



RTI Toolkit: A Practical Guide for Schools

The Teacher as 'First Responder': Resources that School Psychologists Can Use to Build the Classroom Intervention Toolkit

Jim Wright, Presenter

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Email: jim@jimwrightonline.com

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How To: Implement Strong Core Instruction

When teachers must present challenging academic material to struggling learners, they can make that material more accessible and promote faster learning by building assistance directly into instruction. Researchers use several terms to refer to this increased level of student instructional support: explicit instruction, direct instruction, supported instruction (Rosenshine, 2008).

The checklist below summarizes the essential elements of a supported-instruction approach. When preparing lesson plans, instructors can use this resource as a 'pre-flight' checklist to make sure that their lessons reach the widest range of diverse learners.

1. Increase Access to Instruction	
Instructional Element	Notes
<input type="checkbox"/> Instructional Match. Lesson content is appropriately matched to students' abilities (Burns, VanDerHeyden, & Boice, 2008).	
<input type="checkbox"/> Content Review at Lesson Start. The lesson opens with a brief review of concepts or material that have previously been presented. (Burns, VanDerHeyden, & Boice, 2008, Rosenshine, 2008).	
<input type="checkbox"/> Preview of Lesson Goal(s). At the start of instruction, the goals of the current day's lesson are shared (Rosenshine, 2008).	
<input type="checkbox"/> Chunking of New Material. The teacher breaks new material into small, manageable increments, 'chunks', or steps (Rosenshine, 2008).	

2. Provided 'Scaffolding' Support	
Instructional Element	Notes
<input type="checkbox"/> Detailed Explanations & Instructions. Throughout the lesson, the teacher provides adequate explanations and detailed instructions for all concepts and materials being taught (Burns, VanDerHeyden, & Boice, 2008).	
<input type="checkbox"/> Think-Alouds/Talk-Alouds. When presenting cognitive strategies that cannot be observed directly, the teacher describes those strategies for students. Verbal explanations include 'talk-alouds' (e.g., the teacher describes and explains each step of a cognitive strategy) and 'think-alouds' (e.g., the teacher applies a cognitive strategy to a particular problem or task and verbalizes the steps in applying the strategy) (Burns, VanDerHeyden, & Boice, 2008, Rosenshine, 2008).	
<input type="checkbox"/> Work Models. The teacher makes exemplars of academic work (e.g., essays, completed math word problems) available to students for use as models (Rosenshine, 2008).	
<input type="checkbox"/> Active Engagement. The teacher ensures that the lesson engages the student in 'active accurate responding' (Skinner, Pappas & Davis, 2005) often enough to capture student attention and to optimize learning.	
<input type="checkbox"/> Collaborative Assignments. Students have frequent opportunities to work collaboratively--in pairs or groups. (Baker, Gersten, & Lee, 2002; Gettinger & Seibert, 2002).	
<input type="checkbox"/> Checks for Understanding. The instructor regularly checks for student understanding by posing frequent questions to the group (Rosenshine, 2008).	



<input type="checkbox"/> Group Responding. The teacher ensures full class participation and boosts levels of student attention by having all students respond in various ways (e.g., choral responding, response cards, white boards) to instructor questions (Rosenshine, 2008).	
<input type="checkbox"/> High Rate of Student Success. The teacher verifies that students are experiencing at least 80% success in the lesson content to shape their learning in the desired direction and to maintain student motivation and engagement (Gettinger & Seibert, 2002).	
<input type="checkbox"/> Brisk Rate of Instruction. The lesson moves at a brisk rate--sufficient to hold student attention (Carnine, 1976; Gettinger & Seibert, 2002).	
<input type="checkbox"/> Fix-Up Strategies. Students are taught fix-up strategies (Rosenshine, 2008) for use during independent work (e.g., for defining unknown words in reading assignments, for solving challenging math word problems).	

3. Give Timely Performance Feedback

Instructional Element	Notes
<input type="checkbox"/> Regular Feedback. The teacher provides timely and regular performance feedback and corrections throughout the lesson as needed to guide student learning (Burns, VanDerHeyden, & Boice).	
<input type="checkbox"/> Step-by-Step Checklists. For multi-step cognitive strategies, the teacher creates checklists for students to use to self-monitor performance (Rosenshine, 2008).	

4. Provide Opportunities for Review & Practice

Instructional Element	Notes
<input type="checkbox"/> Spacing of Practice Throughout Lesson. The lesson includes practice activities spaced throughout the lesson. (e.g., through teacher demonstration; then group practice with teacher supervision and feedback; then independent, individual student practice) (Burns, VanDerHeyden, & Boice).	
<input type="checkbox"/> Guided Practice. When teaching challenging material, the teacher provides immediate corrective feedback to each student response. When the instructor anticipates the possibility of an incorrect response, that teacher forestalls student error through use of cues, prompts, or hints. The teacher also tracks student responding and ensures sufficient success during supervised lessons before having students practice the new skills or knowledge independently (Burns, VanDerHeyden, & Boice, 2008).	
<input type="checkbox"/> Support for Independent Practice. The teacher ensures that students have adequate support (e.g., clear and explicit instructions; teacher monitoring) to be successful during independent seatwork practice activities (Rosenshine, 2008).	
<input type="checkbox"/> Distributed Practice. The teacher reviews previously taught content one or more times over a period of several weeks or months (Pashler et al., 2007; Rosenshine & Stevens, 1995).	



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Motivating Students Through Collaboration: Numbered Heads Together

Description. Teacher questioning during whole-group instruction is a key method that instructors use to monitor student understanding of content. Ideally, instructors should use a mix of closed-response queries (i.e., limited number of correct responses) and open-response questions (i.e., wide range of acceptable answers, opinions, or judgments). Students should also be given sufficient wait-time to formulate an adequate answer, and the teacher should provide targeted performance feedback (Maheady et al., 2006). Numbered Heads Together is an instructional technique build upon peer collaboration that provides the supports and structure necessary to promote effective teacher questioning and student responding (Maheady et al., 2006). This technique can be useful for students with emotional/behavioral disorders (EBD) (Hunter & Haydon, 2013).

