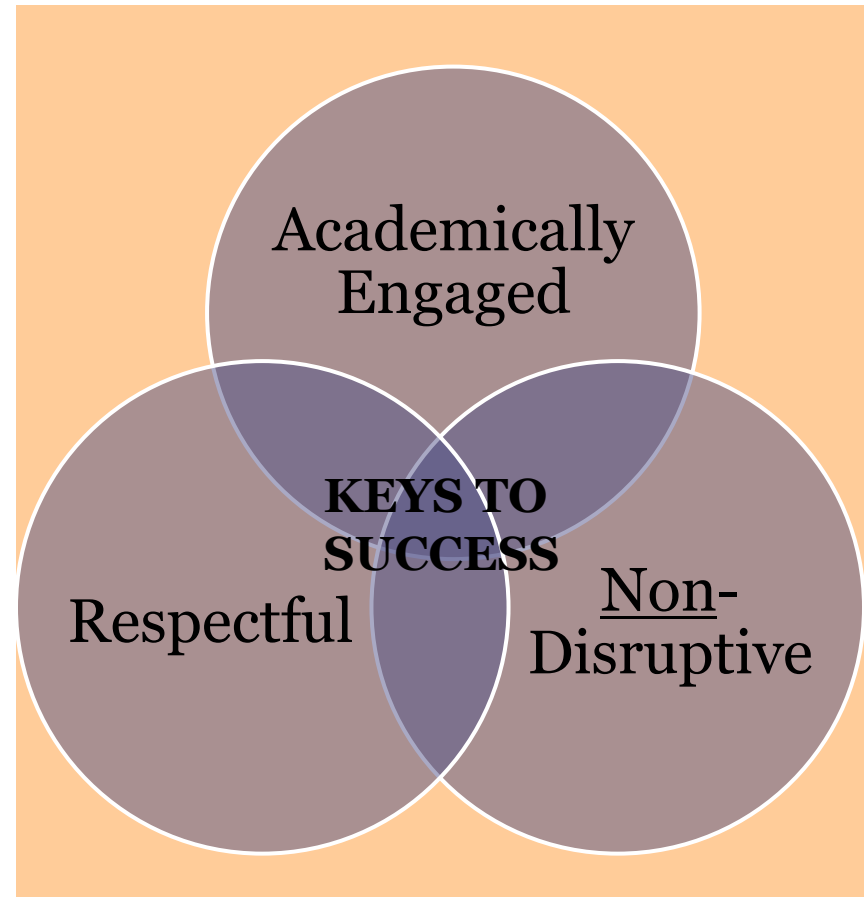
Example DBR-SIS scales

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.
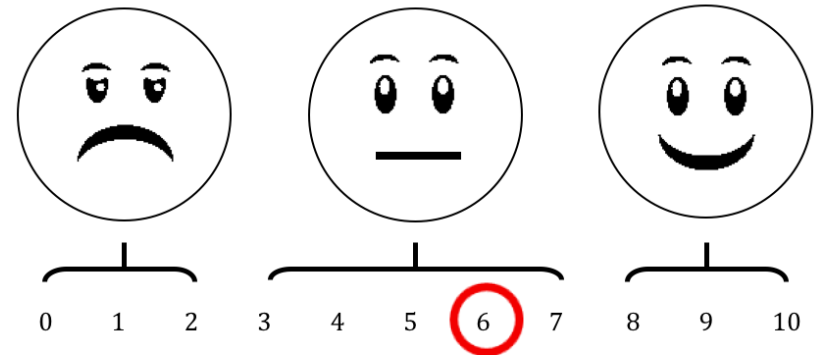
Interpretation: The student received a 6 for *attention* during group circle time activities today.

How do I use the DBR-SIS scale?

