

**The Role of the Speech-
Language Pathologist in RtI:
Implementing Multiple Tiers
of Student Support**

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Preface

Response to instruction or intervention (RtI) is not new as an educational concept but it is still not a common organizational paradigm in the public schools of the United States. In short, RtI refers to a multitiered process of student support that provides students with individualized and monitored support based on identified academic and/or behavioral needs. The system of support is organized in multiple tiers. At each tier the instruction or intervention becomes more intense and/or more frequent based on the student's response to the support (over a specified period of time). It is a continuum of support that transitions from simple classroom interventions through specialized educational services. The goal is to quickly identify the specific needs of students, provide the necessary instructional support, and close individual achievement or developmental gaps. For the majority of students the initial tier of support will be adequate. If that targeted support is not sufficient, the amount of support intensifies and the intervention(s) is modified to increase the chance of success.

This is certainly not the first book written about RtI. Why another book on RtI? More pointedly, why write a book on RtI for speech-language pathologists (SLPs)? First, I have seen multitiered, response-to-instruction systems work. It is not very easy to find schools that have implemented it appropriately but when one finds them, it is an amazing thing to behold. Second, SLPs have the training, skills, and experience that provide support for key elements of this process but are too often left out of the planning and implementation process. At a recent convention (March 2017), I asked the SLPs in attendance to raise their hands if they had been intimately involved in the planning or implementation of their school's multitiered process. Six individuals out of approximately 250 responded in the affirmative.

A fully developed multitiered system of student support requires the ability to gather and appropriately utilize multiple sources of data to make a differential diagnosis in order to ascertain just why a student is failing to thrive academically. The lifeblood of the multitiered, response-to-instruction system is the efficient application of effective interventions to close individual student achievement or developmental gaps. In order to make differential diagnoses and identify appropriate interventions, educators must be able to think developmentally. They must be familiar with the developmental process, which is a markedly different perspective than simply understanding and applying a grade- or course-level curriculum. My K-12 teacher friends are experts on what a student should be able to learn at the grade level they teach. They are not experts on what skills a student should have a year or two or three or four below (or ahead) of that grade level. Nor are they experts on the typical progression of those skills and how to measure them. It is why, for example, my middle and high school English teacher colleagues quickly admit that they are not "reading teachers."

Now consider the work of the SLP. Upon collection of data, SLPs immediately check to determine the student's functional level and compare that with developmental norms. These data are reported in age levels, percentile rankings, standard deviations, stanines, and the like—a language that must be acquired through training. In the creation of a therapeutic plan and the writing of goals, we look for key indicators which, when appropriately

monitored, will demonstrate the efficacy of the treatment regimen. This is the basic therapeutic model, and it is the multitiered, response-to-instruction model as well! It is not, however, the general educational model. Merging the two is the key to successful implementation of RtI!

The change in thinking required by school administrators and general educators to effectively and efficiently use a therapeutic-type model alongside the curricular educational approach is considerable indeed. So, who in the typical public school has the skills to support the planning for, early implementation of, and monitoring of a multitiered, response-to-instruction system? While school psychologists have been major players in the process, I argue that the SLP has the “package” of skills and knowledge that can truly and dramatically support implementation. I can make the argument that few, if any, other public school professionals have quite the same match of skills and knowledge about the intervention process as the SLP.

Unfortunately, in too many schools, special education is perceived as a school within a school. In a multitiered system, response-to-instruction model student support is on a continuum and specialized education services is not an island broken off and separate from that continuum. In school after school, I have seen multitiered systems fail to thrive because the professionals who know the curriculum are not in league with the professionals in the building who understand child development and the intervention process. I argue that without that collusion, these multitiered systems are more likely than not to fail.

This book is for the SLP. It is my hope that even highly experienced school-based SLPs will learn something about the general education paradigm they did not know, more fully understand the multitiered/response-to-instruction system of student support, and appreciate how critical their skills and knowledge can be in a school's effort to use this model. It is my further hope that SLPs will jump into the fray when plans are being made to implement this model; they will be shocked at just how much general educators and administrators will come to rely on (and appreciate) their expertise.