Procedure: During whole-group instruction, Numbered Heads Together is implemented using the following steps:

1. **Create teams.** The teacher divides the class into 4-person teams. Ideally, each team includes a mix of high, average, and low-achieving students. Students in each team assign themselves the numbers 1 through 4. (Note: If a team has only 3 members, one student takes two numbers: 3 and 4.)
2. **State a question.** The teacher poses separate queries to the class. After each question, the instructor tells students to *"put your heads together, think of the best answer you can, and make sure that everybody in your group knows that answer."*
3. **Allow think-time.** The teacher gives students 30 seconds to discuss an answer in their groups.
4. **Elicit student responses.** The teacher randomly selects a number from 1-4 and says, *"All number [1, 2, 3, or 4] students who know the answer, raise your hand."* The teacher then calls on one student with hand raised and asks him or her to give the answer. The teacher next says, *"How many [1, 2, 3, or 4] students think that that answer is correct? Raise your hand."* [Optional: The teacher can call on additional students with hand raised to elaborate on a previous student's answer.]
5. **Give teacher feedback.** Finally, the instructor gives feedback about the answer, e.g., verifying that it is correct, elaborating on the answer, providing corrective feedback for an incorrect response.

Tips for Use. Teachers may wish to create standing groups for Numbered Heads Together to allow for more rapid transition into student teams. Also, the instructor might post a checklist that reminds students of appropriate NHT behaviors and briefly review that checklist as a pre-correction strategy prior to moving into the NHT activity.

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Academic Interventions

How To: Define Academic Problems: The First Step in Effective Intervention Planning

Students who struggle with academic deficits do not do so in isolation. Their difficulties are played out in the larger context of the school environment and curriculum—and represent a ‘mismatch’ between the characteristics of the student and the instructional demands of the classroom (Foorman & Torgesen, 2001). It may surprise educators to learn that the problem-identification step is the most critical for matching the student to an effective intervention (Bergan, 1995). Problem identification statements should be defined in clear and specific terms sufficient to pass ‘the stranger test’ (Howell, Hosp, & Kurns, 2008). That is, the student problem can be judged as adequately defined if a person with no background knowledge of the case and equipped only with the problem-identification statement can observe the student in the academic setting and know with confidence when the problem behavior is displayed and when it is not.

Here are recommendations for increasing teacher capacity to frame student skills in relation to curriculum requirements, describe student academic problems in specific terms, and generate a hypothesis about why the problem is occurring.

1. **Know the Common Core.** Academic abilities can best be described in terms of the specific curriculum skills or knowledge that students are required to demonstrate. The Common Core State Standards for English Language Arts and Mathematics are an excellent starting point. Teachers should have a firm grasp of the Common Core standards for ELA and Math at their instructional grade level. They should also know those standards extending to at least two grades below the current grade to allow them to better match students who are off-level academically to appropriate intervention strategies.
2. **Describe the academic problem in specific, skill-based terms with a meaningful instructional context** (Batsche et al., 2008; Upah, 2008). Write a clear, brief description of the academic skill or performance deficit that focuses on a specific skill or performance area. Include information about the conditions under which the academic problem is observed and typical or expected level of performance.
 - *Conditions.* Describe the environmental conditions or task demands in place when the academic problem is observed.
 - *Problem Description.* Describe the actual observable academic behavior with which the student has difficulty. If available, include specifics about student performance, such as rate of work, accuracy, or other relevant quantitative information.
 - *Typical or Expected Level of Performance.* Calculate a typical or expected performance criterion for this skill or behavior. Typical or expected academic performance can be calculated using a variety of sources, such as benchmark norms, local (classroom) norms, or expert opinion.

Academic Problems: Sample Definitions		
Environmental Conditions or Task Demands	Problem Description	Typical or Expected Level of Performance
When completing a beginning-level algebra word problem...	...Ann is unable to translate that word problem into an equation with variables...	...while most peers in her class have mastered this skill.
During social studies large-group instruction...	...Franklin attends to instruction an average of 45% of the time...	... while peers in the same room attend to instruction an average of 85% of the time.

For science homework...	... Tye turns in assignments an average of 50% of the time...	... while the classroom median rate of homework turned in is 90%.
On weekly 30-minute in-class writing assignments...	... Angela produces compositions that average 145 words...	...while a sampling of peer compositions shows that the typical student writes an average of 254 words.

3. Develop a hypothesis statement to explain the academic skill or performance problem. The hypothesis states the assumed reason(s) or cause(s) for the student's academic problems. Once it has been developed, the hypothesis statement acts as a compass needle, pointing toward interventions that most logically address the student academic problems. Listed below are common reasons for academic problems. Note that more than one hypothesis may apply to a particular student (e.g., a student may have both a skill deficit and a motivation deficit).

