

# Encyclopedia of Measurement and Statistics

## Response to Intervention

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Response to Intervention (RTI) refers to a student-centered assessment and intervention model that has been proposed recently as an alternative approach to the identification of specific learning disabilities (SLDs) under the 2004 reauthorization of Individuals with Disabilities in Education Improvement Act (IDEIA). The IDEIA eliminates the longstanding requirement (i.e., since 1977) that a significant discrepancy between IQ and achievement must be demonstrated to classify a child as a child with an SLD. Although states may still use the IQ-achievement discrepancy model, the U.S. Department of Education, in its proposed IDEIA regulations, is encouraging adoption of the RTI model instead. RTI reflects a reconceptualization of how learning disabilities are assessed and identified by determining whether a child responds to scientific, research-based interventions as part of the evaluation criteria used to determine if the child has a learning disability, regardless of the existence of an IQ-achievement discrepancy.

## Background

The term RTI was first conceptualized in 1982 by leaders in the field of education, who proposed that the validity of a special education classification be judged according to three criteria. The first criterion was whether the quality of the general education program was such that adequate learning might be expected. The second criterion was whether the special education program would lead to academic improvements justifying the classification. The third criterion was whether the assessment process was accurate and meaningful. Under this model, all three criteria must be met for the classification to be considered valid. This new framework required judgments about the quality of instruction in both the general education and special education settings as well as judgments about the way students responded to these learning environments, all based on accurate and meaningful assessments.

The main premise of RTI is that students are identified as having an SLD when their response to effective academic interventions is significantly lower than that of peers. The inference is that students who fail to make adequate progress in response to scientific interventions that are proven successful for most students must have a deficit that requires specialized treatment beyond what general education programs can offer.

RTI is sometimes referred to as the problem-solving method because it focuses on applying a problem-solving framework to identify and address student difficulties.

Prior to the RTI conceptualization, SLD was viewed exclusively as a within-child deficit, despite awareness that learning is influenced by the context in which instruction takes place. Instead of making the assumption that the underlying cause of the learning difficulty lies within the child, RTI models recognize that the difficulty may also lie within instruction, within the child, or a combination of the two. Thus, [p. 841 ↓ ] the new approach focuses on early identification/ prevention of learning problems and the contribution of the instructional environment to the child's academic growth. Instead of measuring a student's skills at a single point in time and identifying the student as SLD, assessment and intervention occur on an ongoing basis.

## RTI Models

Currently, there are many ways to implement RTI; however, there some common elements that distinguish a RTI model from other approaches to SLD identification. The core characteristics of RTI include the following:

- Students receive high-quality instruction by their classroom teacher in their general education classrooms while their progress is monitored.
- Those who do not respond receive additional or alternative instruction while their progress continues to be monitored.
- Students who still do not respond may qualify for comprehensive special education evaluation or special education services.

This multiple-step process may vary in terms of the number of levels or tiers in the process; the person(s) responsible for the assessments and interventions; and whether the process is a forerunner to a formal comprehensive evaluation for special education eligibility, or if RTI is itself considered the eligibility evaluation. Several components are necessary to enhance the effectiveness of RTI approaches: (a) ongoing, frequent assessment of student progress, (b) knowledge and skill in implementing evidence-based instruction, (c) a system to screen and track the progress of a large number

of students, and (d) systematic assessment of the fidelity or integrity with which the assessments and interventions are implemented.

## The Three-Tier RTI Model

Among the most well-conceptualized RTI models is the three-tier model proposed by L. S. Fuchs from Vanderbilt University, also known as “treatment validity.” Tier I uses classwide assessment to determine whether the overall rate of responsiveness to instruction for the general education environment is generally effective so that adequate student progress is expected. Tier II assessment consists of identifying those students whose *level* of performance and *rate* of improvement are significantly below those of classroom peers. These children are identified as *dually discrepant* because their level of performance and their rate of performance (i.e., slope) fall below the level and rate of classmates. In Tier III, alternative or additional evidence-based interventions are implemented in the general education setting to enhance the quality of education. If intervention fails to promote student growth, comprehensive special education evaluation is considered.

## Curriculum-Based Measurement in RTI

Curriculum-based measurement (CBM) is a multiple-probe, brief-duration (e.g., 1 minute) assessment method designed to measure student performance over time to identify students whose level and rate of performance are below those of the reference group. Equal importance is given to skill level (low achievement) and progress (slope). A student who is achieving significantly below level and whose rate of progress is similarly deficient is considered to be at risk. This dual discrepancy of low achievement and low rate of progress becomes the index by which responsiveness to instruction is judged. Students who are dually discrepant undergo additional interventions in the general education classroom while being monitored with CBM “probes” (i.e., student brief, timed samples) to determine if they will respond to the additional instruction. Special education evaluation or placement is considered only if they continue to

demonstrate a dual discrepancy after an evidence-based intervention has been tried for some time (e.g., 8 weeks).

