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## Data-Based Decision Making: Using Data to Make Informed Decisions in Response to Instruction and Intervention for Behavior (RTI<sup>2</sup>-B)



Response to Instruction and Intervention for Behavior (RTI<sup>2</sup>-B) is a framework to

help districts and schools align social and behavioral supports into one multi-tiered, problem-solving framework.<sup>1</sup> This guide illustrates how to use school and student data within the RTI<sup>2</sup>-B framework to inform decisions.

### Important RTI<sup>2</sup>-B Terms

It is important to first review a few RTI<sup>2</sup>-B terms which are relevant to using data to inform decisions.

#### *Data-Based Decision Making*

Mandinach<sup>2</sup> defines data-based decision making as the collection, analysis, examination, and interpretation of data in order to inform practice and decisions in educational settings.

Within the RTI<sup>2</sup> frameworks, data-based decision making is the process of using appropriate data to inform and drive each instructional decision. Data analysis and decision making are important aspects of all levels of RTI<sup>2</sup> implementation, including all levels of prevention and intervention (i.e., Tiers I, II, and III) and across structural levels (e.g., classroom, grade, school, district, and state level structures). When we look at the data, we can make informed decisions of how to select actions which best meet students' needs.

#### *RTI<sup>2</sup>-B School Leadership Team*

The RTI<sup>2</sup>-B school leadership team should consist of school leaders (e.g., principal), teachers, and staff and can include members of the community and students. The major functions of the RTI<sup>2</sup>-B school leadership team

include: establishing agreements among stakeholders, creating a data-based action plan, implementing the plan, and evaluating fidelity of implementation and outcomes.

#### *Other School Teams*

Other school teams will use data to make instructional decisions for groups or individual students within the RTI<sup>2</sup> framework. These types of teams may be called different names in different districts or schools (e.g., grade-level teams, professional learning communities, student support teams, support teams, Tier II/Tier III teams, etc.). These teams may look at student data to identify students who may be at risk for academic or behavioral difficulties and in need of more intensive supports at Tiers II or III. They may also analyze individual student data (i.e., progress monitoring)



to evaluate effectiveness of interventions. Teaming structures should be flexible, follow existing teaming arrangements, and should allow for efficient use of time.

### *Fidelity of Implementation*

Fidelity of implementation is the extent to which the prescribed instruction, practice, or intervention plan is executed or implemented as intended. Fidelity of implementation is also often called “implementation integrity” or “treatment integrity”. RTI<sup>2</sup>-B school teams should monitor fidelity of implementation at all tiers (i.e., Tiers I, II, and III). Fidelity monitoring is the systematic monitoring by a responsible member of the school RTI<sup>2</sup>-B team to determine the extent to which the delivery of instruction, a practice, or an intervention adheres to the protocols or program models originally developed.

When “observers” monitor fidelity of specific interventions, they typically use checklists or brief rating scales to record whether or not intervention steps, procedures, or components are implemented.

The *School-wide PBIS Tiered Fidelity Inventory (TFI)*<sup>3</sup> is a tool recommended for providing more global assessment of fidelity of implementation of RTI<sup>2</sup>-B, in general, at all Tiers I, II, and III. The RTI<sup>2</sup>-B school leadership teams should complete the TFI at least once at the end of each year with the help of an external coach (i.e., RTI<sup>2</sup>-B district coach or representative from the regional Tennessee Behavior Supports Project) to guide continuous improvement.

### *Office Discipline Referrals (ODRs)*

ODRs are type of student discipline data that RTI<sup>2</sup> school teams and student support teams can use to evaluate the overall effectiveness of RTI<sup>2</sup>-B, to drive continuous improvement, to screen for behavioral problems, and/or to monitor students’ behavioral progress. To collect

and use ODR data, school teams should have clear definitions of problem behaviors and clear procedures for problem behaviors which should be office-managed (i.e., major problem behaviors) and which should be classroom-managed (i.e., minor problem behaviors). School teams should collect and analyze students’ ODRs by problem behavior, location in which they occur, and the time of day they occur.

