Data Guideposts: A Beacon for Consistent Determination of Student Need within a Tiered Instructional Framework

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Response to intervention (RTI) has long been promoted as a promising framework for academic intervention and is commonly referenced in school districts across the country. Although implementation details differ from district to district, most educators agree the RTI framework consists of specific, interrelated components to ensure all students are given access to a sound education (Fuchs & Fuchs, 2017).

Given the complex nature of learning and development and the growing range of problems and issues facing school-aged youth, school leaders and educators face a difficult reality when it comes to implementing meaningful academic intervention. To respond to the full range of academic and social-emotional challenges facing students, many educators have adopted a more comprehensive continuum of prevention and intervention services. These models are most often rooted in a multi-tiered system of supports (MTSS), which calls for an integrated approach of tiered intervention designed to address both academic and social learning (Bailey, 2019).

Regardless of the continuum of support schools implement or the acronym they adopt, a tiered instructional framework should provide eligible students with multiple levels of additional instruction for preventative intervention beyond the supports provided in a traditional classroom environment. To ensure effective tiered instruction, schools must establish explicit protocols for:

- Determining which students are experiencing difficulties
- Selecting intervention strategies or supports and matching these supports to students
- Evaluating whether the intervention strategies are helpful to students

(Brown-Chidsey & Bickford, 2015)

Fundamentally, any tiered instructional framework requires screening and established criteria to determine which students are in need. According to the American Institutes for Research Center on Multi-Tiered System of Supports (2023), universal screening ensures districts and schools can engage in a data review for the purpose of strengthening core instruction for all students and identify students who may need additional academic support as part of a thorough data analysis and validation of student performance to ensure a "data-informed" culture of tiered support.

With data-based eligibility decisions being the first step toward successful tiered intervention, it is concerning that educators report:

- A lack of training, time, and resources provided for RTI
- Challenges when it comes to data-based decision making (DBDM), progress monitoring, and other core elements of RTI

(Thomas et al., 2020)

With limited time, training, and confidence in DBDM, educators may turn to a concrete data rule to determine student need. The problem is neither concrete scores nor percentiles provide precise information about what a student can do or what specific skills need to be prioritized to achieve grade-level proficiency.

To better understand and address student need, an alternative methodology for intervention identification is needed. This paper proposes a process that relies on team conversations centered in the triangulation of data from multiple sources (including teacher observations, normative and criterion-referenced data from screening, and formative classroom assessments). The benefits of this holistic approach include a collaborative and confidence-building system of data analysis, use of instructionally relevant data, and a more efficient approach to allocating tiered intervention resources.

This paper highlights:

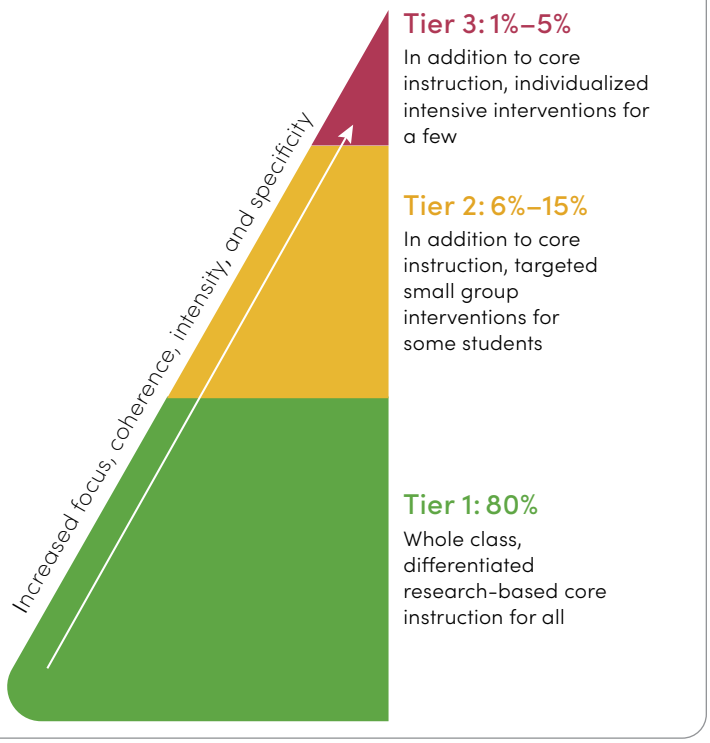
- Two challenges impeding consistent identification of students in need of intervention
- Two recommendations to improve identification practices