Academic Problems: Possible Hypotheses & Recommendations	
Hypothesis	Recommendation
<ul style="list-style-type: none"> • <i>Skill Deficit.</i> The student has not yet acquired the skill. 	Provide direct, explicit instruction to acquire the skill. Reinforce the student for effort and accuracy.
<ul style="list-style-type: none"> • <i>Fluency Deficit.</i> The student has acquired the basic skill but is not yet proficient. 	Provide opportunities for the student to practice the skill and give timely performance feedback. Reinforce the student for fluency as well as accuracy.
<ul style="list-style-type: none"> • <i>Retention Deficit.</i> The student can acquire the skill but has difficulty retaining it over an extended period. 	Give the student frequent opportunities for practice to entrench a skill and help the student to retain it over time. Begin by scheduling more numerous practice episodes within a short time ('massed review') to promote initial fluency and then strengthen longer-term skill retention by scheduling additional periodic review ('distributed review') across longer spans of several weeks or more.
<ul style="list-style-type: none"> • <i>Endurance.</i> The student can do the skill but engages in it only for brief periods. 	Consider these ideas to boost endurance: <ul style="list-style-type: none"> • In structuring lessons or independent work, gradually lengthen the period of time that the student spends in skills practice or use. • Have the student self-monitor active engagement in skill-building activities--setting daily, increasingly ambitious work goals and then tracking whether he or she successfully reaches those goals.
<ul style="list-style-type: none"> • <i>Generalization Deficit.</i> The student possesses the basic skill but fails to use it across appropriate situations or settings. 	Train the student to identify the relevant characteristics of situations or settings when the skill should be used. Provide incentives for the student to use the skill in the appropriate settings.
<ul style="list-style-type: none"> • <i>Motivation (Performance) Deficit.</i> The student is capable of performing the skill and can identify when use of the skill is appropriate—but nonetheless is not motivated to use the skill. 	Use various strategies to engage the student in the skill (e.g., select high-interest learning activities; offer incentives to the student for successful use of the skill, etc.).

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How To: Improve Academic Interventions: 7 Big Ideas

When a teacher observes that a student lacks academic skills needed to attain the Common Core Standards, that instructor must take on the role of intervention 'first responder'. This role implies that the instructor has the tools and know-how to assemble for that student an academic intervention plan designed to repair areas of skill deficit or underperformance. Of course, educators have always attempted to provide struggling students in their classrooms with additional, individualized support; that is the paradigm of good teaching. Research findings, however, have the potential to help teachers to strengthen their effectiveness as interventionists for individual students even as they continue to deliver high-quality core instruction to the entire classroom.

Here are 7 'big ideas' about academic interventions that can help teachers to be successful as classroom first-responders:

1. *Academic problems should be clearly defined.* Before a teacher can select interventions to address a student academic problem, the instructor must be able to describe in clear and specific terms just what the student problem is. In fact, the most important step in the entire process of developing an intervention is to be able to describe correctly and specifically the problem that must be fixed (Bergan, 1995).
2. *Academic problems should be linked to their probable cause.* Once an academic problem has been defined, the teacher will want to develop a hypothesis ('educated guess') about what issue is causing that problem. For example, a student may do poorly on a reading comprehension task because she lacks the necessary comprehension skills, is accurate but not yet fluent in those skills, had once learned those skills but failed to retain them, can perform the skills but has limited endurance, or possesses the skills but does not recognize situations when she should use them (Martens & Witt, 2004). Each of these hypotheses for the student's poor reading comprehension performance suggests different intervention solutions.
3. *Intervention strategies should be research-based.* When possible, the teacher should include in an intervention plan only those ideas supported by research. At present, there is little consensus on how to define 'research-based' interventions (Odom et al., 2005). At the very minimum, however, an intervention idea should be demonstrated to be effective in at least one study published in a reputable peer-reviewed research journal before it is considered for use in school intervention plans.
4. *Intervention plans should help students to access instruction--but not 'dumb down' instruction.* When putting together classroom intervention plans, instructors can choose from among a wide array of strategies to help the student to achieve academic success. But teachers should take care not cross the line and modify core instruction for struggling general-education students; that is, they should not hold underperforming students to a lesser academic standard than their classmates (Tindal & Fuchs, 1999). After all, it is illogical to expect that a student who already evidences a significant academic gap can accelerate learning can close that gap as a consequence of being expected to do less than peers.
5. *Interventions should be documented in writing.* When a teacher commits to develop an academic intervention to support a student, that instructor should always create a written plan to document the intervention prior to implementing it (Burns & Gibbons, 2008). A busy educator can be forgiven for viewing the requirement to write out intervention plans as meaningless paperwork. But there are actually compelling reasons for teachers to put commit plans to paper before starting interventions. First, people have only a limited capacity to juggle details in their head. In a famous and ground-breaking article, for example, Miller (1956) cited a number of psychological

studies demonstrating that the average person is able to actively manage only about 7 discrete bits of information at one time--which explains why local phone numbers in the United States are 7 digits long. A teacher who is running a whole classroom while trying to informally manage even 1 or 2 individual student interventions in their heads must manage far more than 7 information-bits--and is thus likely to overlook important details about instruction or intervention simply because of cognitive overload. When that same teacher is able to rely as needed on written intervention plans as a memory aid, however, she or he can manage the complexity with relative ease. A second reason that teachers should put intervention plans in writing is so that they can produce those plans when needed as proof that they are providing at-risk students with ongoing assistance. In this age of increased teacher accountability, the instructor who documents intervention efforts for marginal students is the one who will receive full credit for that intervention work.

6. *Interventions should be carried out with integrity.* If a student does not improve when given a classroom intervention, there are two possible explanations for this failure to respond: (1) the intervention plan was well-selected, well-constructed and carefully implemented but the student simply failed to make progress, or (2) some aspect of the plan was not carried out as designed, thus compromising the integrity of the intervention. Interventions can unravel for many reasons: e.g., change of school schedule, teacher or student illness, weather-related school cancellations, a misunderstanding on the part of the interventionist about how to implement an intervention strategy, etc. The teacher should monitor the integrity of any classroom intervention closely, ensuring that the actual intervention conforms as closely as possible to the guidelines contained in the written intervention plan (Gansle & Noell, 2007) and taking steps when needed to bring the intervention back into alignment with good practices.
7. *Goal-setting and progress-monitoring should be a part of all academic interventions.* At their core, academic interventions are intended to improve student performance (Duhon, Mesmer, Atkins, Greguson, & Olinger, 2009). But teachers cannot know with certainty whether a student is actually benefiting from an intervention unless they set specific outcome goals up front and then collect data periodically throughout the intervention to verify that these goals are met (Wright 2007).