In this book I often refer to this system as the “multitiered system of student support.” Implicit is the notion that movement from one level to another (in either direction) is based on the student's “response-to-instruction” (or intervention). Therefore, I make that explicit here.

It is *vital* the reader appreciates that the focus in this book is on student achievement and the elements of the multitiered system needed to address achievement-related problems that are not primarily a function of significant and severe behavior issues. In my own experience, many student behavior issues are directly related to student disengagement from the classroom because of a persistent lack of academic success. The behavior issues are replacement behaviors and secondary to consistently poor achievement and a perceived inability (on the part of the student) to succeed. In many cases, improvement in the student's ability to successfully access the curriculum goes a long way toward ameliorating more “modest” behavioral problems and poor student motivation.

In other cases, the behavioral “issues” are related to some other cause: family dysfunction, mental health problems, or specific psychological or emotional conditions. In many of these cases, the poor scholastic achievement may be secondary. The typical SLP may not have the tools to diagnose, treat, or even understand some students who are experiencing significant behavioral problems. The SLP will *not* want other members of the multitiered

team to presume knowledge and skills where they do not exist. In many respects, the basic elements of multitiered systems of support are fully applicable in the realm of student behavior. There are, however, differences and nuances in the process that require other sources of expertise both in planning and implementation. Here the school psychologist, social worker, school nurse, and others will have a prominent role. However, this further makes the case for the role of the SLP. Implementation of a multitiered, response-to-instruction system of student support needs *all sources* of staff expertise to make it a successful, rewarding venture.

The emphasis in this book, therefore, is on the parts of the multitiered system for which the SLP can, and optimally, should be involved. Just where this expertise lies and how it fits into the process should become clear as the reader moves from chapter to chapter.

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Assessing Developmental Growth and Curricular Attainment

Vignette: *The Mismeasure of Man*

A student teacher pondered a way to help a high school civics class understand the history of human intelligence testing. He picked up a text at his local bookstore entitled *The Mismeasure of Man* (1981) written by the eminent evolutionary biologist Stephen Jay Gould. The student teacher found something in the book that he believed would help in the lesson. Over the weekend, he gathered all the materials that he would need for the lesson (string and rulers) and constructed a chart on a poster board similar to a chart found in the book.

The following Monday, he introduced the lesson by telling the class that over the past one hundred and fifty years scientists had created a wide variety of techniques and methods to measure human intelligence. In the late nineteenth century, for example, some researchers were convinced that intelligence could be discerned from physical characteristics including the shape and size of the head. One could measure the circumference of an individual's head and then refer to a chart that linked that measure with a level of intelligence. Head size, according to the underlying theory, was related to brain size and, hence, brain power.

The student teacher showed the students the chart that he had replicated from one in the book. It showed different ranges for the circumference of the skull and the estimated intelligence level for each range. He then passed out the string and the rulers and asked the students to measure each other's head and determine the intelligence level from the chart. The students laughed and went about taking measurements. The string was looped around a fellow student's head and then the length of the string was measured with the ruler. Following the measurement activity, the students were placed into groups depending on their "intelligence" level. The student teacher then informed the students

that their seating arrangement was going to be altered. The group with the greatest measured “intelligence” was placed in the front of the class. The remaining students sat behind the “smarter” group except for those designated as having the lowest ability. Desks were moved into the far back corners of the room to accommodate these students—the ones with the smallest measurements. The student teacher then handed out a new pencil and small piece of candy to the members of the group with the greatest intelligence and gave a pencil (sans candy) to the remainder of the students except, of course, those sitting in the back corners! Over the next thirty minutes additional information about the history of intelligence testing was provided to the classroom. The student teacher purposefully lectured to the students in the front and ignored the students in the very back corners. He avoided eye contact and refused to call on them even if they raised their hands to make comments or ask questions. All the students were certainly aware of what was taking place and the ulterior motive of the teacher, but all the fun of measuring heads began to dissipate.

Finally, toward the end of the class period the student teacher asked all the students to move back to their original seats and a discussion about the lesson ensued. One of the students remarked that even though he knew that head measurement as an indicator of intelligence was “bogus,” he began to resent being moved to the back of the room and ignored. He said that he could not help feeling slighted, and that if it had all been done in earnest he would certainly have been very angry and would have “definitely” rebelled. It was, as one might predict, a very poignant discussion. It ended with the student teacher remarking that any time a person of authority utilized any type of test and reported the results, the “expert” better be pretty sure he or she knew what they were doing and understood the consequences of any incidental misuse of data.