Two Challenges to Identifying Students for Tiered Instruction

Challenge 1: Theory versus Reality in "Determination" Guidance

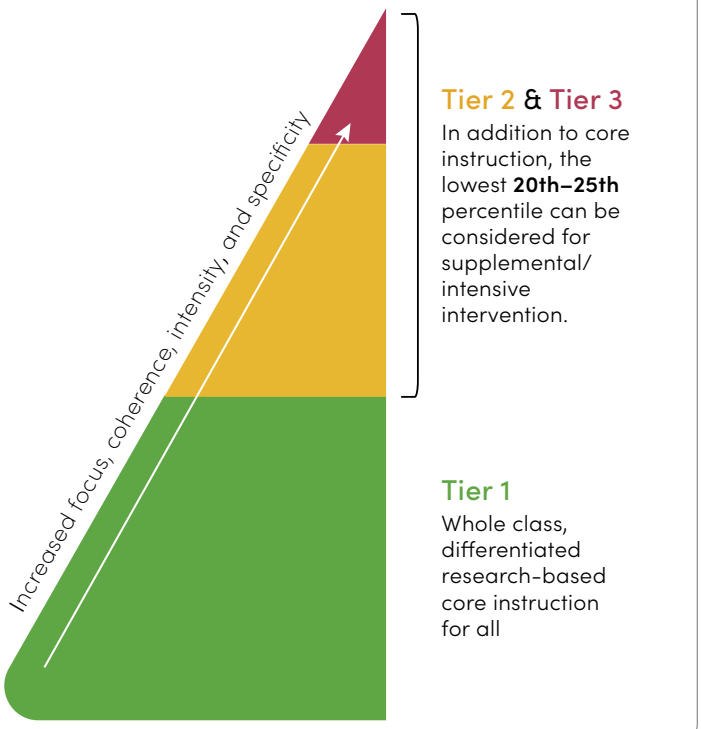
Most research encourages educators to consider a data-decision matrix using the 80–15–5 tiering model (Figure 1). This assumes it is reasonable to expect at least 80% of students will demonstrate desired academic outcomes when core instructional practices are sound, and the remaining 20% of students will typically warrant targeted or intensive support. The matrix is rooted in a prevention science model first implemented in the field of public health during the 1960s and 1970s (Brown-Chidsey & Bickford, 2015). This model is commonly used or referenced when determining a universal screening threshold to identify students who are considered at risk from those who are not at risk (Gandhi, 2019).

Figure 1



While the 80–15–5 model or its variants are the commonly referenced models for intervention discussions, more recent studies have shown schools are implementing a much higher threshold than 20% when determining students in need of Tier 2 and Tier 3 intervention. In a national evaluation of RTI, commissioned by the US Department of Education in 2010 (Balu et al., 2015), researchers found the functional cut point applied to classwide screening data was the 41st percentile. In their critique on the national evaluation, Fuchs and Fuchs (2017) argued this to be a notably high "cut" for intervention, considering most policymakers and researchers consider supplemental or intensive intervention for the students in the lowest 20th to 25th percentile (Figure 2), which has its origins in the 80–20 model.

Figure 2



Challenge 2: Overreliance on Data-Decision Rules and Normative Data

To determine a student's candidacy for academic intervention, educators can easily compare a student's screening score(s) to the tiering criteria suggested in the 80–15–5 or percentile range models (examples shown in Figures 1 and 2). By selecting specific data sets, usually those that provide norms, districts can develop very concrete data-decision "rules" to quickly determine eligibility for Tier 2 and Tier 3 intervention. Given the scarcity of time educators report, it is easy to understand the appeal of and reliance on fixed data ranges or similar score identifiers for tiered intervention.[1]

However efficient or appealing hard and fast data rules may seem, if a team of educators are using a normative-based data "rule," more significant and instructionally relevant data (e.g., teacher observations, formative assessment data) might be eliminated from consideration, reducing the likelihood of appropriate alignment of resources to student need (McCart & Miller, 2019).

It is important to reiterate that normative scores, such as percentiles, can dampen meaningful DBDM when used in isolation. Why is this? Percentiles only tell us how well students are doing relative to other students in their grade, but they do not communicate any information about how well students are doing relative to grade-level standards. For instance, knowing that a student is at the 40th percentile does not reveal anything about what the student knows or can do. The Recommendations section of this paper describes an example of this in more detail.

Additionally, there is little connection between norms and the growth needed for grade-level proficiency, so using a norms-only approach for intervention identification often begins and ends with the classification of students into fixed instructional categories (Ketterlin-Geller & Yovanoff, 2009).