### *Universal Screening*

Universal screening helps to identify students who are at risk for academic or behavioral difficulties. To identify students at risk for behavioral difficulties, school teams may use ODR data, and/or they may use systematic screening procedures (such as having teachers complete standardized ratings scales for students). Universal screening data can also serve as benchmarks for measuring the improvement of a group, class, grade, school, or district (e.g., a reduction in the percentage of students identified to be at risk for academic or behavioral difficulties as an indicator of improvement for the group, class, grade, school, or district).

### *Progress Monitoring*

Progress monitoring is used to assess students’ academic or behavioral performance and to evaluate the effectiveness of instruction or intervention (e.g., at Tiers II and III). By monitoring a student’s behavioral progress in an ongoing fashion, teams are able to make decisions about whether to continue implementing an intervention, make changes to the intervention, “graduate” the student from the intervention, or increase/decrease the intensity of supports for the student.

### *Social Validity*

“Social validity refers to the extent to which target behaviors are appropriate, intervention procedures are acceptable, and important and significant changes in target and collateral behaviors are produced” (Cooper, Heron, & Heward, 2007, p. 704).<sup>4</sup>

The *Primary Intervention Rating Scale (PIRS)*<sup>5</sup> is an example of a tool used to assess social validity of RTI<sup>2</sup>-B. Typically, the RTI<sup>2</sup>-B school leadership team will ask school staff and other stakeholders to complete the PIRS at strategic time points (e.g., as the team is developing





the Tier I implementation plan; at the end of the school year—after implementing the Tier I plan).

### Examining the Numbers

State-, district-, school-, and student-level teams should analyze data across all tiers of RTI<sup>2</sup>-B to drive decisions. These teams may use data for a number of purposes, including the following:

- To evaluate the overall effectiveness of RTI<sup>2</sup>-B implementation
- To evaluate effectiveness of prevention practices at Tier I
- To identify students who need more intensive supports
- To evaluate effectiveness of specific behavioral interventions at Tiers II and III
- To evaluate fidelity of implementation at all tiers

- To inform continuous improvement at all tiers
- To allocate resources
- To guide development of policies and procedures
- To evaluate social validity of RTI<sup>2</sup>-B

## Using Data to Make Informed Decisions within Levels of RTI<sup>2</sup>-B

Level of RTI <sup>2</sup> -B	Fidelity of Implementation	Student and School Outcomes
<b>Overall RTI<sup>2</sup>-B &amp; Tier I prevention practices</b>	<ul style="list-style-type: none"> <li>• <i>School-wide PBIS Tiered Fidelity Inventory (TFI)</i><sup>3</sup> ongoing throughout the school year or as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Universal screening for behavioral difficulties (e.g., percentage of students identified “at risk”)</li> <li>• Office discipline referrals</li> <li>• Classroom behavioral/discipline data</li> <li>• Suspensions/expulsions</li> <li>• Academic achievement data</li> <li>• Absences</li> <li>• Student outcomes by subgroups</li> <li>• <i>Tennessee School Climate Survey</i></li> <li>• Social validity assessment for Tier I (e.g., <i>Primary Intervention Rating Scale</i>)<sup>5</sup></li> </ul>
<b>Tier II Interventions</b>	<ul style="list-style-type: none"> <li>• Monthly assessments of fidelity of implementation of specific interventions</li> <li>• <i>School-wide PBIS Tiered Fidelity Inventory (TFI)</i><sup>3</sup> ongoing throughout the school year or as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Data collection procedures which are applicable to general/typical behavioral problems (e.g. Daily Progress Reports used in Check-in/Check-Out; CITE)</li> <li>• Other relevant student data</li> <li>• Data collected/reviewed frequently as daily to weekly (i.e., progress monitoring)</li> </ul>
<b>Tier III Interventions</b>	<ul style="list-style-type: none"> <li>• Monthly assessments of fidelity of implementation of specific interventions</li> <li>• <i>School-wide PBIS Tiered Fidelity Inventory (TFI)</i><sup>3</sup> ongoing throughout the school year or as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Data collection procedures are student-specific (based on targeted behaviors)</li> <li>• Other relevant student data</li> <li>• Data collected/reviewed frequently as daily to weekly (i.e., progress monitoring)</li> </ul>



## Establishing Routines and Procedures for Data-based Decision Making

(ADAPTED FROM THE NATIONAL CENTER ON RTI)<sup>6</sup>

Team should establish routines and procedures for reviewing data, analyzing data, assessing student progress, and sharing data with others. Below are guidelines for establishing routines and procedures for data-based decision making within school teams.