- Ratings should correspond to the extent to which the student was observed displaying the target behavior.
  - Percentage of time is one way to anchor yourself when thinking about your rating.
    - *For example*: When rating at the end of a 40-minute Independent Reading Block, if the student was engaged about half of the time, then the student receives a rating of 5 on the DBR.
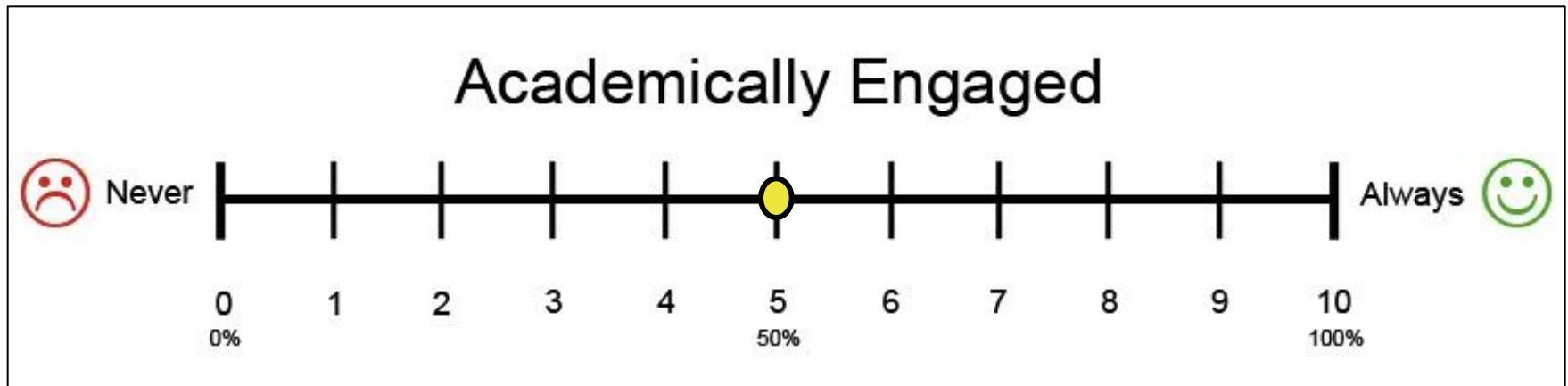
Academically Engaged

Never ├─┼─┼─┼─┼─●─┼─┼─┼─┼─┤ Always

0	1	2	3	4	5	6	7	8	9	10
0%					50%					100%

How do I use the DBR-SIS scale?

▸ Ratings should correspond to the extent to which the student was observed displaying the target behavior.

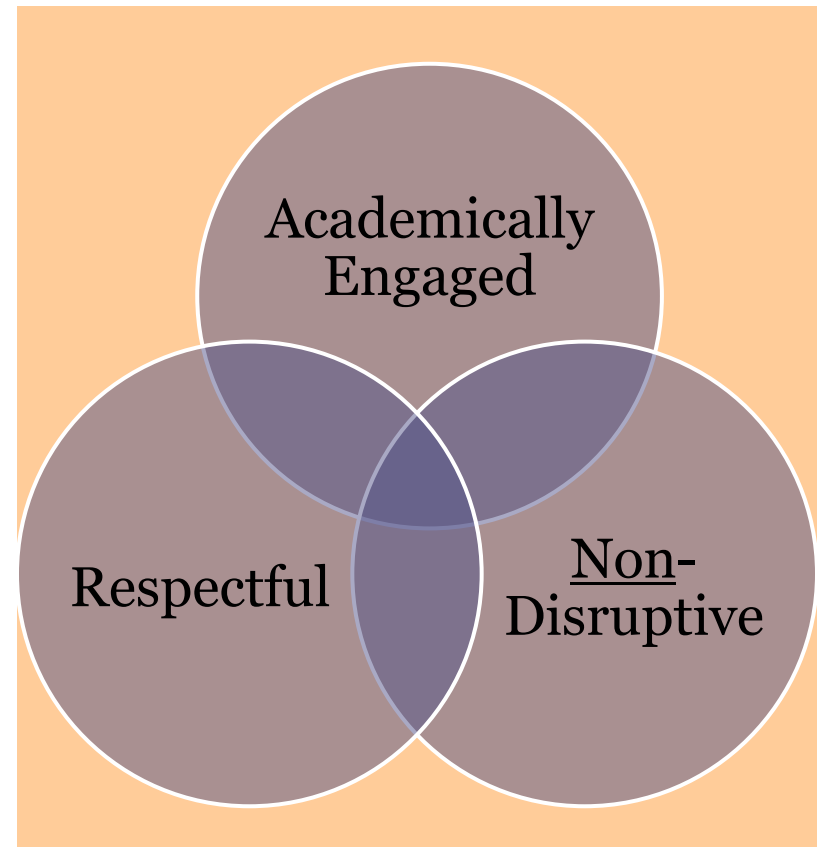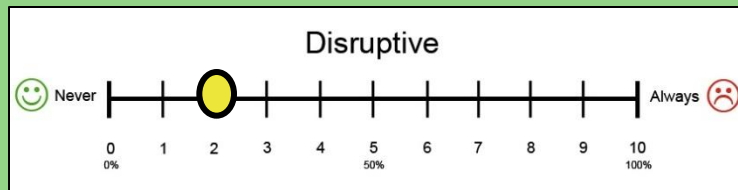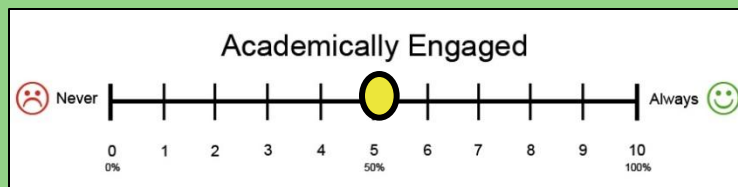▸ Another way to anchor your rating is to think in terms of Low, Medium, and High.