[1]The appeal and reliance on fixed data ranges can also be attributed to many educators feeling they are not properly trained or prepared to analyze data. In a 2016 study, the US Department of Education argued educator confidence often impacted successful data analysis and interpretation (Policy and Program Studies Service, 2008; 2016). Similar studies suggest a discrepancy in educator assessment knowledge and the ability to plan data-informed intervention for students (Supovitz, 2012). Yet, reports continue to indicate "teacher preparation programs generally do not include data literacy knowledge and skills, specifically targeting data analysis or data-driven decision-making processes, within their coursework or field experiences" (Bailey et al., 2020).

Recommendations for Stronger Tiered Identification

Recommendation 1: Include Criterion-Referenced Data for Better Intervention Planning

We know normative data can help inform data considerations related to intervention, but educators looking at normative data may still be left wondering, "How can I best help my student?" One strategy is to contextualize normative data with criterion-referenced data to determine appropriate levels of tiered support.

While normative data compares how students perform on the same assessment, criterion-referenced data measures student performance against predetermined criteria or grade-level standards. For example, if two students score at the 18th percentile, educators would more than likely consider those students for intervention. Though their percentile rank is the same, it would not be surprising to find these students had differing intervention needs. Criterion-referenced data enables educators to identify the exact skills and concepts each student will need to be successful. In this example, in which both students placed at the 18th percentile, criterion-referenced data may reveal that Student A needs more explicit support with phonics instruction, while Student B could benefit from increased comprehension support.

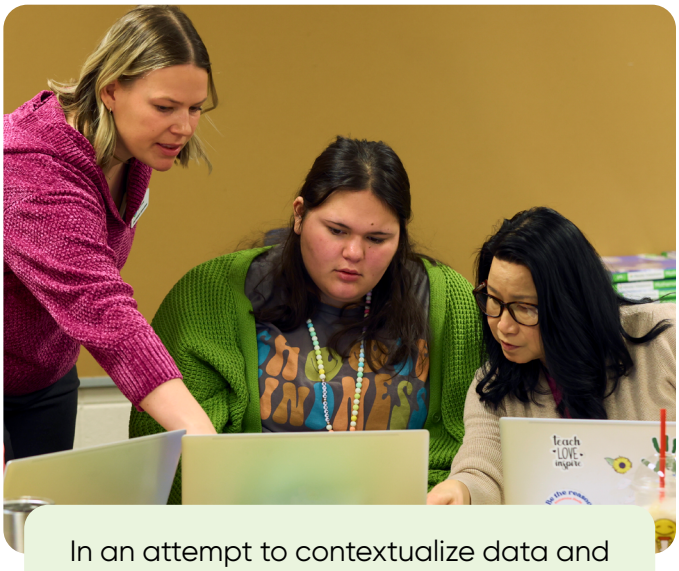
Recommendation 2: Shift from Data "Rules" to "Guideposts"

If a district is relying on data rules, how can they begin to include additional data (like criterion-referenced data) for more meaningful data analysis to ensure students receive appropriate intervention support—especially when teachers are already concerned about their ability to analyze and process data?

When navigating an unfamiliar road, motorists look to signs or a GPS to help them navigate their journey. While each sign or step in the list of directions does not immediately get the driver to their destination, it does get them one step closer. Similarly, in an attempt to contextualize data and reduce a singular reliance upon norm-referenced scores, districts and schools may consider shifting from data "rules" to "guidepost conversations."

Guidepost conversations:

- Provide a consistent starting point for analysis for schools and districts throughout the intervention determination process
- Provide direction for educators when triangulating norm-referenced, criterion-referenced, and all other relevant formative data points
- Ensure appropriate analysis protocols to ensure students are receiving the explicit academic support they need



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Essentially, guideposts enable healthy, data-rich conversations to determine exactly what a student may need in intervention through a consistent approach using multiple data points.

A Guidepost Is	A Guidepost Is Not
• An agreed-upon data point to prompt conversation and dig deeper into a student's story • A beacon for data triangulation when analyzing **multiple data points** • A consistent approach to determining student academic need	• Implemented as a concrete rule for decision making • Rooted in few norm-referenced data points • A process that limits triangulation

Guidepost conversations can be implemented in three primary steps.

Step 1 **Identify a universal data source to use as the guidepost.**

- Example: A district identifies percentile data from a computer-adaptive test with normative and criterion data.

Step 2 **Analyze student data from the universal assessment through the criteria of an established guidepost range.**

- Example: Include any students below the 41st percentile in a data review to pinpoint need and evaluate eligibility. The guidepost indicates a student may be eligible for Tier 2 intervention.

