



YOUR ACCESS TO THE REGION

Supplement to October 2010: Vol. 6, No. 1

FEATURE ARTICLE:

NATIONAL CENTER ON RESPONSE TO INTERVENTION INSTRUCTION TOOLS CHART

By the National Center on Response to Intervention (NCRTI)

Effective instruction is one of the core features driving successful implementation of response to intervention (RTI). One of the essential components of RTI is a multilevel prevention system that involves three “levels” of instructional prevention. At the primary level, a school provides high-quality core instruction that meets the needs of most students. At the secondary level, the school provides evidence-based intervention(s) of moderate intensity that address the learning challenges of students determined to be at risk. Finally, at the tertiary level, a school offers individualized intervention(s) of increased intensity for students who show minimal response to supports provided at the secondary level. At all three levels of prevention, it is critical that school personnel implement supports and interventions that have been validated through research to be effective. By implementing validated interventions, staff can be confident that student performance accurately portrays the student’s level of need for targeted or individualized instruction and not any shortcomings in the instruction itself.

In order to help consumers learn about and select validated interventions that can be used within an RTI framework, NCRTI recently released its instruction tools chart, following the model of its tools charts on screening and progress monitoring. The instruction tools chart provides educators with a list of commercially available instructional programs in reading and mathematics, along with research studies documenting each program’s effectiveness. This first iteration of the chart includes instructional programs designed for use in a secondary intervention context; in other words, these programs should be used in a small-group setting with students who have not made adequate progress in the core general education curriculum. Each of the studies on the chart has been reviewed by NCRTI’s Technical Review Committee (TRC) on instruction, a group of 23 national experts in research methodology and tiered instruction. The chart offers information on the quality of the research studies, the effect sizes found in the studies, cost, and implementation requirements of the programs.

The purpose of the instruction tools chart is to assist educators and families in becoming informed consumers who can select instructional programs that best meet their students’ needs. The chart is not intended to endorse any program or to compare programs. As such, it does not provide an overall rating for each program. Rather, the chart provides a large amount of information, including ratings on multiple aspects of study quality, designed to assist consumers in selecting an instructional program that is most appropriate for use as a secondary intervention in a classroom, school, or district. The “best” program is not going to be the same for every school and is not determined by any single element on the chart. NCRTI encourages users of the chart to review all of the elements of the chart to make an informed decision. NCRTI also has generated a list of six tips that will help consumers determine their instructional needs and research their options:

1. Gather a team.
2. Determine your needs.
3. Determine your priorities.
4. Familiarize yourself with the content and language of the chart.
5. Review the data.
6. Ask for more information.

The remainder of this article will discuss in greater detail these six tips for using the chart. It may be helpful to view the chart while reading the tips. The chart can be found online at <http://www.rti4success.org/chart/instructionTools/>.

Tips for Using the Chart

1. Gather a Team

Often, decisions about appropriate instructional programs will involve the input of multiple administrators, teachers, and staff. When using the tools chart, it will be important to gather a team of key constituents in your school and district to review the information together. Before you begin, ask yourself:

- Who should be involved in selecting an instructional program?
- What types of expertise and what perspectives will I need to be available among those involved in selecting a program?

2. Determine Your Needs

The most appropriate instructional program for you will depend on your specific needs. Some questions to think about, as a team, include:

- For what skills do we need a secondary intervention instructional program? Is there a specific academic outcome or measure for which we are interested in providing supplemental instruction?
- For what grade levels do we need an instructional program?
- Will this program be used with all students who are not progressing in the core curriculum or only with specific subgroups of students?
- Which subgroups?

3. Determine Your Priorities

In addition to determining your needs for an instructional program, your team should consider its priorities. You need to consider what the most important factors are in selecting a secondary intervention instructional program for your school.

- Can the program be purchased for a reasonable cost?
- How long does the program take to administer?
- Does the program require specialized expertise or lengthy training to administer?
- Does the program offer ready access to training and technical support for staff?
- Does the program have documented evidence of efficacy through the most rigorous research?
- Has the effectiveness of the program been studied and demonstrated in your district or state?

Although, ideally, you may want a program that meets all of these criteria, there may not be one that does. You will need to weigh your priorities carefully when making your selection.

4. Familiarize Yourself With the Content and Language of the Chart

The tools chart includes information on three aspects of a program study's quality: study quality, effect size, and implementation requirements.

Program	Study	Study Quality				Effect Size			
		Participants	Design	Fidelity of Implementation	Measures	Full Sample			Disaggregated Sample
						Number of Outcome Measures	Mean	Range	Subgroup(s)

Study Quality

The TRC has established four dimensions of study quality for instructional programs:

1. Participants: Are the students in the study at risk for poor academic performance?
2. Design: Does the study design allow us to conclude that the intervention program, rather than extraneous variables, was responsible for the results?
3. Fidelity of implementation: Is it clear that the intervention program was implemented as it is designed to be used?
4. Measures: Were the study measures accurate and important?