Low			Medium					High		
0	1	2	3	4	5	6	7	8	9	10
Never	Occasionally		A little less than half the time		**Sometimes**	A little more than half the time		Very frequently		**Always**

Reminder: Each behavior is to be rated <u>independently</u> of other targets

- Total ratings across behaviors do not have to equal 100%.
  - ▫ *Example*: A student may be *academically engaged* 50% of the time and *disruptive* 20%.

Academically Engaged

☹ Never |—+—+—+—+—●—+—+—+—+—| Always ☺

0 1 2 3 4 5 6 7 8 9 10
0% 50% 100%

Disruptive

☺ Never |—+—●—+—+—+—+—+—+—| Always ☹

0 1 2 3 4 5 6 7 8 9 10
0% 50% 100%

Academically Engaged

Respectful

<u>Non-</u>Disruptive

Possible Applications for DBR-SIS

Examples across tiers

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
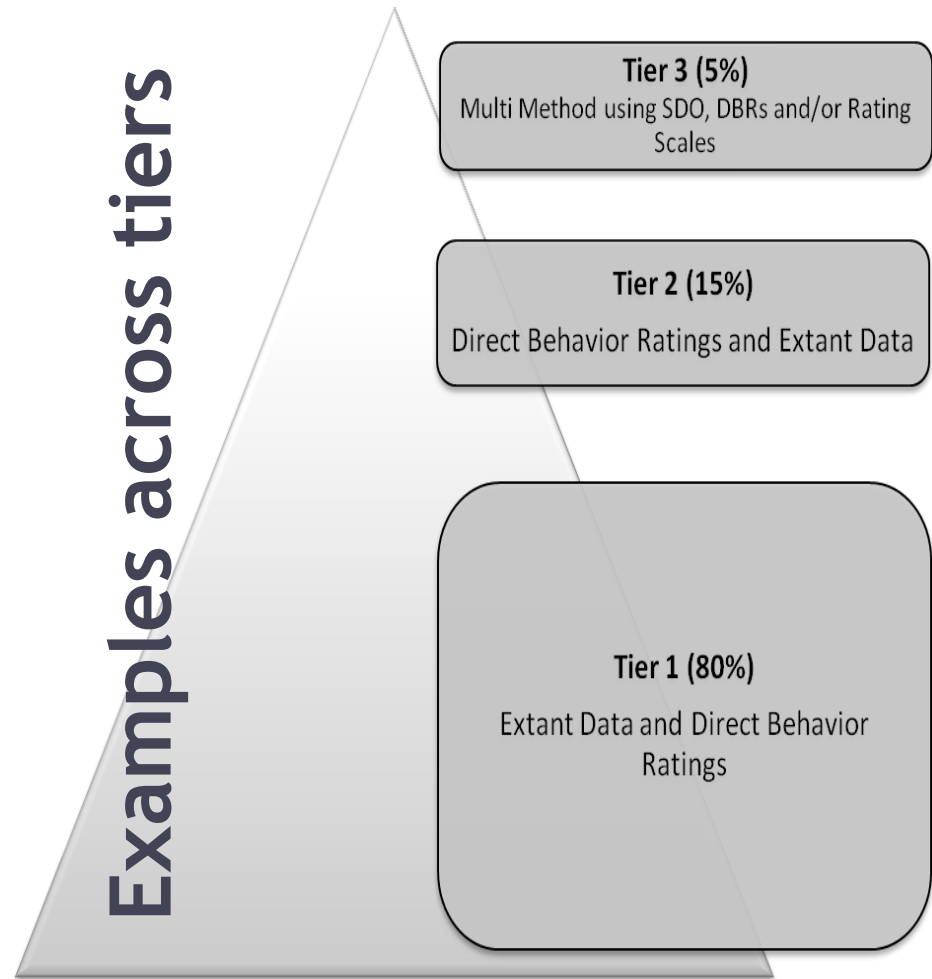
Tier I