## RTI Models Address Poor Instruction

RTI models address an often overlooked criterion in the IDEIA regulations—whether the student has [p. 842 ↓ ] received adequate instruction in general education but failed to benefit from it. Under RTI, students cannot be identified as dually discrepant unless there is indication that most students in the classroom are responding to the curriculum. If the classroom as a whole is not performing at the same level and rate as other classrooms, then a classroom-level intervention geared to improving the academic performance of all students occurs before individual deficits are considered. In this way, RTI proponents maintain that they can rule out poor-quality instruction as a cause of a child's learning difficulty.

On the other hand, if a student responds inadequately to instruction that benefits the majority of students, poor-quality instruction can be ruled out as a feasible explanation for poor academic progress, suggesting instead that a disability is responsible for a child's lack of progress. In other words, the possibility of a neurological deficit (a within-the-child deficit) is not ruled out until the child is unresponsive to quality instruction.

## Advantages of RTI Models

RTI models can provide assistance more quickly to a greater number of low-performing students than is possible with IQ-achievement discrepancy models. RTI models emphasize classwide assessment, enabling early identification of struggling students. Because RTI focuses on effective instruction and early intervention, it may benefit all children, including those who enter school with limited literacy and language proficiency who may be at risk for failure, as well as children with disabilities. RTI proponents argue that RTI represents a switch from assessment for eligibility purposes to assessment for instructional purposes, and that RTI ensures that student progress is monitored and instructional interventions are tested. Using an RTI model as part of an overall universal screening may also reduce the reliance on teacher referral, thereby decreasing possible

referral bias. Finally, because RTI relies on ongoing data collection, this approach can reduce the influence of measurement error that characterizes assessments administered at a single point in time. A more accurate picture of the student may be possible because the focus is not only on level of performance but also on growth over time.

## Controversial Aspects of RTI

In spite of the increasing popularity and acceptance of RTI, there are many controversial issues that require resolution. Critics assert that children who are identified with an SLD under the RTI-only model may not have a true disability, particularly because no description of cognitive deficits can be identified within the RTI framework, although the IDEIA definition of SLD specifically requires cognitive processing deficits. Opponents of RTI argue that if dual discrepancy is a valid SLD marker, then children identified as SLD should be distinguishable from other groups (e.g., low-achievement children). Yet when RTI has been studied, the distributions of children defined as learning disabled and low achievers overlap substantially, and reading improvement is basically the same for both groups.

Another controversial issue is whether failure to RTI may be attributable to other causes (e.g., mental retardation, emotional disturbance) rather than SLD. Critics also point out that RTI requires arbitrary cutoff points to identify those who fail to RTI. However, the arbitrary cut-off point is a limitation for other approaches for SLD identification as well.

Durability of response to instruction is another controversial area. If a student responds to relatively intensive but short-term instruction treatment, the assumption under RTI is that a disability has been ruled out. Although this may be true for many students, research evidence suggests that the difficulty will reemerge for others when the intensive instruction ceases. Feasibility of evidence-based instruction for the general education classroom is another issue. Interventions that are research-based but not feasible are not likely to be implemented with fidelity, which would undercut the validity of RTI decision making.

Implementing RTI in a way that enables procedural standardization across classrooms, schools, districts, and states is also a challenge for RTI. In addition, research support for RTI is uneven. Adequate research support exists for RTI with reading fluency, particularly [p. 843 ↓ ] in the early elementary grades. CBM probes for assessing growth have been established in mathematics, spelling, and written expression, but research-based intervention methods for these areas await development. Finally, adequately trained personnel are not yet available on a nationwide basis. A growing number of school districts in Florida, Iowa, Kansas, Minnesota, Ohio, Pennsylvania, South Carolina, and Wisconsin already use RTI to identify students for special education services. Yet most efforts have been implemented on a small scale, and most states lacked personnel trained and skilled in RTI when the IDEIA took effect on July 1, 2005. Perhaps more importantly, RTI implementation requires a paradigm shift for many professionals in conceptualizing assessment and intervention, and resistance to change is to be expected.

In spite of the enormity of the task, and the many accompanying challenges, RTI is at the forefront of a nationwide change in the SLD identification process.

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Further Reading

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- [http://www.aimsweb.com/products/aimsweb\\_rti.htm](http://www.aimsweb.com/products/aimsweb_rti.htm) AIMSweb Response to Intervention in a three-tiered model
- <http://www.wested.org/nerrc/rti.htm> Response to intervention topical links