### Reviewing Data

- Plan for and schedule dates for teams to review data (e.g., monthly team meetings, end-of-year annual review)
- Include all relevant stakeholders
- Ensure data review meetings are structured for most efficient use of time

### Analyzing Data

- Develop written procedures for analyzing data
- Know what you are looking for: identify priority targets for specific levels (e.g., overall outcomes and fidelity of implementation of RTI<sup>2</sup>-B and Tier I for the school leadership team to analyze; outcomes and fidelity of implementation of interventions at Tiers II and III)
- Focus on priority targets first; do not drown in the data
- Once problems are identified, move through the problem solving process to develop an action plan

### Assessing Student Progress

- Establish written decision rules for all tiers and levels within a school (e.g., school, grade, class levels). Include: procedures for setting goals, guidelines for when to change practices or interventions, procedures for referring students to special programs or supports, guidelines for

increasing/decreasing the intensity of supports for students

- Remember to evaluate student outcomes by subgroups which are identified as areas in need of improvement for the school (e.g., disciplinary actions by ethnicity groups or students with disabilities)
- Articulate when actions should occur

### Sharing Data

- Communicate the *purposes* of data and observed *results* with relevant stakeholders
- Plan for and schedule dates for sharing data throughout the year (e.g., just after universal screening is conducted, following social validity assessments, at the end-of-year annual review, etc.)
- Allow for discussion among school teams so that they may talk about results, patterns, interpretations, and possible actions
- Remember: If you are asking teachers or others to assist with data collection (i.e., asking them to complete surveys or rating scales), share the results with them

## Implementation Case Study

### East Middle School

East Middle School began implementing Tier I of RTI<sup>2</sup>-B last year. They are just beginning to implement and evaluate Tier II behavioral interventions in the current school year.

As part of their RTI<sup>2</sup>-B Tier II plan, East Middle School developed a Tier II leadership team to oversee and support implementation of Tier II interventions. The Tier II team includes an administrator, a behavior specialist, and representatives from each of the three

grade level teams (6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade). At East Middle, the Tier II team meets at least once a month to conduct data reviews of overall fidelity and outcomes of Tier II interventions, but grade-level teams review individual student data during weekly team meetings.

The Tier II team developed and follows written routines and procedures for coordinating with the Tier I team to examine *universal screening* and other student data to identify students who may need more intensive behavioral interventions. The school just completed their first universal screening for behavioral difficulties using the *Student Risk Screening Scale (SRSS-IE)*<sup>7,8</sup> near the end of the fall semester.

The Tier II team and grade level teams also developed and follows routines and procedures for monitoring students' behavioral progress (via *progress monitoring*) in Tier II interventions. By monitoring each student's behavioral progress, grade level teams are able to make decisions (following defined decision rules) about whether to continue implementing an intervention, make changes to the intervention, "graduate" the student from the intervention, or increase/decrease the intensity of supports for the student.

### Alex

Alex is a 7<sup>th</sup> grade student at East Middle School. He is currently participating in Check-in, Check-out, a Tier II behavioral intervention for two weeks. As part of the Check-in, Check-out intervention, at the end of each class period, Alex's teacher completes Alex's Daily Progress Report to rate his behavior for the day in three areas: whether his behavior was safe, respectful, and whether he was appropriately engaged (following East



Middle's school-wide behavioral expectations: Be Safe, Be Respectful, and Be Engaged).

