



A White Paper on Strategies for Implementing an Effective Response-to-Intervention (RtI) Model

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Executive Summary

The Response-to-Intervention (RtI) model provides schools with an option to more accurately identify students with specific learning disabilities and more rapidly address their needs. It allows schools to focus on early prevention instead of solely on remediation. Incorporating a solution such as Orchard Software into schools' core curricula helps educators effectively and efficiently implement an RtI model by providing them with the tools and resources they need such as customizable benchmark assessments, targeted/research-based content, and powerful data-reporting tools.

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Schools and districts are constantly challenged to appropriately identify and refer students with specific learning disabilities (SLD). With the reauthorization of the Individuals with Disabilities Education Act (IDEA) in 2004, local educational agencies (LEA) no longer are required to solely rely on the “significant discrepancy” formula based on I.Q. tests and are now permitted to adopt alternative methods, such as the pre-identification process referred to as the Response-to-Intervention (RtI) model.

The Individuals with Disabilities Education Improvement Act of 2004

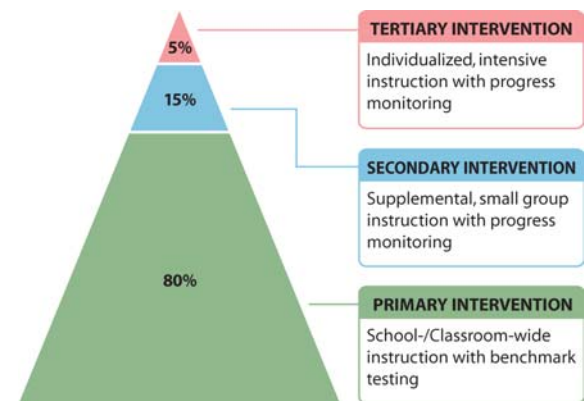
“...when determining whether a child has a specific learning disability as defined in section 602, a local educational agency shall not be required to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability...” [P.L. 108-446, §614(b)(6)(A)]

“In determining whether a child has a specific learning disability, a local educational agency may use a process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures...” [P.L. 108-446, §614(b)(6)(B)]

Because early intervention and providing high-quality, research-based instruction to *all* students are core principles of the RtI model, it can also be utilized as a key strategy to help schools and districts meet the requirements set forth by the No Child Left Behind (NCLB) Act. For example, schools that implement an RtI model can easily document an instructional history that follows NCLB guidelines for the early implementation of proven instructional strategies that improve outcomes for struggling students.

The RtI Model

The RtI model was presented as an alternative approach to the discrepancy model at the Office of Special Education Programs 2001 LD Summit and was later endorsed by the President’s Commission on Excellence in Special Education in 2002. Simply stated, the RtI model is a school-wide, multi-tiered intervention strategy focused on identifying students with specific learning disabilities. Movement through these tiers is a fluid process and is based on student performance data.



Adapted from the Continuum of School-wide Instructional and Positive Behavior Support retrieved 1.20.07 from <http://www.pbis.org/schoolwide.htm>

Primary Intervention – Tier 1

- The whole class receives scientific, research-based instruction in mathematics, reading, and writing.
- Benchmark testing- or universal screening - of all students takes place at periodic intervals throughout the year (e.g., fall, winter, and spring).
- Based on the results of this benchmark testing, a percentage of students (approximately 15%) are identified for Secondary or Tier 2 Intervention.
- The core curriculum should be effective for approximately 80 percent of students. Therefore, if a significant percentage of students is not successful, the curriculum and/or instruction should be examined for contributing factors.

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Secondary Intervention – Tier 2

- Supplemental, research-based instruction takes place for small groups of students.
- Based on continuous progress monitoring, students may move back to Tier 1, modifications to the Tier 2 Intervention may be made, or students may be identified for Tier 3 or Tertiary Intervention. (Typically, 5% of students are identified for Tier 3 Intervention.)

