

# Direct Behavior Rating: Use in Assessing Student Behavior within RTI Frameworks



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CEC Presentation – April 2014

### 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)

# Behavior assessment within RTI frameworks

- » Current methods of behavior assessment were not built for multi-tiered assessment
- » New options must possess four desirable characteristics...

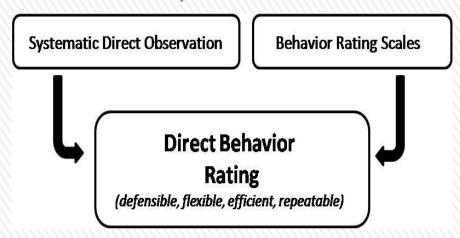
Defensible Efficient Flexible Repeatable Desirable Features



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

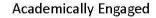




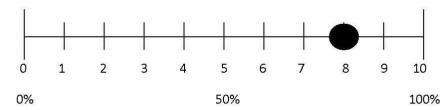
# Example Scale Formats for DBR

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





% of Total Time



<u>Interpretation</u>: The student displayed academically engaged behavior during 80% of the observation period.

#### Multi-Item Scale

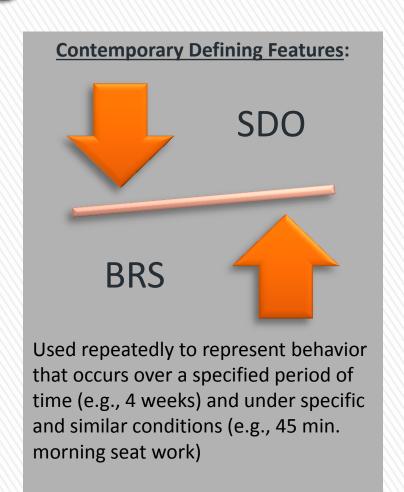
	<u>Never</u>		<u>Always</u>
Did the student follow class rules?	0	1	2
Did the student follow teacher directions	? 0	<b>1.</b>	2
Did the student do his/her best work?	0	1	2
Total number of points earned:5_			

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

### A little background...

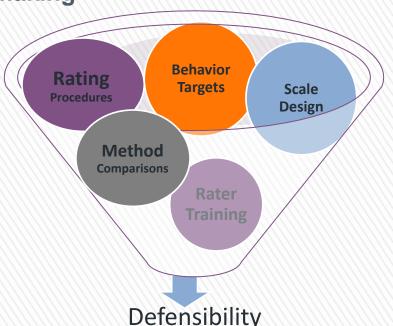
#### Other Names for DBR-like Tools:

- » Home-School Note
- » Behavior Report Card
- » Daily Progress Report
- » Good Behavior Note
- » Check-In Check-Out Card
- » Performance-based behavioral recording



# RESEARCH: Project VIABLE (2006-2011) and Project VIABLE II (2009-current)

<u>Develop</u> instrumentation and procedures, then <u>evaluate</u> defensibility of DBR in decision-making



**Evaluate** 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

Funding provided by the **Institute for Education Sciences**, U.S. Department of Education



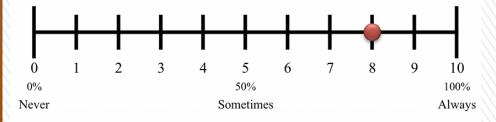
# How does DBR work?

### **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.

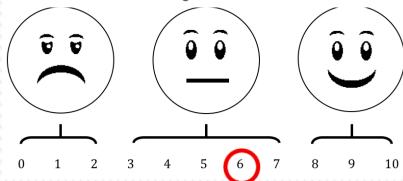
Place a mark along the line that best reflects the percentage of total time the student was academically engaged during math today.



Interpretation: The student displayed academically engaged behavior during 80% of large group math instruction today.

#### **Academically Engaged**

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



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.