### Alex's Completed Daily Progress Report for Jan. 10<sup>th</sup>

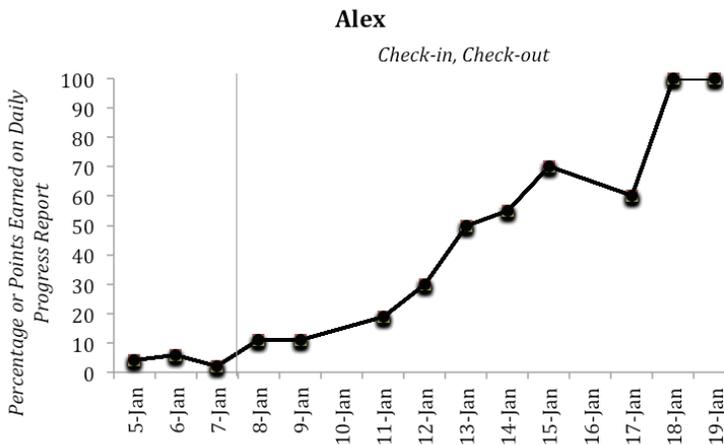
At the end of each day, Alex and his Check-in, Check-out fa-

Date: 1/10 Student: Alex Teacher: \_\_\_\_\_

0 = No 1 = Good 2 = Excellent	Be Safe	Be Respectful	Be Engaged	Teacher Initials
Class	0 (1) 2	0 (1) 2	0 1 2	
Recess	0 1 2	0 (1) 2	0 (1) 2	
Class	0 1 (2)	0 1 (2)	0 1 (2)	
Lunch	0 1 (2)	0 1 (2)	0 1 (2)	
Class	0 1 (2)	0 1 (2)	0 (1) 2	
Recess	0 (1) 2	0 1 (2)	0 1 (2)	
Class	0 (1) 2	0 (1) 2	0 (1) 2	
Total Points= 29 Points Possible= 42		Today: 70% %		Goal: 80% %

ilitator count and total the number of points that he earned across all class periods and recorded the total points at the bottom of his Daily Progress Report (Alex earned 29 points on January 10<sup>th</sup> as depicted above). Then, they divide the total points earned by the total possible points (i.e., 42 possible points in this case) in order to calculate the percentage of points he earned for the day. Alex's percentage of points earned is then recorded at the bottom of the Daily Progress Report.

### Alex's Graphed Percentage of Points Earned on Daily Progress Report



Alex's percentage of points earned each day is then graphed across days. These data are used by Alex and his Check-in, Check-out mentor to review his progress, to talk about goals, etc. The Check-in, Check-out mentor also shares Alex's data with the 7th grade team each week so that they can monitor his progress in the Tier II intervention and make efficient

instructional decisions. Graphed data to the left of the vertical line represent Alex's "baseline" data, or data taken before Alex began Check-in, Check-out. The fourth data point and beyond represent Alex's performance on each day of the intervention.

### East Middle Schools Routines and Procedures for Monitoring Fidelity and Student Progress in Check-in, Check-out

East Middle School's Tier II team established the following guidelines and decision rules for data-based decision making for all students participating in Check-in, Check-out:

1. A member of the Tier II team will conduct brief monthly fidelity monitoring (i.e., conducting a quick observation and completing a brief checklist of whether or not intervention procedures are being implemented) to ensure that Check-in, Check-out is generally being implemented as planned to ensure that the student is actually participating in the intervention and it is being implemented as planned (Tier II team to review Check-in, Check-out fidelity monitoring data at monthly data reviews)
2. If the intervention is not being implemented with fidelity, the Tier II team has a written plan for professional development and support to improve fidelity
3. Grade level teams will review individual student data each week at a minimum to ensure efficient instructional decisions are made; teams should attend to student absences which limit the student's participation in the intervention
4. Implement Check-in, Check-out with fidelity and monitor progress for at least two weeks (allowing for flexibility in this rule in the case of crises); if student is not responding (highly variable data or little indication of improvement), consider alternate intervention(s), increase intensity of support, or individualized intervention plan
5. Goal for fading or graduating from Check-in, Check-out: three consecutive weeks where the weekly average is above 80% of points earned on Daily Progress Report; the team also defined options for fading and graduating from Check-in, Check-out
6. Grade level teams communicate outcomes with Tier II team and Tier II team has established plan for sharing overall data on fidelity and outcomes of Check-in, Check-out for their school



## Using Data to Inform Instructional Decisions for Alex

The 7<sup>th</sup> grade team is reviewing Alex's progress monitoring data during their weekly data review meeting. They use visual analysis to examine Alex's graphed data. Fidelity monitoring data indicate Check-in, Check-out is being appropriately implemented, and student attendance data indicate Alex is actually participating in the intervention.

