The Teacher as 'First Responder': Creating Academic-Intervention Plans to Motivate Learners in Grades 3-12

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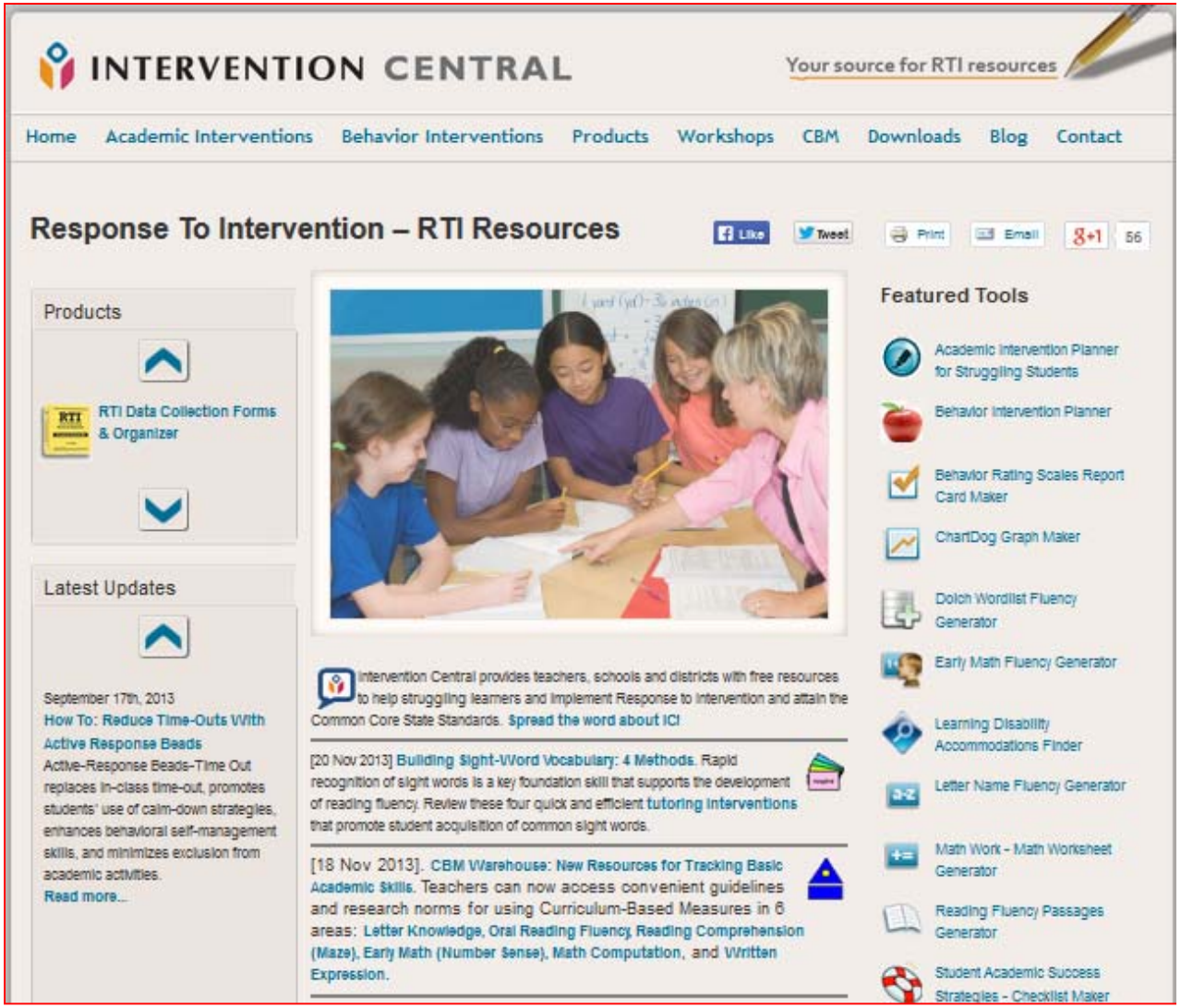
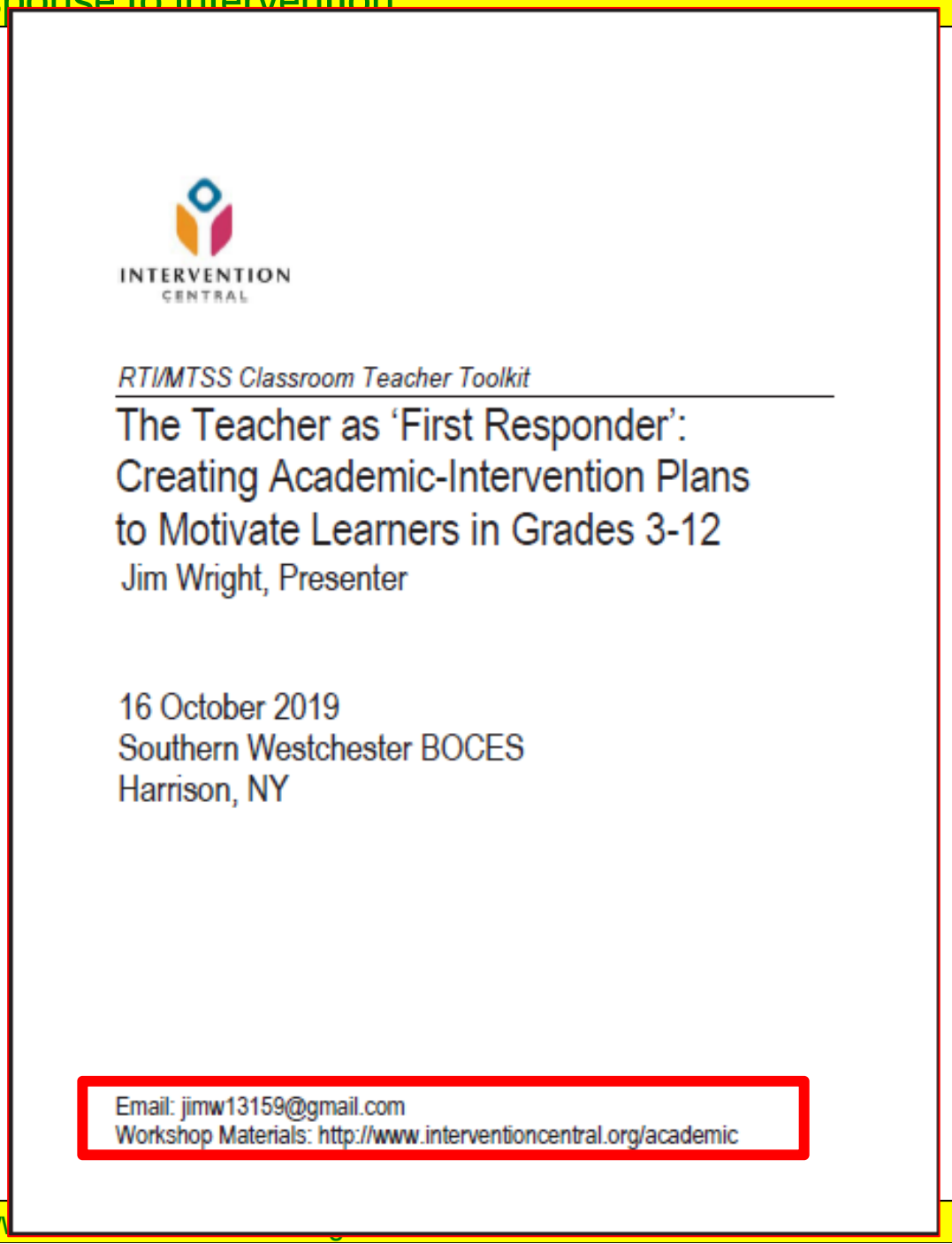