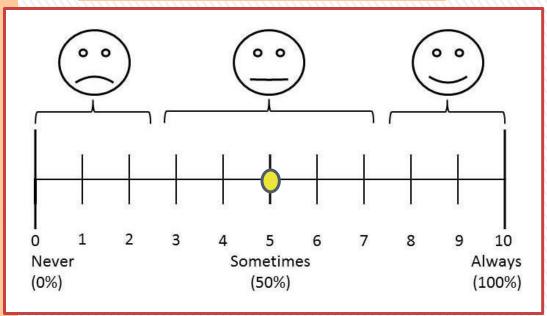


TM

### 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?

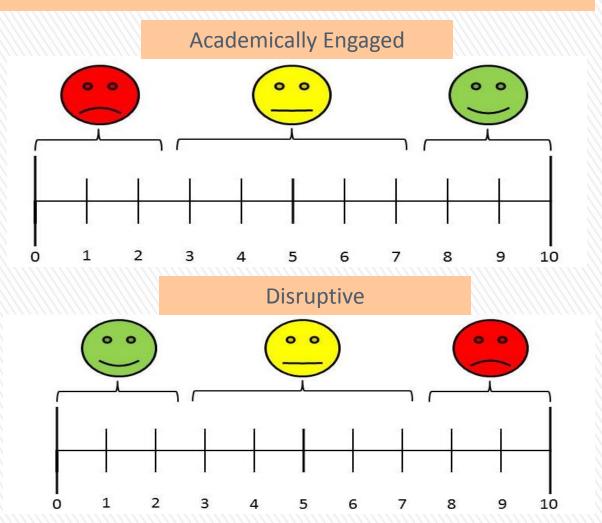
- Ratings should indicate how much you did the behavior.
- Another way to anchor your rating is to think in terms of Low, Medium, and High.

Low			Medium						Hiş	gh
0	I	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** and the **scale**.

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



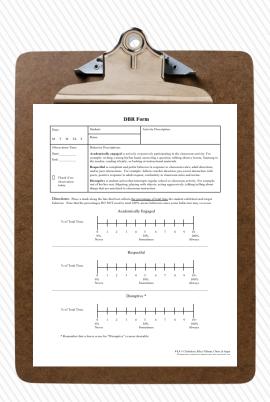
## Other Helpful Hints...

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

Direct Behavior Rating (DBR) Form: 3 Standard Behaviors								
Date:	Student:	Activity Description:						
M T W Th F	Rater:							
Observation Time:	Behavior Descriptions:							
Start:	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.							
Check if no observation today	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 exa out of seat, fidgeting, playing with objects, acting aggressively, talking/yelling about this 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:	Student:	Activity Description:		
M T W Th F	Rater:			
Observation Time:	Behavior Descriptions:	÷		
Start: End:	<b>Academically engaged</b> 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.			
Check if no observation	peer interactions. For exam	mpliant and polite behavior in response to adult directions and/or ple: follows teacher direction, pro-social interaction with peers, quest, verbal or physical disruption without a negative		
today		that interrupts regular school or classroom activity. For example: g with objects, acting aggressively, talking/yelling about things that astruction.		



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

Date:	Student:	Activity Description:		
M T W Th F	Rater:			
Observation Time: Start: End:	example: writing, raising h	Schavior 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 eacher, reading silently, or looking at instructional materials.		
✓ Check if no observation	를 하는 것이 되었습니다. 그는 것이 되었습니다. 그런 보고 있는 것이 되었습니다. 그런 보고 있는 것이 되었습니다. 그런			
today		on that interrupts regular school or classroom activity. For example: ing with objects, acting aggressively, talking/yelling about things that instruction.		



#### Let's Practice...



#### » Academically Engaged:

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.

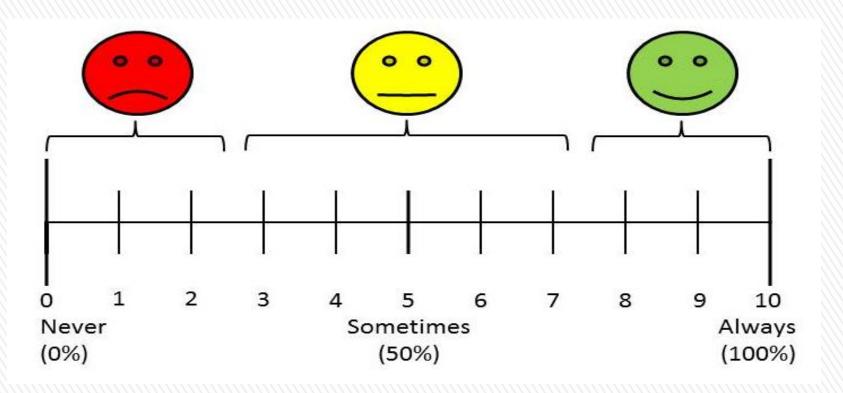


#### Following the video, we will rate Jessie's Academically Engaged behavior





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

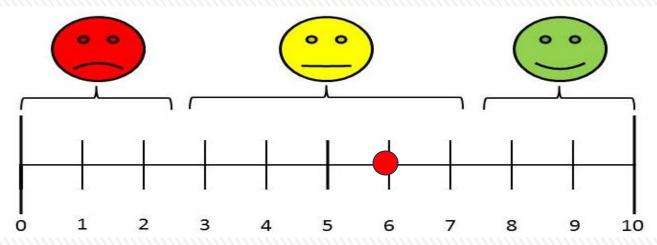


#### **Academically Engaged**

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.