### Action Plan for Alex?

- Is Alex's behavior getting better or worse?
- Has Alex met the established goal of three consecutive weeks where the weekly average is above 80% of points earned on Daily Progress Report?
- Should the team yet consider options for fading or graduating Alex from Check-in, Check-out?
- Should the team continue to implement Check-in, Check-out and monitor Alex's progress?

### Endnotes

<sup>1</sup>Response to Instruction and Intervention for Behavior (RTI<sup>2</sup>-B) Framework. (2016). Tennessee Department of Education.

<sup>2</sup>Mandinach, E.B. (2012). A perfect time for data use: Using data-driven decision making to inform practice. *Educational Psychologist*, 47(2), 71-85.

<sup>3</sup> Algozzine, B., Barrett, S., Eber, L., George, H., Horner, R., Lewis, T., Putnam, B., Swain-Bradway, J., McIntosh, K., & Sugai, G. (2014). School-wide PBIS Tiered Fidelity Inventory. OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. [www.pbis.org](http://www.pbis.org)

<sup>4</sup> Cooper J.O, Heron T.E, & Heward W.L. (2007) *Applied behavior analysis* (2nd ed.) Upper Saddle River, NJ: Pearson

<sup>5</sup> Lane, K. L., Robertson, E. J., & Wehby, J. H. (2002). Primary Intervention Rating Scale. Unpublished rating scale.

<sup>6</sup> The National Center on Response to Intervention. [www.rti4success.org](http://www.rti4success.org)

<sup>7</sup>Drummond (1994). Student Risk Screening Scale. Grants Pass, OR: Josephine County Mental Health Program.

<sup>8</sup>Lane, K. L. & Menzies, H. M. (2009). Student Risk Screening Scale for Early Internalizing and Externalizing Behavior (SRSS-IE). Screening scale.

<sup>9</sup>Crone, D. A., Hawken, L. S., & Horner, R. H. (2010). Responding to problem behavior in schools: The behavior education program. New York: Guilford.

### For Further Reading

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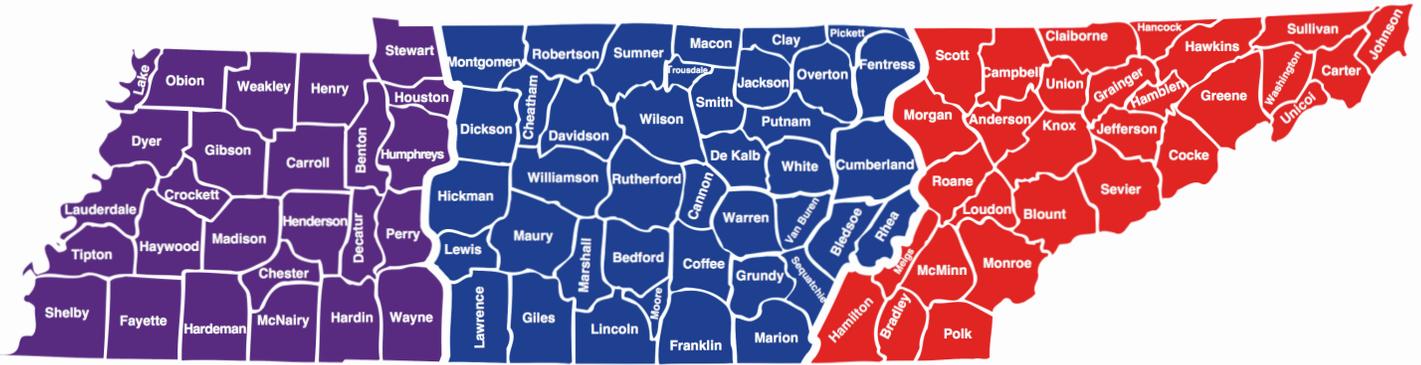
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# Tennessee Behavior Supports Project by Region: 2016-2017



The Tennessee Behavior Supports Project (TBSP) is funded by the Tennessee Department of Education and consists of three regional support contracts: Vanderbilt University, University of Memphis - Lambuth, and University of Tennessee, Knoxville. UT Knoxville is the regional support contract responsible for supporting RTI<sup>2</sup>-B in EastTennessee schools.



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