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How To: Create a Written Record of Classroom Interventions

When general-education students begin to struggle with academic or behavioral issues, the classroom teacher will typically select and implement one or more evidence-based intervention strategies to assist those students. But a strong intervention plan needs more than just well-chosen interventions. It also requires 4 additional components (Witt, VanDerHeyden, & Gilbertson, 2004): (1) student concerns should be clearly and specifically defined; (2) one or more methods of formative assessment should be used to track the effectiveness of the intervention; (3) baseline student data should be collected prior to the intervention; and (4) a goal for student improvement should be calculated before the start of the intervention to judge whether that intervention is ultimately successful. If a single one of these essential 4 components is missing, the intervention is to be judged as fatally flawed (Witt, VanDerHeyden, & Gilbertson, 2004) and as not meeting minimum Response to Intervention standards.

Teachers need a standard format to use in documenting their classroom intervention plans. The *Classroom Intervention Planning Sheet* that appears later in this article is designed to include all of the essential documentation elements of an effective intervention plan. The form includes space to document:

- *Case information.* In this first section of the form, the teacher notes general information, such as the name of the target student, the adult(s) responsible for carrying out the intervention, the date the intervention plan is being created, the expected start and end dates for the intervention plan, and the total number of instructional weeks that the intervention will be in place. Most importantly, this section includes a description of the student problem; research shows that the most significant step in selecting an effective classroom intervention is to correctly identify the target student concern(s) in clear, specific, measureable terms (Bergan, 1995).
- *Intervention.* The teacher describes the evidence-based intervention(s) that will be used to address the identified student concern(s). As a shortcut, the instructor can simply write the intervention name in this section and attach a more detailed intervention script/description to the intervention plan.
- *Materials.* The teacher lists any materials (e.g., flashcards, wordlists, worksheets) or other resources (e.g., Internet-connected computer) necessary for the intervention.
- *Training.* If adults and/or the target student require any training prior to the intervention, the teacher records those training needs in this section of the form.
- *Progress-Monitoring.* The teacher selects a method to monitor student progress during the intervention. For the method selected, the instructor records what type of data is to be used, collects and enters student baseline (starting-point) information, calculates an intervention outcome goal, and notes how frequently he or she plans to monitor the intervention.

A completed example of the *Classroom Intervention Planning Sheet* that includes a math computation intervention can be found later in this article.

While a simple intervention documentation form is a helpful planning tool, schools should remember that teachers will need other resources and types of assistance as well to be successful in selecting and using classroom interventions. For example, teachers should have access to an 'intervention menu' that contains evidence-based strategies to address the most common academic and behavioral concerns and should be able to get coaching support as they learn how to implement new classroom intervention ideas.

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Classroom Intervention Planning Sheet

This worksheet is designed to help teachers to quickly create classroom plans for academic and behavioral interventions.

Case Information		
<p>What to Write: Record the important case information, including student, person delivering the intervention, date of plan, start and end dates for the intervention plan, and the total number of instructional weeks that the intervention will run.</p>		
Student:	Interventionist(s):	Date Intervention Plan Was Written:
Date Intervention is to Start:	Date Intervention is to End:	Total Number of Intervention Weeks:
Description of the Student Problem:		

Intervention
<p>What to Write: Write a brief description of the intervention(s) to be used with this student. TIP: If you have a script for this intervention, you can just write its name here and attach the script to this sheet.</p>

Materials	Training
<p>What to Write: Jot down materials (e.g., flashcards) or resources (e.g., Internet-connected computer) needed to carry out this intervention.</p>	<p>What to Write: Note what training--if any--is needed to prepare adult(s) and/or the student to carry out the intervention.</p>

Progress-Monitoring	
<p>What to Write: Select a method to monitor student progress on this intervention. For the method selected, record what type of data is to be used, enter student baseline (starting-point) information, calculate an intervention outcome goal, and note how frequently you plan to monitor the intervention. Tip: Several ideas for classroom data collection appear on the right side of this table.</p>	
Type of Data Used to Monitor:	
Baseline	Outcome Goal
How often will data be collected? (e.g., daily, every other day, weekly):	
<p>Ideas for Intervention Progress-Monitoring</p> <ul style="list-style-type: none"> Existing data: grades, homework logs, etc. Cumulative mastery log Rubric Curriculum-based measurement Behavior report card Behavior checklist 	

Classroom Intervention Planning Sheet: Math Computation Example

This worksheet is designed to help teachers to quickly create classroom plans for academic and behavioral interventions.

Case Information					
What to Write: Record the important case information, including student, person delivering the intervention, date of plan, start and end dates for the intervention plan, and the total number of instructional weeks that the intervention will run.					
Student:	<i>John Samuelson-Gr 4</i>	Interventionist(s):	<i>Mrs. Kennedy, classroom teacher</i>	Date Intervention Plan Was Written:	<i>10 October 2012</i>
Date Intervention is to Start:	<i>M 8 Oct 2012</i>	Date Intervention is to End:	<i>F 16 Nov 2012</i>	Total Number of Intervention Weeks:	<i>6 weeks</i>
Description of the Student Problem:		<i>Slow math computation speed (computes multiplication facts at 12 correct digits in 2 minutes, when typical gr 4 peers compute at least 24 correct digits).</i>			

Intervention
What to Write: Write a brief description of the intervention(s) to be used with this student. TIP: If you have a script for this intervention, you can just write its name here and attach the script to this sheet.
<i>Math Computation Time Drill. (Rhymer et al., 2002)</i> <i>Explicit time-drills are a method to boost students' rate of responding on arithmetic-fact worksheets: (1) The teacher hands out the worksheet. Students are instructed that they will have 3 minutes to work on problems on the sheet. (2) The teacher starts the stop watch and tells the students to start work. (3) At the end of the first minute in the 3-minute span, the teacher 'calls time', stops the stopwatch, and tells the students to underline the last number written and to put their pencils in the air. Then students are told to resume work and the teacher restarts the stopwatch. (4) This process is repeated at the end of minutes 2 and 3. (5) At the conclusion of the 3 minutes, the teacher collects the student worksheets.</i>