Case Study: Method Comparison in Classwide Assessment

Riley-Tillman, Methe, & Weegar (2009)

- <u>Sample</u>: First grade classroom with 14 students
- <u>Design</u>: B-A-B-A
- <u>Intervention</u>: modeling and prompting of silent reading
- <u>Measures</u>: researcher-completed SDO, teacher-completed DBR-SIS
- <u>Conclusion</u>: 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
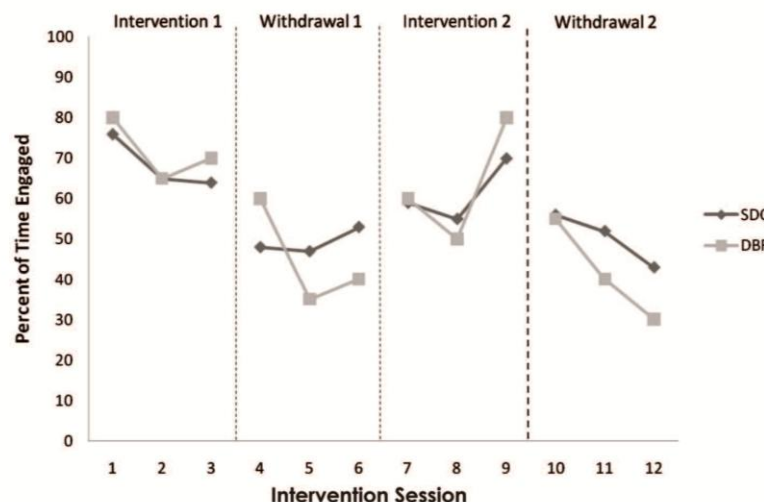
	Phase Mean			
	B1	**A1**	**B2**	**A2**
DBR	72	45	63	42
SDO	68	49	61	50

Kindergarten Students at Pine Grove

- While reviewing discipline referral data over the past three months, the principal at Pine Grove School notices that Bus #7 has a disproportionate number relating to compliance with adult request. The principal speaks with the driver, who reports difficulty maintaining an acceptable level of noise on the bus. Because "all" the students on his bus are much too loud and do not listen to him when asked to lower their voices, he has been handling the problem by writing office referrals for disrespectful behavior. Both the principal and the bus driver agree this problem should be addressed through a plan targeting all students on bus #7.

Initial evaluation of DBR-SIS in screening assessment

Chafouleas, Kilgus, Jaffery, & Riley-Tillman (under review)

Sample: 66 teachers, over 1000 students in grades K-8

Measures: DBR-SIS completed 2x/day over 5 days, 2 standardized behavior screening measures

Analyses: Receiver operating characteristics (ROC) and correlations

Conclusion: Initial work suggests greater accuracy at lower grades, but strengths of various targets change by grade

Cut Scores Yielding Best Diagnostic Accuracy Statistics		
Behavior	**Grade Grouping**	**Cut Score (0-10)**
Disruptive	Early elem. Late elem. Middle	2 1 1
Academic Engagement	Early elem. Late elem. Middle	8 8 9
Respectful	Early elem. Late elem. Middle	9 9 9