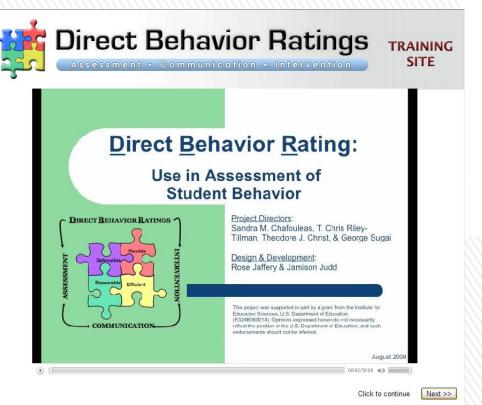


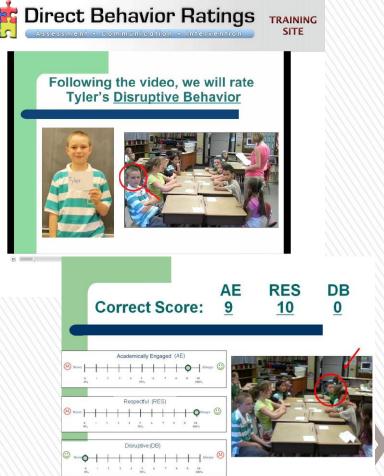


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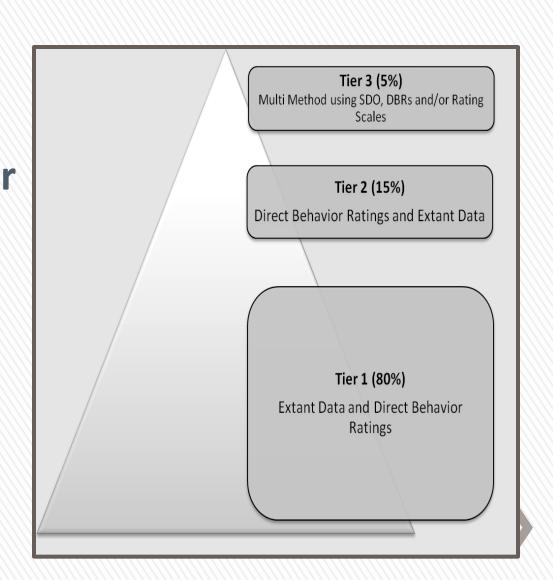
#### More Practice...

## Visit the On-Line Training Module





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



# Progress Monitoring... >



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

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

<u>Sample</u>: 20 teacher-student dyads in elementary grades

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

<u>Measures</u>: 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 statist	tics 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

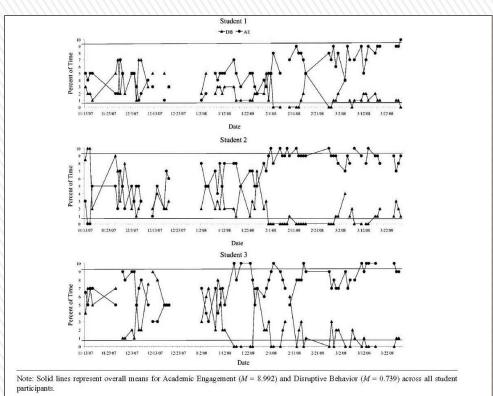
#### **INDIVIDUAL INTENSIVE STUDENT MONITORING:**

#### Kindergarten Example

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

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

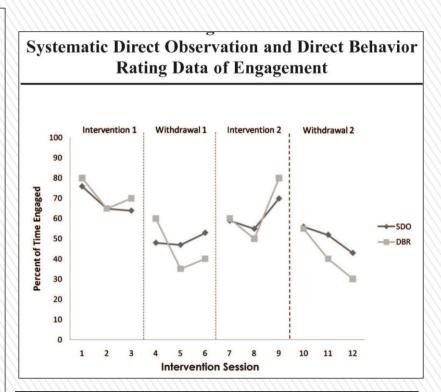
Target	Rating	FALL	SPRING
Behavior	Time	M (SD)	M (SD)
Academic	AM	8.72 (1.31)	9.40 (0.63)
Engagement	PM	8.25 (2.03)	9.37 (0.88)
Disruptive	AM	1.30 (1.47)	0.60 (0.62)
Behavior	PM	1.61 (2.08)	0.42 (0.52)