Materials	Training
What to Write: Jot down materials (e.g., flashcards) or resources (e.g., Internet-connected computer) needed to carry out this intervention.	What to Write: Note what training--if any--is needed to prepare adult(s) and/or the student to carry out the intervention.
<i>Use math worksheet generator on www.interventioncentral.org to create all time-drill and assessment materials.</i>	<i>Meet with the student at least once before the intervention to familiarize with the time-drill technique and timed math computation assessments.</i>

Progress-Monitoring		
What to Write: Select a method to monitor student progress on this intervention. For the method selected, record what type of data is to be used, enter student baseline (starting-point) information, calculate an intervention outcome goal, and note how frequently you plan to monitor the intervention. Tip: Several ideas for classroom data collection appear on the right side of this table.		
Type of Data Used to Monitor: <i>Curriculum-based measurement: math computation assessments: 2 minute single-skill probes</i>		<u>Ideas for Intervention Progress-Monitoring</u> <ul style="list-style-type: none"> Existing data: grades, homework logs, etc. Cumulative mastery log Rubric Curriculum-based measurement Behavior report card Behavior checklist
Baseline	Outcome Goal	
<i>12 correct digits per 2 minute probe</i>	<i>24 correct digits per 2 minute probe</i>	
How often will data be collected? (e.g., daily, every other day, weekly): <i>WEEKLY</i>		

Interventions & Related Concepts: Definitions

Core Instruction. Those instructional strategies that are used routinely with all students in a general-education setting are considered 'core instruction'. High-quality instruction is essential and forms the foundation of RTI academic support. NOTE: While it is important to verify that good core instructional practices are in place for a struggling student, those routine practices do not 'count' as individual student interventions.

Intervention. An academic *intervention* is a strategy used to teach a new skill, build fluency in a skill, or encourage a child to apply an existing skill to new situations or settings. An intervention can be thought of as "a set of actions that, when taken, have demonstrated ability to change a fixed educational trajectory" (Methe & Riley-Tillman, 2008; p. 37).

Accommodation. An accommodation is intended to help the student to fully access and participate in the general-education curriculum without changing the instructional content and without reducing the student's rate of learning (Skinner, Pappas & Davis, 2005). An accommodation is intended to remove barriers to learning while still expecting that students will master the same instructional content as their typical peers. An accommodation for students who are slow readers, for example, may include having them supplement their silent reading of a novel by listening to the book on tape. An accommodation for unmotivated students may include breaking larger assignments into smaller 'chunks' and providing students with performance feedback and praise for each completed 'chunk' of assigned work (Skinner, Pappas & Davis, 2005).

Modification. A modification changes the expectations of what a student is expected to know or do—typically by lowering the academic standards against which the student is to be evaluated. Examples of modifications are giving a student five math computation problems for practice instead of the 20 problems assigned to the rest of the class, letting the student consult course notes during a test when peers are not permitted to do so, and allowing a student to select a much easier book for a book report than would be allowed to his or her classmates.

Instructional modifications are essential elements on the Individualized Education Plans (IEPs) or Section 504 Plans of many students with special needs. Modifications are generally not included on a general-education student's RTI intervention plan, because the working assumption is that the student can be successful in the curriculum with appropriate interventions and accommodations alone.

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How To: Use Accommodations With General-Education Students: Teacher Guidelines

Classrooms in most schools look pretty much alike, with students sitting at rows of desks attending (more or less) to teacher instruction. But a teacher facing any class knows that behind that group of attentive student faces lies a kaleidoscope of differences in academic, social, self-management, and language skills. For example, recent national test results indicate that well over half of elementary and middle-school students have not yet attained proficiency in mathematics (NAEP, 2011a) or reading (NAEP 2011b). Furthermore, 1 in 10 students now attending American schools is an English Language Learner (Institute of Education Sciences, 2012) who must grapple with the complexities of language acquisition in addition to the demands of academic coursework.

Teachers can increase the chances for academic success by weaving into their instructional routine an appropriate array of classwide curricular accommodations made available to any general-education student who needs them (Kern, Bambara, & Focht, 2002). However, teachers also know that they must strike an appropriate balance: while accommodations have the potential to help struggling learners to more fully engage in demanding academics, they should not compromise learning by holding a general-education student who accesses them to a lesser performance standard than the rest of the class. After all, students with academic deficits must actually *accelerate* learning to close the skill-gap with peers, so allowing them to do less is simply not a realistic option.

Read on for guidelines on how to select classroom accommodations to promote school success, verify whether a student actually *needs* a particular accommodation, and judge when accommodations should be used in instruction even if not allowed on state tests.

Identifying Appropriate Accommodations: Access vs. Target Skills. As an aid in determining whether a particular accommodation both supports individual student differences and sustains a demanding academic environment, teachers should distinguish between *target* and *access* skills (Tindal, Daesik, & Ketterlin, 2008). *Target skills* are those academic skills that the teacher is actively trying to assess or to teach. Target skills are therefore 'non-negotiable'; the teacher must ensure that these skills are not compromised in the instruction or assessment of any general-education student. For example, a 4th-grade teacher sets as a target skill for his class the development of computational fluency in basic multiplication facts. To work toward this goal, the teacher has his class complete a worksheet of 20 computation problems under timed conditions. This teacher would not allow a typical student who struggles with computation to do fewer than the assigned 20 problems, as this change would undermine the target skill of computational fluency that is the purpose of the assignment.