For each of these dimensions, the TRC reviewed data from the studies submitted by developers of the programs and gave a rating of "convincing," "partially convincing," or "unconvincing." By clicking on the actual standard name in the column headers of the chart, you will open a window that includes a rubric describing the specific criteria used by the TRC to rate studies on that dimension.

It is important to remember that the study quality ratings reflect an assessment of the quality and technical rigor of a research study. They do not say anything about the results of the study; they also do not present an assessment of whether or not the study provided evidence of program effectiveness. For information on program effectiveness, you should review data in the "Effect Size" section of the chart.

Effect Size

The last four columns of the chart offer information about the effect sizes found in each study. The effect size is a measure of the magnitude of the relationship between two variables. Specifically, on this chart, the effect size represents the magnitude of the relationship between participating in a particular intervention and the academic outcome of interest. The larger the effect size, the greater the impact that participating in the intervention had on the outcome. Furthermore, a positive effect size indicates that participating in the intervention led to improvement in performance on the academic outcome measure, while a negative effect size indicates that participating in the intervention led to a decline in performance on the academic outcome measure.

On the chart, the effect size columns include the following information:

1. Number of outcome measures: the number and type (e.g., reading or mathematics) of outcomes that were gathered from students before and after the program was implemented
2. Mean: the average effect size across outcome measures
3. Range: the minimum and maximum effect size across measures
4. Disaggregated sample subgroups: any subgroups for which outcome data were disaggregated

It is important to note that information on effect size and information on study quality should be reviewed and evaluated together. You should feel more confident in the validity of effect sizes for studies of the

highest technical quality and rigor. Any flaws in study design could potentially over- or underestimate effect sizes.

Implementation Requirements

The tools chart offers an “implementation table” for each program, which can be accessed by clicking on the name of the program. Information in this table includes:

- How much does the program cost?
- How much time is required to implement the program?
- How much training is required to implement the program?
- What level of staff expertise is required to administer the program?
- Where can we get training and technical support?

5. Review the Data

In addition to the technical ratings and effect size summary data, the tools chart includes details about the actual data that were submitted to the TRC for review. These data can be viewed by clicking on any of the rating bubbles in the cells in the chart.

Examining these data can be useful for a number of reasons. You may see two or more programs with studies that received the same rating for a particular dimension; in these cases, how do you know which one best meets your needs? By clicking on the rating and viewing the actual data, you have more information available to help determine which program is most appropriate for your school.

For example, for participants and measures, you will see information on the student sample and measures used in the study. You may want to look for programs with studies conducted with student samples similar in characteristics to the population of students you work with and that used outcome measures similar to those you are interested in improving.

Measure	Score type & range of measure	Reliability statistics
WJ—III Basic Reading Skills	Standard Score (mean = 100; sd = 15; age range = 2 to 90+; grades = K-12 and college)	Test-retest reliability coefficient = 0.95
WJ—III Letter-Word Identification	Standard Score (mean = 100; sd = 15; age range = 2 to 90+; grades = K-12 and college)	Test-retest reliability coefficient = 0.94
WJ—III Word Attack (subset of the Basic Reading Skills cluster)	Standard Score (mean = 100; sd = 15; age range = 2 to 90+; grades = K-12 and college)	Test-retest reliability coefficient = 0.87
DIBELS Oral Reading Fluency	End of year Correct Words Per Minute (CWPM): GR 1 = 40+; GR 2 = 90+; GR 3 = 110+; GR 4 = 118+, GR 5 = 124+; GR 6 = 125	Test-retest reliability = 0.92-0.97

In addition, more detail on effect sizes for each outcome measure can be found by clicking on the text in the effect size cells. Because studies often include a range of outcome measures that vary depending on the target skill for the program, it is important to review more than just the mean effect size.

3 Reading	0.38	0.23 to 0.67
-----------	------	--------------

Early Vocabulary Connections - Effect Size - Full Sample PRINT | CLOSE

Nelson, J. R., Valdez, P. F., & Sanders, E. A. (Submitted to Journal of Literacy Research). Efficacy of a supplemental kindergarten reading vocabulary intervention for Spanish-speaking English learners

Construct	Measure	Effect Size
Reading	Proximal reading vocabulary: 20-item definitional vocabulary	0.67***
Reading	Distal reading vocabulary: WRMT-R/NU Word	0.24
Reading	Word reading: Mean of standard score for WRMT-R/NU Word	0.23

Key:

- * p ≤ .05
- ** p ≤ .01
- *** p ≤ .001

6. Ask for More Information

You may find that the tools chart does not provide you with all the information you need. For example, what if a program that you are interested in does not have disaggregated data available for a particular subgroup that is important to you? Ask the vendor! Developers who have chosen to submit their programs for review and publish them on the chart are interested in meeting the needs of their customers and doing more research to provide needed data. Similarly, if a program that you currently use or are interested in learning about is not on the chart, call the developer of that program. Tell the vendor about the TRC review process and the tools chart, and ask them to consider submitting their program for review.