Tertiary Intervention – Tier 3

- Individualized and more intensive research-based instruction is provided.
- Based on continuous progress monitoring, students may move back to Tier 2, remain at Tier 3 with modifications, or be recommended for special education services based on a comprehensive assessment and evaluation.

Strategies for Success

Tier 1

The first tier of the RtI model is arguably the most critical. Instituting a school-wide, core curriculum that meets specific criteria is the foundation of success. According to the National Association of State Directors of Special Education (NASDSE), the curriculum and instructional process should:

- Be scientific research based.
- Be easily differentiated and individualized in order to accommodate a wide range of student needs.
- Incorporate benchmark testing or universal screenings.

In addition, data from these universal screenings should be reported in formats that allow for evaluation and analysis of school-wide, group, and individual performance on specific skills.

The Orchard Solution

Orchard Software is a comprehensive and dynamic software solution for schools and districts, which includes over 150 Skill Trees (or programs) that cover more than 5,000 essential skills in reading, writing, mathematics, and science. Used in thousands of schools across the country, Orchard Software includes state-specific formative assessment tools, targeted instruction, and powerful data reporting.

Incorporating a software solution such as Orchard Software into the core curriculum on a school-wide basis helps schools effectively and efficiently implement an RtI model by providing them with the tools they need to focus on early intervention and prevention rather than solely on remediation. As described below, Orchard Software provides schools with many of the resources they need to meet the criteria for success.

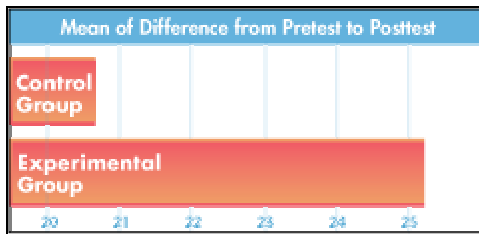
Scientific Research-Based Content

When schools incorporate Orchard Software into their core curriculum, they can be assured that the content and instructional strategies are based upon scientific research. For example, the Skill Trees that make up Orchard's K-3 Language Arts bundle build upon the key components of early literacy as identified by the National Reading Panel, whereas the Skill Trees in the K-3 Math bundle are based on current research supporting the best practices outlined in the National Council of Teachers of Mathematics (NCTM) Standards.

In addition, Siboney Learning Group, publisher of Orchard Software, is continually participating in scientific research to validate the efficacy of the program. For example, in the spring of 2004, Dr. John Ash published *The Effects of Computer-Assisted Instruction on Middle School Mathematics Achievement*, which detailed the results of a study aimed at discovering the correlation between the use

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of Orchard Software and achievement in mathematics. The results of this study showed that after exposure to Orchard Software, students showed significant academic gains. (Specific details of this - and other efficacy studies - are published in *The Orchard Research Book*, available upon request from Siboney Learning Group.)



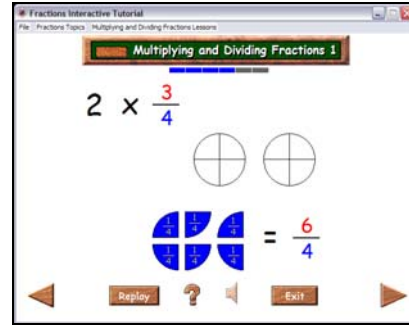
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Easily Differentiated Instruction

Differentiated instruction, a critical element of Tier 1 Intervention, is at the heart of Orchard Software, which utilizes state-specific assessments to pinpoint individual needs and create individual learning paths for each student. These custom assignments are built around Orchard's robust content, which is presented using a wide variety of instructional approaches:

- SkillBuilders programs provide step-by-step instruction and multiple practice opportunities for key skills.
- Learning Games use a motivating learning environment to reinforce key skills and increase time-on-task learning.
- Critical Concepts programs contain a variety of activities and lessons to help students explore new concepts and build essential skills.
- Math Concepts programs utilize interactive, graphic tutorials to help students learn key concepts.

This variety of Orchard content allows teachers to easily modify instruction for any student to ensure that he or she is motivated and engaged in his or her learning. In other words, if a student is having difficulty grasping a concept, the assignment can be modified to include other lessons that teach the concept a different way.