As students get older…

Disruptive:

Academic Engagement

Tier II

DBR-SIS in Behavior Consultation Cases

Chafouleas, Sanetti, Kilgus, & Maggin (in press)

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

DBR-SIS in Classwide Self-Management

Chafouleas, Sanetti, Jaffery & Fallon (in press)

- Sample: 8th grade, 2 teachers and 3 classrooms (17-24 students)
- Design: Multiple baseline across classrooms
- Intervention: Self-monitoring and a group contingency package, implemented over about 2 months
- Measures: student-completed DBR (teacher-checked), researcher-completed SDO
- Conclusion: Classwide intervention overall effective, think about target identification and need for supports based on baseline

DBR-SM and SDO Data Across Classes				
		Baseline	Intervention	
		M (SD)	Phase 1 M (SD)	Phase 2 M (SD)
Ms. S – Period 5				
DBR-SM	Prepared. Engagement	7.9 (2.03) 6.4 (2.80)	7.6 (1.95) 6.8 (2.31)	8.8 (1.33) 8.0 (1.71)
SDO	Engagement Off-Task	36.2 (12.51) 70.4 (7.60)	79.0 (5.08) 30.7 (6.30)	83.1 (.34) 21.7 (8.16)
Ms. B – Period 3				
DBR-SM	Prepared. Engagement	9.6 (1.05) 8.6 (1.36)	9.9 (0.48) 9.3 (0.99)	9.9 (0.24) 9.6 (0.76)
SDO	Engagement Off-Task	75.9 (5.68) 34.7 (4.58)	86.7 (2.36) 19.2 (5.53)	86.7 (5.87) 16.7 (6.41)
Ms. S – Period 1				
DBR-SM	Prepared. Engagement	8.1 (1.90) 7.4 (2.02)	8.3 (1.35) 7.8 (1.59)	8.9 (0.92) 8.1 (1.35)
SDO	Engagement Off-Task	57.9 (7.75) 47.5 (5.00)	71.0 (13.86) 34.6 (20.78)	80.6 (14.94) 28.9 (14.18)

Susie, Sally, and Sandy

- Susie, Sally, and Sandy have been exhibiting significant amounts of in-class verbal aggression (e.g., name-calling, teasing) in Mr. Simon's class, and each student has been sent to the principal's office on numerous occasions. After consulting with the student services team, an assessment and intervention plan is discussed, with emphasis on collecting data for progress monitoring.

TIER III

DBR-SIS in Targeted Intervention for Students with ADHD

Vujnovic, Fabiano, Chafouleas, & Sen (under review)

- Sample: 13 boys with diagnosis of attention-deficit hyperactivity disorder
- Intervention: DRC-based intervention
- Design: Point, level, slope comparisons over 20 data collection days with both measures
- Measures: teacher-completed DBR-SIS (once at end of day) and DBR-MIS (completed multiple times each day)
- Conclusion: DBR instrumentation and procedures can be flexibly determined to match assessment situation

Point, Level, and Slope Estimates for DBR

		Mean (SD)
DBR-MIS		
	point	71.67*(31.68)*
	level	79.18*(18.52)*
	slope	-0.19 (0.61)
DBR-SIS: Academic Engagement		
	point	7.13*(2.19)*
	level	7.57*(1.36)*
	slope	-0.04 (0.05)
DBR-SIS: Non-Disruptive		
	point	8.05*(2.54)*
	level	7.66*(2.30)*
	slope	-0.06(0.08)

		DBR-SIS	
		AE	Non-DB
DBR-MIS	Point	.854**	.830**
	Level	.715**	.741**
	Slope	.415	.758**

DBR-SIS for Monitoring Students At-Risk

Chafouleas, Kilgus, & Hernandez (2009)