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

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

- » <u>Sample</u>: First grade classroom with 14 students
- » Design: B-A-B-A
- » <u>Intervention</u>: modeling and prompting of silent reading
- » Measures: 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



	Phase Mean				
	B1	A1	<b>B2</b>	A2	
DBR	72	45	63	42	
SDO	68	49	61	50	

# **External Review of PM Characteristics:**National Center on Intensive Intervention

cometric Standards	Progress Monitoring Standards	Data-Based Ir	ndividualizatio	on Standards Usability
Tool	Scale	Reliability ①	Validity @	Disaggregated Reliability and Validity Data ①
Behavior Intervention Monitoring Assessment System (BIMAS)	Academic Functioning	•	•	•
Behavior Intervention Monitoring Assessment System (BIMAS)	Cognitive/Attention	•	•	<b>⊖</b>
Behavior Intervention Monitoring Assessment System (BIMAS)	Conduct	•	•	•
Behavior Intervention Monitoring Assessment System (BIMAS)	Negative Affect	<b>.</b>	•	•
Behavior Intervention Monitoring Assessment System (BIMAS)	Social	•	•	•
Direct Behavior Rating Single Item Scales (DBR-SIS)	Academically Engaged	•	•	_
Direct Behavior Rating Single Item Scales (DBR-SIS)	Disruptive Behavior	•	•	_

# **External Review of PM Characteristics:**National Center on Intensive Intervention

sycometric Standards	Progress Monitoring Standards	Data-Based Individualization Standards	s Usability
Tool	Scale	Sensitive to Student Change ①	Levels of Performance Specified ①
Behavior Intervention Monitoring Assessment System (BIMAS)	Academic Functioning	O	•
Behavior Intervention Monitoring Assessment System (BIMAS)	Cognitive/Attention	0	
Behavior Intervention Monitoring Assessment System (BIMAS)	Conduct	O	•
Behavior Intervention Monitoring Assessment System (BIMAS)	Negative Affect	0	•
Behavior Intervention Monitoring Assessment System (BIMAS)	Social	0	•
Direct Behavior Rating Single Item Scales (DBR-SIS)	Academically Engaged	•	•
Direct Behavior Rating Single Item Scales (DBR-SIS)	Disruptive Behavior	•	•

# Screening...

### **Goal for Screening... Correct** Identification of Students in Need



Condition (as determined by "Gold standard")



**Test Outcome** 

Test Outcome Positive

Test Outcome Negative True Positive

Condition Positive

**False Negative** 

Sensitivity = Σ True Positive Σ Condition Positive False Positive Type I error

**Condition Negative** 

True **Negative** 

Specificity = Σ True Negative Σ Condition Negative Positive predictive value =

Σ True Positive Σ Test Outcome Positive

value = Σ True Negative Σ Test Outcome

Negative

Figure Source: http://en.wikipedia.org/wiki/ Sensitivity and specificity





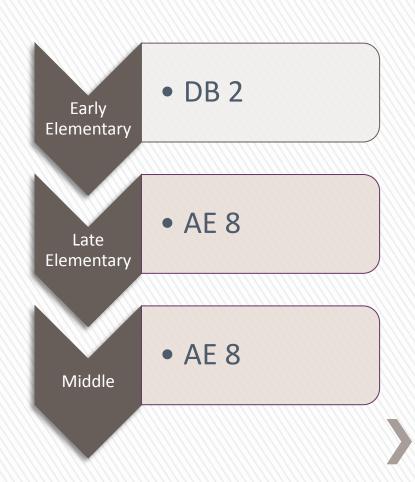
# Correct Identification of Students in Need... Not So Simple

Rules utilized for determining optimal threshold for each grade level and time point

		Sensitivity	Specificity	
Ве	est	0.9	0.9	
		0.8	.08	
	0.9	0.7		
		0.8	0.8	
		0.8	0.7	
\٨/	orst	0.7	0.7	
VVOISC				
Smallest SN/SP discrepancy				

# 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.



# Moving from the pilot... Current Directions

- » Replication of findings
  - > Do we see the same patterns in larger, more diverse samples?
  - > Same for range of grade levels?
- "Best" choice of targets -
  - > Individual or combined DBR-SIS targets?
- » Time-specific cut scores
  - > Do risk scores vary across the school year and by grade?