Orchard's *Fraction Concepts* Skill Tree utilizes interactive tutorials to explore the concept of multiplying fractions.



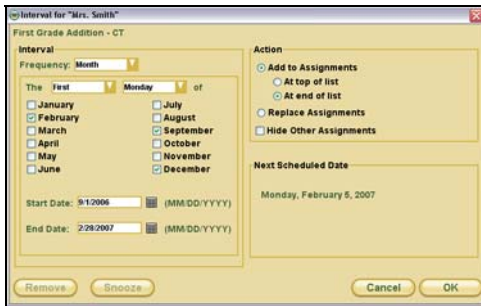
Orchard's *Fractions: Mixed Practice* Skill Tree provides a motivating game environment to explore multiplying fractions.

Benchmark Testing

Orchard Software includes grade-level, standards-based assessments for easy implementation of school-wide benchmark testing or universal screening necessary for a successful Tier 1 Intervention. In addition, Orchard Software provides educators with flexible assessment options through Orchard's powerful Assessment & Assignment Builder tool, which enables teachers to create their own custom, standards-based tests and assign them at specific intervals (such as every other month). Teachers simply enter specific

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parameters (e.g., skill or grade level); the Orchard system then creates the framework for the custom assessment. Teachers can then view sample questions, modify the number of questions per skill, and publish the test to share across the grade level to ensure consistency in test data.



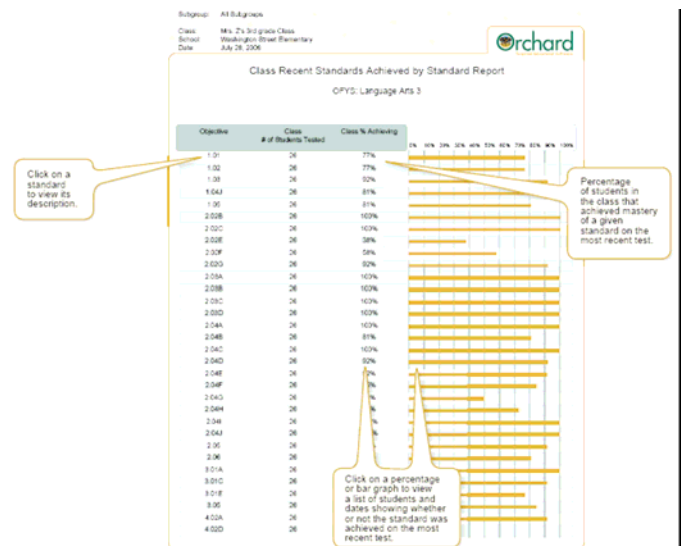
The Orchard Assessment & Assignment Builder tool offers teachers flexible assignment options.

Reporting Options

Results from Orchard Software benchmark testing are immediately available in a variety of easy-to-use reports that allow teachers to analyze both group and individual performance. These reports enable educators to view complex correlations and data in easy-to-understand graphical, numerical, and written forms.

For example, the Orchard Class Recent Standards Achieved by Standard Report (shown to the right) provides a listing of standards assessed by the selected test. For each standard tested, the number of students tested as well as the percentage of students achieving mastery of the standard are displayed. When viewed online, this report also provides one-click access to details on each standard as well as individual student achievement of that standard. These data are essential for identifying which students may need Tier 2 Intervention for a particular skill, and which skills may need modified instruction for the whole class. For example, if 82 percent of students in the class achieved mastery of a particular skill or standard, the teacher can be satisfied that the

instruction was sufficient and then focus on moving the remaining 18 percent of students to Tier 2 for supplemental instruction. However, if only 45 percent of students in the class achieved mastery of a particular skill, the teacher needs to focus on modifying the core instruction for all students.



The Orchard Class Recent Standards Achieved by Standard Report provides essential data for instructional planning.