In contrast, *access skills* are those needed for the student to take part in a class assessment or instructional activity but are not themselves the target of current assessment or instruction. Access skills, therefore, *can* be the focus of accommodations, as altering them may remove a barrier to student participation but will not compromise the academic rigor of classroom activities. For example, a 7th-grade teacher assigns a 5-paragraph essay as an in-class writing assignment. She notes that one student finds the access skill of handwriting to be difficult and aversive, so she instead allows that student the accommodation of writing his essay on a classroom desktop computer. While the access skill (method of text production) is altered, the teacher preserves the integrity of those elements of the assignment that directly address the target skill (i.e., the student must still produce a full 5-paragraph essay).

Matching Accommodations to Students: Look for the 'Differential Boost'. The first principle in using accommodations in general-education classrooms, then, is that they should address access rather than target



academic skills. However, teachers may also wish to identify whether an individual actually benefits from a particular accommodation strategy. A useful tool to investigate this question is the 'differential boost' test (Tindal & Fuchs, 1999). The teacher examines a student's performance both with and without the accommodation and asks these 2 questions: (1) Does the student perform significantly better *with* the accommodation than without?, and (2) Does the accommodation boost that particular student's performance substantially *beyond* what could be expected if it were given to all students in the class? If the answer to both questions is YES, there is clear evidence that this student receives a 'differential boost' from the accommodation and that this benefit can be explained as a unique rather than universal response. With such evidence in hand, the teacher should feel confident that the accommodation is an appropriate match for the student. (Of course, if a teacher observes that most or all of a class seems to benefit from a particular accommodation idea, the best course is probably to revise the assignment or assessment activity to incorporate the accommodation!)

For example, a teacher may routinely allocate 20 minutes for her class to complete an in-class writing assignment and finds that all but one of her students are able to complete the assignment adequately within that time. She therefore allows this one student 10 minutes of additional time for the assignment and discovers that his work is markedly better with this accommodation. The evidence shows that, in contrast to peers, the student gains a clear 'differential boost' from the accommodation of extended time because (1) his writing product is substantially improved when using it, while (2) few if any other students appear to need it.

Classroom Accommodations and State Tests: To Allow or Not to Allow? Teachers may sometimes be reluctant to allow a student to access classroom accommodations if the student cannot use those same accommodations on high-stakes state assessments (Tindal & Fuchs, 1999). This view is understandable; teachers do not want students to become dependent on accommodations only to have those accommodations yanked away at precisely the moment when the student needs them most. While the teacher must be the ultimate judge, however, there are 3 good reasons to consider allowing a general-education student to access accommodations in the classroom that will be off-limits during state testing.

1. *Accommodations can uncover 'academic blockers.'* The teacher who is able to identify which student access skills may require instructional accommodations is also in a good position to provide interventions proactively to strengthen those deficient access skills. For example, an instructor might note that a student does poorly on math word problems because that student has limited reading decoding skills. While the teacher may match the student to a peer who reads the word problems aloud (texts read) as a classroom accommodation, the teacher and school can also focus on improving that student's decoding skills so that she can complete similar math problems independently when taking the next state examinations.
2. *Accommodations can promote content knowledge.* Students who receive in-class accommodations are likely to increase their skills and knowledge in the course or subject content substantially beyond the level to be expected without such supports. It stands to reason that individuals whose academic skills have been strengthened through the right mix of classroom accommodations will come to the state tests with greater mastery of the content on which they are to be tested.
3. *Accommodations can build self-confidence.* When students receive classroom accommodations, they are empowered to better understand their unique pattern of learning strengths and weaknesses and the strategies that work best for them. Self-knowledge can build self-confidence. And not only are such students primed to advocate for their own educational needs; they are also well-placed to develop compensatory strategies to manage difficult, high-stakes academic situations where support is minimal--such as on state tests.



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Classroom Data Collection

Monitoring Student Progress on Classroom Interventions: Five Big Ideas

Teachers collect and interpret multiple streams of classroom data continuously to make ongoing judgments about whether groups or individual learners are understanding instructional content, making adequate progress in coursework, and behaving appropriately. However, for students on individual academic or behavioral intervention plans, the process that teachers follow to set up a progress-monitoring plan is more structured. This increased structure is warranted because the stakes are higher: the teacher is both accountable for that intervention and wants to gather clear, trustworthy information in as short a time as possible to judge whether it is effective. After all, no instructor wants to spend months delivering an intervention that does not work!

While progress-monitoring is more methodical when applied to individual classroom interventions, the process can still be manageable. Here are five 'big ideas' about monitoring student progress that can assist teachers in collecting more useful data efficiently and making better decisions about students' response to classroom interventions.

1. **Define the student problem clearly.** Before the teacher can select a method of data collection to monitor student progress, that instructor must first define the academic or behavioral problem clearly (Christ, 2008). Clear definitions of the presenting concern are called 'problem identification [ID] statements'.

Problem ID statements can often be improved by making them more specific and, when appropriate, by adding information about frequency, intensity, or other objective data to clarify the severity of the problem. For example, an instructor may initially come up with this problem ID statement, 'Angela is disruptive in class.' This vague statement can be improved with detail, e.g., 'Angela argues and refuses to comply when given a teacher request.'

Similarly, a teacher's concern that 'Sam never turns in homework' can be improved if she consults her gradebook for information about how frequently the student submits work, e.g., 'Sam turns in homework only about 25 percent of the time.'

2. **Take full advantage of practical progress-monitoring tools available in the classroom.** There are a range of data-collection methods that teachers can use to track student progress on academic or behavioral interventions, such as grades, rubrics, student interviews, behavior report cards, and checklists. Most of these measures are teacher-made and have the advantage of measuring the student's actual observed behavior or academic performance (Howell, Hosp & Kurns, 2008).