- <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 Engagement	AM	8.72 (1.31)	9.40 (0.63)
	PM	8.25 (2.03)	9.37 (0.88)
Disruptive Behavior	AM	1.30 (1.47)	0.60 (0.62)
	PM	1.61 (2.08)	0.42 (0.52)
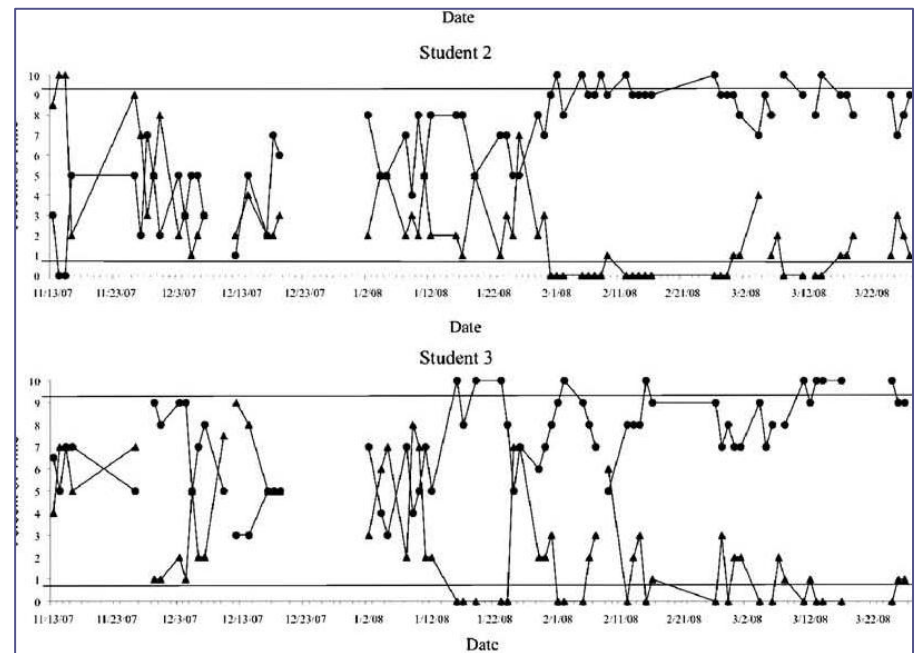
Chris

- Recently, Chris has been exhibiting high levels of off-task behavior in Ms. Wilson's 7th grade English class. Although Ms. Wilson does not describe this behavior as highly problematic, she wants to address it preventively. After consultation with the 7th grade team of teachers working with Chris, a tentative intervention plan is discussed and data collection tools are considered. Ms. Wilson makes it clear that she is not interested in highly invasive, resource intensive data collection strategies. Additionally, the 7th grade team decides it would like information about how his behavior compares to other students across settings.

Summary: How might DBR within multi-tiered assessment?

Similar to Curriculum-based Measurement (e.g., DIBELS)…

- DBR-SIS offers an ***efficient*** option for assessment.
- DBR-SIS allows for ***defensible*** decision making about student risk and progress through ***repeated*** measurement.
- DBR-SIS allows for standard general outcome measures that are relevant to student success. Unlike CBM, DBR-SIS affords additional ***flexibility*** in individualized target selection.

Communication

Assessment

Intervention

Defensible Flexible

Repeatable Efficient

www.directbehaviorrating.org

Direct Behavior Rating

™

Other Random Information...

- DBR assessment training
- DBR in linking assessment and intervention
- DBR free materials on the web

DBR in Assessment:
On-Line Training Module

Direct Behavior Rating:

Use in Assessment of Student Behavior

Communication
Assessment — Intervention
Defensible | Flexible
Repeatable | Efficient

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Direct Behavior Rating

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This project was supported in part by a grant from the Institute for Education Sciences, U.S. Department of Education (R324A110017). Opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education, and such endorsements should not be inferred.

V2.0 DBR: Use in Assessment of Student Behavior was created by Sandra M. Chafouleas
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Which behaviors will I rate?

▸ **Disruptive:**
Disruptive behavior is defined as a student 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, rate Ricky's
<u>Academically Engaged</u>, <u>Respectful</u>, and <u>Disruptive</u> behaviors

DBR Website

www.directbehaviorratings.org

Questions, comments, and thanks....

Website: www.directbehaviorratings.org
Contact: Sandra.chafouleas@uconn.edu