Data and the Multitiered System of Student Support

Educators from early in the twentieth century would be astonished at the amount and forms of data available in schools of the twenty-first century. There are normed and standardized measures used by SLPs and school psychologists that yield stanines, percentile rankings, and standard or scaled scores. There are curriculum-based measures (CBMs) and formative assessments that produce a wide variety of scores. Some state and national assessments, such as the California Achievement Test (CAT) and Cognitive Abilities Test (CogAT), produce scores that require, for example, an understanding of mean scores and standard errors. Value-added assessment represents an entirely new way of looking at outcomes on multiple levels: individual student, classroom, school, or district.

In this chapter we will review some of the basic measures utilized in the public schools and identify how data can inform educators and clinicians about a student’s developmental status and/or curricular progress. This will not be a primer on statistics, although some definitions and explanations will be provided. It will also not be a comprehensive listing of all the assessments utilized in public K-12 education; the number of measures is quite large. Instead, we will focus on the major types of analyses and how the data that are generated can be best used to:

- Determine individual student level: developmental or curricular
- Measure progress toward goals
- Assess the effectiveness of programs
- Identify school strengths and needs

Why is this chapter necessary? There are two major reasons for including this chapter. First, the multitiered system of support relies on appropriate use and accurate interpretation of all forms of student performance information. Some of the testing information generated in America's public schools can be used to determine a student's performance relative to the curriculum, but is not a direct or strong indicator of the student's functional developmental level in a given domain (e.g., end-of-grade summative, high-stakes tests). Other data help pinpoint the developmental level but do not yield a measure of curricular performance—at least not directly (e.g., DIBELS). In the multitiered student support system, educators need to know what kind of information each form of assessment yields and how that can be used to apply targeted support and ascertain whether that support has been effective.

Second, research suggests that educators have experienced difficulty understanding some forms of data and how to use them to inform instruction (Kerr, Marsh, Ikemoto, Darilek, & Barney, 2006; Little, 2012). Some of the factors associated with ineffective data utilization include:

- Accessibility or timeliness of data: As an example, detailed information from end-of-grade or end-of-course (high-stakes) tests in many states does not arrive until months after the start of the following school year. It not only does not impact instruction in the current year but it often comes too late for educators to use it to meaningfully reflect on the previous year's instruction.
- Perception of data validity: Educators may question whether certain forms of data actually reflect reality. As an example, some teachers do not trust that a three-hour end-of-grade reading assessment accurately measures the reading skills of a third-grade student whose attention span is rarely longer than forty minutes in the best of circumstances!
- Inadequate training: While value-added measures, for instance, provide highly detailed information, they require an incredible intellectual investment on the part of the educator to understand what it all means and how best to integrate the information into instructional practices or school programming.
- Administrative support: Ongoing collection of data and use of that information to drive instruction (e.g., differentiation and intervention) often demands administrative support and oversight.

School administrators, teachers, and specialists use data on a daily basis to steer the decision-making process. It is critical that educators of every stripe understand (a) how data are collected, (b) the processes used to analyze raw data, (c) the reporting format, (d) how to accurately interpret the information, and (e) how best to use the analyses. Little (2012) suggests that there has been insufficient research to ascertain whether all these elements are satisfied in a typical school.

It really is no wonder that available sources of data within a school are often poorly utilized; interpretation of data, especially sources of data that are new and complex, requires an intellectual investment on the part of the customer and a perceived need for the information. Understanding the language of data and becoming intimate with the format of the data presentation takes time and training. SLPs come face-to-face with data on a regular basis, but do we possess the skills to *fully* appreciate what that information provides? Below are some questions that *might* challenge some SLPs understanding of data.