## VIABLE-II - Year 1 Data

Johnson, Miller, Chafouleas, Welsh, Riley-Tillman, & Fabiano (under review)

- » Sample: 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 rated3x points over school year
- » <u>Conclusion</u>: Time point and grade can vary findings.
  - » <u>Implication</u>: What happens when you combine scores?

#### **Lower Elementary Example**

#### Question:

Individual Targets or Combined Score?

#### Answer:

Combined meets "best" decision rule

	Lower Elementary				
	AUC [95% CI]	Cut score	SN [95% CI]	SP [95% CI]	
	Fall				
AE	.83 [.80, .87]	8.2	.79 [.71, .87]	.72 [.68, .75]	
DB	.84 [.80, .88]	1.2	.85 [.78, .91]	.71 [.68, .75]	
RS	.78 [.73, .82]	9.1	.71 [.62, .79]	.70 [.66, .74]	
С	.85 [.81, .89]	26.2	<b>.86</b> [.79, .92]	<b>.72</b> [.68, .76]	

## VIABLE-II - Year 1 Data

## Question:

## Time-specific cut scores

» Do cut scores vary across the school year?

## Answer:

» Yes, we do see changes over the course of the school year – changes vary by grade level group

Example					
Lower Elementary					
	Cut score	SN [95% CI]	SP [95% CI]		
	(Combined)				
FALL	26.2	.86 [.79, .92]	.72 [.68, .76]		
WINTER	26.4	.81 [.74, .88]	.71 [.67, .74]		
SPRING	26.5	.82 [.74, .89]	.75 [.71, .78]		



## VIABLE-II - Year 1 Data

## Question:

## Replication of findings

- » Do we see the same patterns in larger, more diverse samples?
- » Same for range of grade levels?

## Answer:

- » Yes, similar patterns to prior work
- » Some variation in "best" cuts across grade level groups

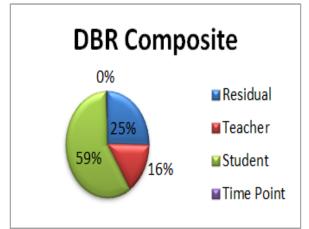
Lower Elementary				
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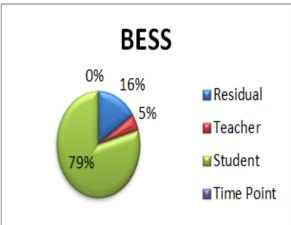
Middle School				
FALL	27.5	.83 [.76, .90]	.71 [.66, .75]	
WINTER	28.2	.90 [.83, .95]	.72 [.68, .77]	
SPRING	28.1	.83 [.75, .90]	.71 [.66, .75]	

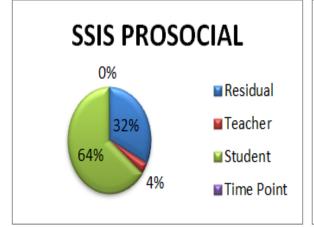


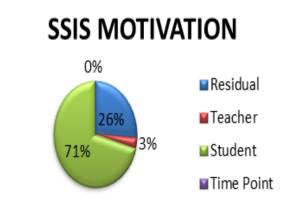
## Coming Soon...

## Screening – How Often?









- Examining the variance in scores attributable to time point
- Examining changes in risk-status acrossthe school year



## **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

**Potential Benefits of Using** 

Interventions with Self-

**Monitoring and Group** 

Contingencies:

> Promotes student awareness of

 Provides immediate and consistent feedback about

student behavior

behavior

Encourages student to take

responsibility

competence

> Increases communication

between student and adult

about student performance
 Helps student develop a sense of independence and self

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, selfmonitoring, 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?

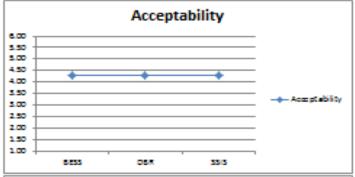
- The self-monitoring component can help students learn self-awareness of their own behavior. In order
  to increase the likelihood that the students will rate their behavior accurately and engage in
  appropriate behavior, the students earn points for good behavior and can earn bonus points for being
  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.