A concern sometimes raised about such 'informal' measures is that they appear to lack the rigor of norm-referenced assessments—such as curriculum-based measurement or commercial tests—that schools use to make high-stakes judgments about the effectiveness of more intensive RTI interventions and special-education programming. However, the stakes of classroom (Tier 1) interventions are typically lower than these more advanced interventions because the teacher is proactively addressing emerging concerns *before* they escalate. The reduced stakes mean that the measures used to track success on these general-education interventions can also be less rigorous (Hosp, 2008).

3. **Know the student's starting point.** When preparing to monitor a student on intervention, the teacher typically first collects 'baseline' data. In this step, the instructor assesses the student's academic or behavioral performance on one or more occasions *before* the intervention starts—and uses this preliminary data to estimate

that student's starting point or current level of performance (Hixson, Christ & Bruni, 2014). Of course, baseline data is collected employing the same method of formative assessment that will be used to track progress during the intervention phase. Baseline data is helpful in calculating an intervention goal (see below). Of equal importance, baseline information can be used as a point of comparison throughout the intervention period to judge whether that student has made progress.

4. **Set an intervention goal.** The teacher has a last task to complete before launching an intervention and monitoring progress: establish an outcome goal for the student (Hixson, Christ & Bruni, 2014). To compute this outcome goal, the instructor decides how many instructional weeks the intervention will last and calculates a 'realistic but ambitious' performance goal that the student is expected to meet or exceed by the conclusion of the intervention period. The importance of the intervention goal, of course, is that it allows the teacher a simple, unambiguous standard against which to judge the success of the intervention. Without such a goal to work toward, the instructor is flying blind, unable to ascertain whether the student's current intervention performance falls short of, meets, or exceeds expectations.
5. **Reduce the 'noise' in the data.** A central truth about real-world student performance data of any kind is that each data-point contains both real information and an element of error (Hosp, 2008). Error in measurement is a natural element of data collection and can arise from many sources, including fluctuations in student mood and motivation; variability in educators' approach to data collection, scoring, and interpretation; and even the presence of environmental distractions that interfere with focus and concentration. Error in data collection is ever-present. Teachers, however, can take action to minimize the 'noise', or 'error', and to maximize the 'signal', or 'true' information, that data contains—for example, by developing standardized procedures for collecting and evaluating data of any kind and consistently following those methods or ensuring that the student is focused and sufficiently motivated before participating in an assessment session.

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Classroom Data Tools: What Are They and What Can They Measure?

Teachers have a variety of tools that they can access to collect behavioral or academic information and monitor classroom interventions. This 'look-up' chart provides a review of the most common data sources and what they can measure:

Data Tool	What It Is	What It Can Measure
Archival Data	Existing data routinely collected by schools that provides useful ongoing information about the student's academic or behavioral performance.	<ul style="list-style-type: none"> • Attendance • Office disciplinary referrals • Other aspects of behavior or academic performance captured in the school database
Behavior Report Cards	A teacher-created rating scale that measures student classroom behaviors. A behavior report card contains 3-4 rating items describing goal behaviors. Each item includes an appropriate rating scale (e.g., Poor-Fair-Good). At the end of an observation period, the rater fills out the report card as a summary snapshot of the student's behavior.	<ul style="list-style-type: none"> • General behaviors (e.g., complies with teacher requests; waits to be called on before responding) • Academic 'enabling' behaviors (e.g., has all necessary work materials; writes down homework assignment correctly and completely, etc.)
Checklists	The dividing of a larger behavioral task or sequence into constituent steps, sub-skills, or components. Each checklist element is defined in a manner that allows the observer to make a clear judgment (e.g., YES/NO, COMPLETED/NOT COMPLETED) about whether the student is displaying it.	<ul style="list-style-type: none"> • Step-by-step cognitive strategies • Behavioral routines • Generalization: Target behavior carried out across settings
Cumulative Mastery Records	A cumulative record of the student's acquisition/mastery of a defined collection of academic items such as multiplication math facts. This record is updated after every intervention session.	<ul style="list-style-type: none"> • Any discrete collection of academic items to be mastered: e.g., vocabulary, math facts, spelling words, letter or number names
Curriculum-Based Measures/Assessment	A series of brief measures of basic academic skills given under timed conditions and scored using standardized procedures. CBM/CBA measures often include research-derived benchmark norms to assist in evaluating the student's performance.	<ul style="list-style-type: none"> • Speed and accuracy in basic academic skills: e.g., letter naming, number naming, number sense, vocabulary, oral reading fluency, reading comprehension (maze), production of writing, math fact computation
Grades	Represent in letter or number form the teacher's formal, summary evaluation of the student's academic performance on an assignment, quiz, test, or longer span of evaluation.	<ul style="list-style-type: none"> • Homework grades • Test grades • Quarterly report card grades
Interviews	Guided by prompts or questions, the student periodically provides feedback about	<ul style="list-style-type: none"> • Student routines outside of class (e.g., use of study hall time, homework regimen)