Step 3 **Use the guidepost as a beacon of analysis, and begin the triangulation process with all available data.**

- Prompted by the guidepost, a more extensive data review takes place. Other data indicates Tier 1 instruction would be more suitable, and therefore the student is not a candidate for supplemental intervention in this specific intervention cycle.

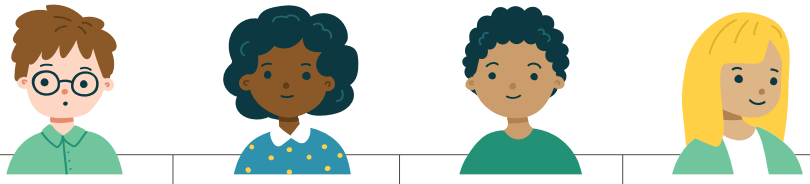
Guideposts versus Data Rules

The primary difference between a guidepost and a data rule is the latter would automatically identify students for targeted intervention without a procedure to include/discuss/analyze other data sources. For example, if a district has a data rule that the 25th percentile is the threshold for intervention, students who score at or below the 25th percentile on an agreed-upon, identified assessment will receive targeted intervention. Those above the 25th percentile will likely receive little intervention support, if any. In comparison, if the guidepost for intervention is the 25th percentile, any student scoring at the 25th percentile or below will receive a more thorough data conversation with multiple data points in their analysis.

Once guideposts help educators identify candidates for further consideration, educators then reference, analyze, and triangulate all other available data sources to confirm (or negate) identification for tiered support, if additional data suggest more students become candidates for targeted intervention, or if additional data suggest fewer students become candidates for targeted intervention. See Figure 3 below for an example of how a guidepost conversation can impact decision making.

Shifting from a Single Data Rule to a Guidepost Conversation

Figure 3



		STUDENT A	STUDENT B	STUDENT C	STUDENT D
Using a data rule, all these students might be identified for targeted intervention. But the same data can be used as a guidepost . . .	**Screening Data Point**	**17th Percentile**	**17th Percentile**	**17th Percentile**	**17th Percentile**
A guidepost (like the 17th percentile) can be used to start further examination into a student's data story.	Criterion-Referenced Data	Two or More Grade Levels Below	Two or More Grade Levels Below	Early On Grade Level	Two or More Grade Levels Below
	Informal Data	Significantly below	Significantly below	Progressing	Significantly below
After a guidepost conversation, the support team determined that Student C would benefit from scaffolded support in core instruction, not targeted intervention.	Tiered Identification	**STUDENT A** is a candidate for targeted intervention.	**STUDENT B** is a candidate for targeted intervention.	**STUDENT C** is NOT a candidate for targeted intervention.	**STUDENT D** is a candidate for targeted intervention.

The guidepost initially identified Student C for consideration for targeted intervention, but once a thorough analysis was done including other data sources such as criterion-referenced data and informal data, the determination was to support the student through core instruction with the assurance of scaffolding to support their specific areas of academic concern.

Establishing Guideposts: How to Get Started

The essential question for educators interested in implementing guideposts in place of a single data point is, where do we begin? It is important to first take into consideration current research and trends for identification. As discussed previously, most tiered instructional implementations rely on the 80–15–5 model, while there are many schools and districts across the country using the 40th percentile as an entry point for intervention (Fuchs & Fuchs, 2017). It is also equally important for stakeholders to understand the variance of intervention identification trends and consider their implementation systems when establishing their guidepost criteria. For example, a district that has sound differentiation and scaffolding supports within their core instructional framework may have a smaller guidepost threshold for intervention (e.g., 25th percentile and lower). Alternatively, a district that is currently strengthening their core instructional framework may have a higher threshold for intervention (e.g., 40th percentile and lower). Regardless of the criteria established by districts, a guidepost is designed to be the starting point for data analysis and triangulation.

Considerations and Conclusion

If the goal of intervention is to ensure a pathway to proficiency for students receiving intervention support, we should rely on data that accurately informs where students are relative to the end goal of grade-level proficiency and provide educators with data that allows them to maintain relevant and high-level expectations for their students. Increasing reliance on criterion-referenced data does not mean we have to throw out all procedures and protocols that rely on normed measures. Ultimately the goal is to ensure that normative and criterion-referenced data work together to support effective tiered implementations.

By analyzing data from different methods and sources, educators can enhance their ability to make informed, appropriate decisions about interventions and support levels for each student based on their individual needs. Ultimately, triangulation strengthens the credibility of the data by contextualizing information, leading to more accurate conclusions about student progress, ensuring a timely and accurate identification of students needing support, and ultimately initiating targeted intervention based on the comprehensive data collected (Rangel-Pacheco & Witte, 2023).

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