1. What percent of a population or sample is captured between +1 and -1 standard deviations in a normal distribution?
2. What is the difference between a normal curve that has a high peak with a narrow distribution and one that has a very wide distribution and a low peak?
3. What is the percentile ranking for the mean score on an assessment?
4. What is the difference between a percentile rank and a stanine?
5. A third-grade student has a standard score of 85 on an assessment. A year later the student has clearly demonstrated a full year's worth of growth in the skill measured by the assessment. If the assessment were administered a second time, what standard score would you predict?
6. What is the meaning of "effect size?"

Does it make a difference if an SLP knows the answers? Let us consider this question. The major purpose of a standard deviation is to provide the evaluator with information about how a given score relates to a normal distribution of scores. One standard deviation from the mean *always* captures 34.13 percent of the distribution. Therefore, approximately 68 percent of all scores will fall between +1 and -1 standard deviations from the mean score. Regardless of whether a bell curve has a wide distribution with a short peak or a narrow distribution with a high peak, 68 percent of the scores will fall between plus and minus one standard deviation.

If the clinician knows that the mean score of an assessment is 100 and one standard deviation is fifteen points then he or she also knows that 68 percent of all scores will fall between a score of 85 and 115. It is helpful to know how a student is performing compared to norms. For example, just how low is a score of 84 or how high is a 116? The width (and peak) of the curve (question #2) does not impact the interpretation of standard deviations. It does, however, inform the clinician as to the variation and overall distribution of the scores.

A mean score does not always have to be 100 and the standard deviation is not always 15 points. It makes a difference in interpretation if one standard deviation is 10 rather than 15 points! The mean score (question #3) always represents the 50th percentile in the distribution. A percentile rank provides a single number; for example, 37th or 94th percentile, while a stanine (question #4) signifies a range of percentiles. For example, a stanine of "5" represents a percentile rank range of twenty—ten percentiles above and below the mean score, which is the 50th percentile.

Question #5 taps into a fundamental understanding of test score interpretation. This question assumes that a hypothetical test perfectly measures a skill and does so at any point in time. Of course, this is never the case. Therefore, the answer to this question has

both a theoretical and practical solution. First, theoretically, a typically developing child should gain twelve months of growth in a twelve-month period. An assessment should become more difficult over time to capture the growth and improvement in skills experienced by the individual. If the hypothetical child grows exactly twelve months during the twelve-month period, that child should score the exact standard score as on the first administration; that is, a standard score of 85. Since no assessment is perfect and there is variation in what is considered a “typical” amount of growth, the actual score may vary. The astute clinician will understand that if the child scored an “83” or an “87,” for example, on the subsequent assessment, that might not be a meaningful difference from the baseline standard score of 85. The general interpretation might be that the child had “approximately twelve months of growth in that twelve-month period.” That could be a very important finding for a child who has never grown at a typical rate; it could reflect a significant growth rate change for a given child!

Finally, regarding question #6: Effect size provides a clinician or educator with information about the effectiveness of a treatment protocol or program. Effect size is provided in units of standard deviation. Thus, a treatment program that has an effect size of 1.25 is one where the clinician can expect that the child will grow 1.25 standard deviations in that skill during the stated duration of the treatment program. (It should be noted that an effect size of 1.25 is quite good.)

So, how did you do? It can be daunting to realize that one might still have a great deal to learn about data interpretation—even after many years of clinical practice. The intellectual investment is not insignificant, although most clinicians who seek out more information about data interpretation come away with important moments of enlightenment. Also, the results can be highly meaningful in many different ways! SLPs utilize this type of information on a weekly basis. General educators, on the other hand, do not and when faced with complex student performance analyses often struggle to understand what it all means. If interpretation of data is essential to the function of the multitiered system (and it is!), then collaboration on analysis will be critical and those with extensive experience determining student functional levels will need to be part of the multitiered team.

Consider the contribution by an experienced SLP to general education programming in the following example.

Vignette: When Effect Size Mattered

A very large school district was determined to do something to elevate middle school reading scores. At great cost, a computer web-based program and extensive training on use of the program was provided to the middle school ELA teachers. Plans were made to modify the reading block in the daily schedule so that every middle school student who had scored less than proficient on the previous year’s end-of-grade reading assessment had time to use the computer program. Central office administrators monitored each middle school’s use of the program to ensure that the plan was implemented with high fidelity. In general, all the middle schools complied and the appropriate students regularly accessed the program.