Educators can also consult other reports such as the Orchard Student Growth & Targeted Instruction Report for more detailed data about a particular student's performance on an Orchard assessment before moving them to Tier 2 Intervention. This report provides results of periodic benchmark testing and also lists the standards or skills that may need further intervention. In addition, teachers may view specific assessment items and the student's actual responses. If necessary, the teacher can then use this report during a student-teacher conference to better understand the student's reasoning behind his or her responses. This level of detailed information can be instrumental in helping teachers make good data-driven decisions about moving their students to more intense interventions.

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Tier 2

Effective implementation of the second tier of the RtI model is also crucial to its success. Key factors of effective implementation include the use of:

- Scientific research-based interventions supportive of small group or individual instruction.
- Focused and easy-to-implement assessments that allow for frequent progress monitoring of targeted skills.
- Easy-to-read reports that provide the data necessary to determine intervention effectiveness.
- Flexible content with teacher-friendly options for modifying instruction.

The Orchard Solution

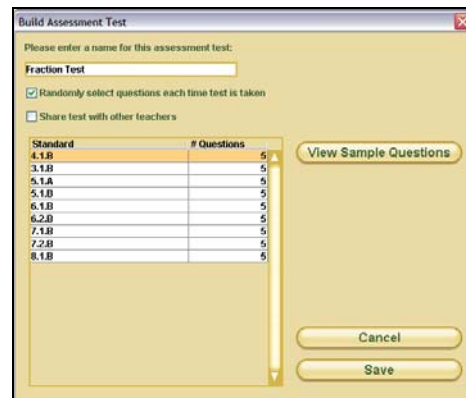
As described below, Orchard Software includes many features that schools need in order to successfully implement Tier 2 Interventions.

Effective Small Group Instruction

Orchard Software, used as a Tier 2 Intervention, not only provides teachers with the peace of mind that they are using scientifically research-based content but also provides them with great flexibility in how the content is delivered. For example, students may work independently with graphic, interactive tutorials rich in instructional feedback, or teachers may work with students in small groups utilizing programs such as Orchard's SkillBuilders Skill Trees, which provide step-by-step instruction followed by multiple practice opportunities. The flexibility of Orchard allows this supplemental instruction to take place in the classroom, in the computer lab, with a resource teacher, etc., as the group's specific needs dictate.

Targeted Assessments

At the core of Orchard Software are easy-to-implement state-specific assessments. These assessments can be used to provide teachers with an overview of student achievement of standards and essential skills. In addition, by utilizing Orchard's powerful Assessment & Assignment Builder tool, teachers may create customized tests focused on specific skills. These custom tests can be automatically added to the student's assignment at specific intervals. Upon completion of each assessment, the Orchard system also dynamically adjusts the student's assignment to target problem skills. This automatic assignment of targeted assessments and assignments helps educators efficiently implement a potentially complex but key step of the RtI model.



Orchard's Assessment & Assignment Builder tool helps teachers create custom tests.

Easy-to-Read Reports with Essential Data

Orchard Software also includes quick access to a wide variety of reports that provide teachers with the essential information they need to make sound data-driven decisions about instruction.

A key report that measures Orchard's effectiveness as a Tier 2 Intervention is the Student Instructional Progress Report - Detail (shown on the next page). This report puts essential information at educators' fingertips. It provides the date, raw score, percentage correct, and test time for the

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most recent tests taken as well as a detailed record showing the date, time-on-task, and performance data for the Orchard Skill Trees prescribed to the student after the most recent assessment test. By scanning the top of the report, teachers can quickly determine if sufficient achievement occurred from test to test. If the student is not showing significant growth in achievement, the teacher can gauge the effectiveness of the instruction provided by each Orchard Skill Tree by viewing the performance details listed at the bottom of the report. Again, the level of detail available in this report provides teachers with the data they need to make informed instructional decisions.

Flexible Content

Upon careful review of the data provided in Orchard Software reports, teachers may determine that a modification of the intervention is necessary. Orchard's powerful yet simple management system makes this process easy. With the click of a mouse, teachers can modify time spent in particular Skill Trees, the order in which programs appear on a student's assignment list, as well as a variety of other program parameters including skills covered, voice options, and access to tools such as calculators.