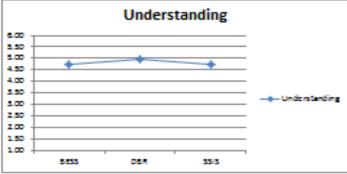
VI of Exert Selection Plating on Interventions to Teach Students How to Self-Advance and Earn Team-Stated Revenus was created by Rose Jaffery and Sandra M. Chasfouleas. Copyright & Old 19 the University of Connecticat.

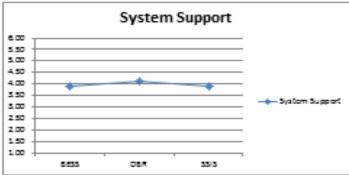
All rights reserved. Permission greated to photocopy for personal and educational use as long as the names of the creators and the full copyright notice are included in all copies. » Comparison of teacher ratings, student ratings, and external observations



## Teacher Perceptions of Student Behavior & Behavior Assessments







Note: Higher System Support Scores reflect a perception to implement with greater independence

- Examining how teachers assign ratings using DBR
  - > Why a rating of 8 vs 7?
  - > What dimensions of behavior are reflected in the rating?
- » Examining teacher perceptions of usability
  - > Identify strengths/weaknesses/ barriers



» What are the possibilities across assessment, communication, intervention?

## Closing Considerations...

## www.directbehaviorratings.org





## Other Resources

### www.intensiveintervention.org www.interventioncentral.org

## National Center on INTENSIVE INTERVENTION at American Institutes for Research

Progress Monitoring (#7)

#### How can schools help students with severe and persistent learning or behavioral

Intensive intervention (both academic interventions and behavior interventions) is intended to help these students. The Center's approach to intensive interventions is databased individualization (DBI). DBI use data to individualize instruction, increase engagement, and provide opportunities to practice new skills. Within multi-tiered systems of supports such as RTI or PBIS, this is often considered Tier III. Learn more about the DBI Framework

(/resource/data-based-individualization-frameworkintensive-intervention), meet Center Staff (/aboutus/staff), visit the Tools Charts (/resources/toolscharts) to find evidence-based progress monitoring tools or interventions, and view the DBI Training Series (/content/dbi-training-series) to find professional development materials to support the Implementation of DBI (/implementation) in schools and districts.

#### Learn the Language of Intensive Intervention

Data-Based Individualization (#1)	Interve Teachers us and diagnost individualize specific need intervention including but frequency, o instructional
Intensive Intervention (#2)	
Intervention Adaptation (#3)	
Intervention Platform (#4)	
Multi-Tiered System of Support (#5)	intervention
Positive Behavioral Interventions and Supports (#6)	

#### ention Adaptation

se data (including progress monitori stic data) to revise, intensify, or an intervention to target a student ds. Strategies for intensifying an may occur along several dimensio at not limited to changes to group s or duration; or changes to the principles incorporated within the or in providing feedback.

#### Ask the Expert

How does the use of evidence-based practices and the approach to instruction and intervention change as behavior or academic issues become more severe?



Watch and listen as Dr. Chris Riley-Tillman, a Professor at the University of Missouri and NCII Center Trainer, discusses how evidence-based

#### Recent Resources

CEC 2014 Strand I Presentations: Using Intensive Intervention to Meet the Academic and Behavior Needs of

meet-academic-and-behavior)

Direct Behavior Rating Overview (/askthe-expert/dbr-overview)

NCII Staff Present at Council for sional Children Convention

Expo 2014 (/resource/ncii-staff-present-councilexceptional-children-convention-and-expo-2014)

Designing and Delivering Intensive Intervention in Behavior (DBI Training Series Module 8) (/resource/designing-and-

#### Register for Our Next

On Tuesday April 29th, 2014 from 3:00 - 4 pm ET NCII will host a webinar, So What of do Now? Strategies for Intensifying Intervention when Standard Approaches Do Wark, presented by Dr. Sharon Vaughn of University of Texas Austin and Dr. Rebecca Zumeta of NCII. This webinar will discuss approaches to intensifying academic interventions for students with significant persistent needs.

Click here to register for the webinar (https://air-license.webex.com/air-license/onstage/o d=5903850368c=a) (4).





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# Questions, comments, and thanks....