	<p>academic performance, conduct, or other relevant intervention targets.</p> <p>Interviews are most effective when brief and consistent in format, with structured questions designed to elicit objective student responses. The interviewer can also reference specific instruments to focus questions: e.g., checklist, rubric, rating scale.</p>	<ul style="list-style-type: none"> Collecting covert information accessible only to the student (e.g., a learner's demonstration of ability to implement essential steps of a cognitive strategy)
Logs	<p>Informal adult or student entries that track the frequency (and perhaps additional details) of relevant academic performance and/or behaviors.</p>	<ul style="list-style-type: none"> Homework completion Incidents of non-compliance Student record of dates when he or she uses a self-guided academic intervention. Listing of student-teacher meetings.
Observation	<p>Data on behavior or academic performance collected during direct observation of the student. The objectivity and consistency of data is often improved if the observer uses instruments to structure the observation: e.g., checklist, rubric, rating scale.</p>	<ul style="list-style-type: none"> Academic engagement Out of seat Any other observable behavior of interest
Rubrics	<p>An instrument that allows an evaluator to rate the quality of a student's performance on a complex, multi-dimensional task. A rubric typically includes a rating scale to evaluate significant aspects of student performance; each point on the scale is paired with a verbal description, or exemplar, defining what performance at that level looks like.</p>	<ul style="list-style-type: none"> Any complex, multi-dimensional task: e.g., participation in a discussion; writing a research paper; preparing and presenting a PowerPoint; completing and documenting a science lab project, etc.
Self-Monitoring	<p>The student collects information about his or her own performance.</p> <p>The objectivity and consistency of data collection increases if the self-monitoring student uses a structured instrument (e.g., behavior report card, rubric, checklist, etc.).</p>	<ul style="list-style-type: none"> Collecting data from settings outside of the classroom (e.g., self-monitoring homework routines) Monitoring covert information (e.g., student use of multi-step cognitive strategy to solve math problems)
Work Products	<p>Student work that reflects performance on a series of similar in-class or homework assignments (e.g., successive writing assignments or ongoing math homework). A work product is selected because it can reflect growth in the intervention target skill(s). The element(s) of the work product being tracked can be objectively measures and converted to numeric data (e.g., percentage of problems completed).</p>	<ul style="list-style-type: none"> Work completion Work accuracy Written evidence of problem-solving steps Quality of student work (e.g., on writing assignments)

Progress-Monitoring Questions: How Do I Measure...?

Before a teacher can select a method to monitor a student intervention, that instructor must first decide what assessment question(s) to answer. This 'look-up' chart lists the most common classroom assessment questions and specific assessments that can answer those questions.

Assessment Questions: How do I measure if the student...	Suggested Methods of Progress-Monitoring
<ul style="list-style-type: none"> is becoming more accurate in an academic skill (goal: accuracy only)? 	<ul style="list-style-type: none"> Cumulative Mastery Record: This approach is suitable when the student is mastering a fixed set of items (e.g., biology vocabulary; multiplication math facts 0-12). Observation/Log: The teacher observes and records instances of successful student performance. Work product: The teacher examines student work and records the number/percentage of items correct.
<ul style="list-style-type: none"> is developing fluency in an academic skill (goal: accuracy plus speed)? 	<ul style="list-style-type: none"> Curriculum-based measures: CBMs are a good choice for rote basic skills such as reading fluency, or math fact fluency. Other timed measures: Teachers can create their own timed proficiency assessments--that assess work efficiency by measuring accurate responding within pre-set time limits (e.g., running record).
<ul style="list-style-type: none"> is increasing comprehension of independent reading? 	<ul style="list-style-type: none"> Grades: Assignments or quizzes are structured to assess student comprehension of assigned readings and collected with sufficient frequency to capture evidence of short-term improvements. Work product: Short-answer questions. The teacher prepares questions suitable for assessing student comprehension of the reading (e.g., mix of factual and inferential questions). Question sets can be assigned as homework or included in quizzes. Work product: Written retelling. The student is assigned to summarize important points of assigned readings ('written retellings'); the teacher tabulates the number/percentage of 'key ideas' or concepts included in the retelling.
<ul style="list-style-type: none"> is mastering a multi-step cognitive strategy or behavior routine? 	<ul style="list-style-type: none"> Checklist: The teacher or student uses a checklist to verify steps of the strategy successfully completed. Work product: The student is directed to show work on assignment, e.g., perhaps assisted by visual organizers or other aids highlighting strategy steps. The teacher reviews completed work for evidence of strategy use. Observation/Interview: An adult observes the student during the activity to record (perhaps with the help of a checklist or behavior report card) those steps successfully carried out. The observer may also ask the student to describe the steps being followed.
<ul style="list-style-type: none"> is turning in homework or in-class assignments with greater frequency? 	<ul style="list-style-type: none"> Log: The teacher keeps a record of homework turned in.

	<ul style="list-style-type: none"> • Self-Monitoring: The student completes a daily classwork-readiness checklist that includes an item on whether homework was submitted.
<ul style="list-style-type: none"> • produces work of higher quality? 	<ul style="list-style-type: none"> • Rubric: The teacher or student rates the quality of the work. • Checklist: The teacher or student rates whether each element or step in the assignment is complete. • Work product: The teacher defines what element(s) are missing or substandard in student work, monitor their inclusion and/or and quality over time.
<ul style="list-style-type: none"> • is increasing on-task behavior and academic engagement? 	<ul style="list-style-type: none"> • Behavior report card: Rating items are specific to on-task behavior and work engagement. • Work product: Monitor amount/quality/accuracy of completed student in-class work. Improvements in work production correlate with increased on-task behavior.
<ul style="list-style-type: none"> • is better able to organize and implement steps necessary to complete an in-class or homework assignment? 	<ul style="list-style-type: none"> • Checklist: Recommended if assignment steps can be rated simply COMPLETED/NOT COMPLETED. • Rubric: Recommended if assignment steps are more complex and rated along a quality continuum.
<ul style="list-style-type: none"> • transfers an existing skill or strategy to new settings or situations (goal: generalization)? 	<ul style="list-style-type: none"> • Observer/Checklist. The observer notes whether the student follows the steps of the checklist in the appropriate situations or settings. • Interview/Checklist: Student is asked structured set of questions about successful use of the target skill/strategy in the target setting(s).
<ul style="list-style-type: none"> • improves compliance with behavioral expectations? 	<ul style="list-style-type: none"> • Behavior report card: Rating items track compliance. • Logs: The teacher keeps a log recording incidents of misbehavior, etc. • Archival records: Office Disciplinary Referrals are tracked for incidents of non-compliance.
<ul style="list-style-type: none"> • improves overall academic standing in the course because of academic interventions? 	<ul style="list-style-type: none"> • Grades. Grades are designed to reflect general improvements in academic performance. Ideally, grading opportunities are frequent and the grades used to evaluate academic improvement are a 'pure' measure of academic attainment.