Student: Cho Kayler
Class: Mrs. Z's 3rd grade Class
School: Washington Street Elementary
Date: April 6, 2006

Orchard

Student Instructional Progress Report - Detail
 OFYS: Language Arts 3

Testing date range: All

Test #	Date	Raw Score	Percentage Correct	Test Time (h:m)
Test 1	2/2/06	5/37	14%	00:08
Test 2	3/3/06	14/37	38%	00:17
Test 3	4/4/06	25/37	68%	00:26

Resulting Targeted Skill Tree Assignments

Skill Tree	Skill Activity	Status	Date	Time On Task	Corresponding Test Questions	Corresponding Objective	
Reading and Writing Strategies 1-3	Sentence Construction and Writing Strategies Level C	1/1 100%	4/4/06		3 24 29 30 31	1.05	
	Produce a variety of sentence structures, including basic sentence patterns and variations	2/2 100%	4/4/06	03:01	35 37 38	2.02B	
	Recognize complete sentences and avoid fragments and run-ons	2/2 100%	4/4/06	03:01		2.02E	
	Design and implement a writing plan that includes a central idea and related ideas	2/2 100%	4/4/06	03:01		2.05A	
	Use knowledge of the meanings of prefixes and suffixes to determine word meanings	1/1 100%	4/4/06			2.05B	
	Use context clues to determine the meanings of unfamiliar and specialized words	2/2 100%	4/4/06	03:01		2.05C	
	Recognize the author's point of view and purpose in literary selections	2/2 100%	4/4/06	03:01		2.05D	
							2.05E
							2.05F
							2.05G
Item Correct/Total				10/10 100%		4.02E	
Total Instructional Time on Task				03:04		4.06	

Report 1.7.02
1 of 2

The Orchard Student Instructional Progress – Detail Report allows educators to gauge effectiveness of instruction.

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Strategies for Success

Tier 3

Tier 3 of the RtI model involves individualized and more intense research-based instruction for students that did not make sufficient progress with the Tier 2 Intervention. Often, it is determined that more instructional time may be needed as well as a different instructional approach. This tier also involves continuous progress monitoring to help educators determine if these instructional modifications have had any effect, or if the student may need further evaluation for special education services.

The Orchard Solution

Because of its high-quality, research-based and motivating content, educators may choose to include Orchard Software as part of a Tier 3 Intervention. For example, if Orchard Software was used with a small group for 30 minutes a day as a Tier 2 Intervention, it may then be used as a supplement to other scientific research-based interventions at Tier 3. Of course, whether or not teachers decide to use Orchard as an integral part of a Tier 3 Intervention, the easy-to-access reports it provides on benchmark testing and continuous progress monitoring from Tier 1 and Tier 2 Interventions will be instrumental in helping teachers make sound data-driven decisions about students' instruction.

Conclusion

The RtI model provides teachers with an option to more accurately identify students with specific learning disabilities and more rapidly address their needs. It allows schools to focus on early prevention, instead of solely on remediation. However, in order to successfully implement this model, educators need to identify resources - such as Orchard Software - that provide them with the tools they need to meet the many requirements of each tier of intervention.

Orchard's targeted, research-based content helps teachers meet the diverse needs of their students, while its customizable benchmark assessments help educators efficiently monitor student progress. Finally, Orchard's powerful data-reporting tools give educators the detailed information they need for sound data-driven decision making. This dynamic combination of features makes Orchard Software an ideal school-wide solution for schools incorporating the RtI model.

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[www.orchardsoftware.com](http://www.orchardsoftware.com)

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The logo for Siboney Learning Group features the word "SIBONEY" in a large, blue, sans-serif font with a yellow star above the letter "I". Below "SIBONEY" is the phrase "LEARNING GROUP" in a smaller, blue, sans-serif font. A yellow horizontal line is positioned between "LEARNING GROUP" and the tagline "Software for Success" below it.

Software for Success