Handout



INTERVENTION CENTRAL

RTI/MTSS Classroom Teacher Toolkit

The Teacher as 'First Responder': Creating Academic-Intervention Plans to Motivate Learners in Grades 3-12

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16 October 2019
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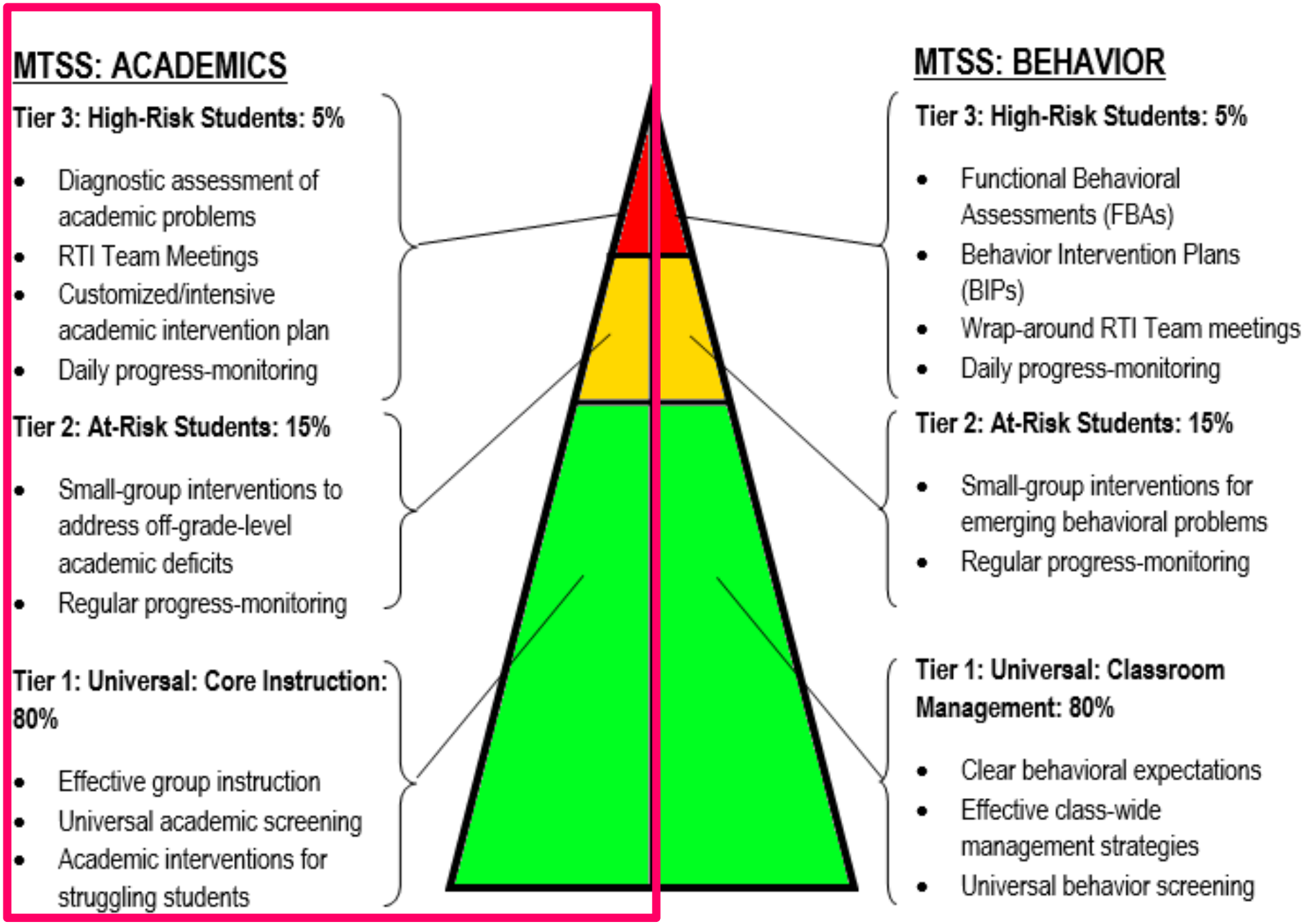
Workshop Materials: http://www.interventioncentral.org/academic

Workshop PPTs and handout available at:

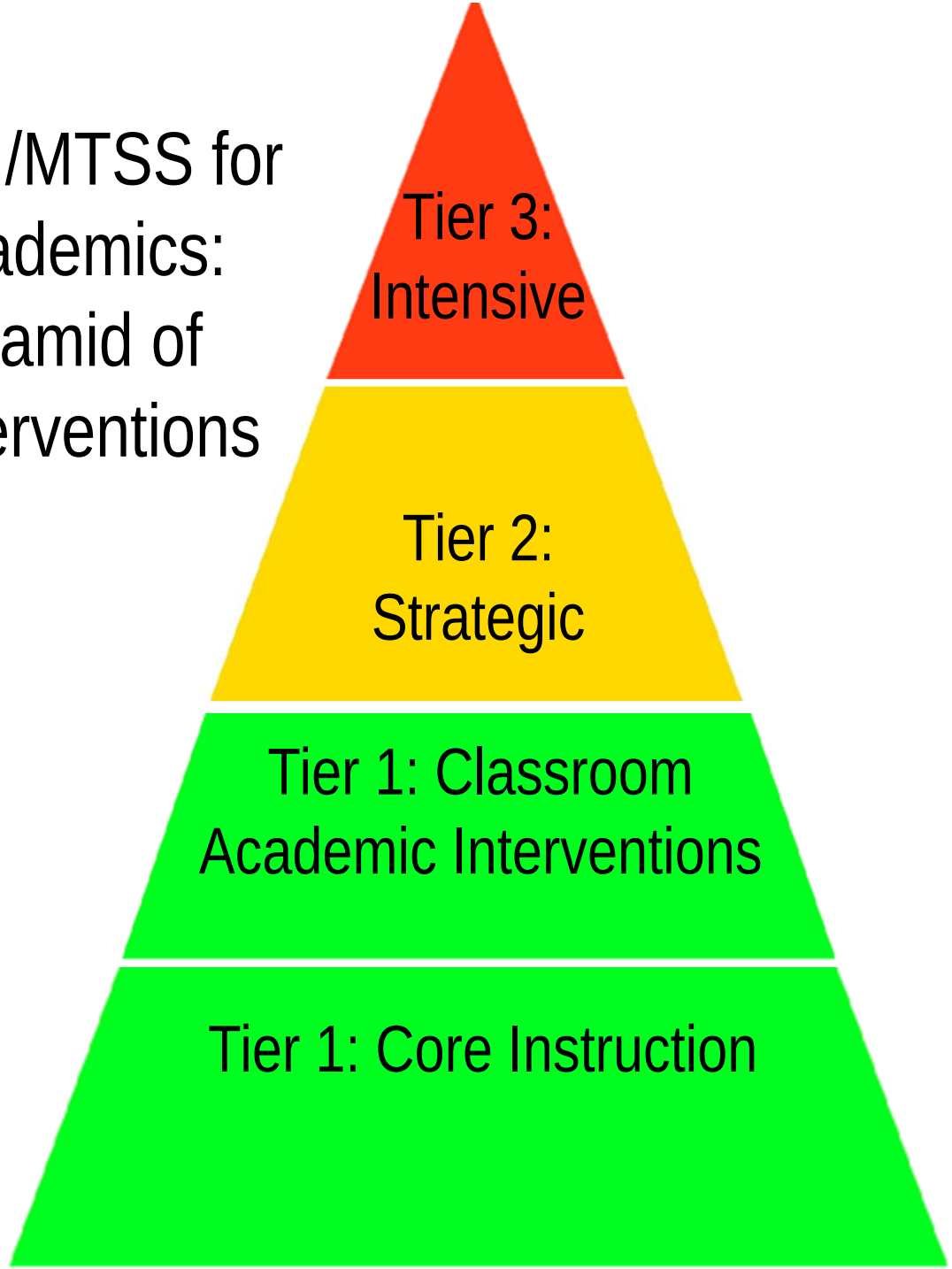
http://www.interventioncentral.org/academic

RTI/MTSS for Academics: An Overview. What does the RTI/MTSS model look like?

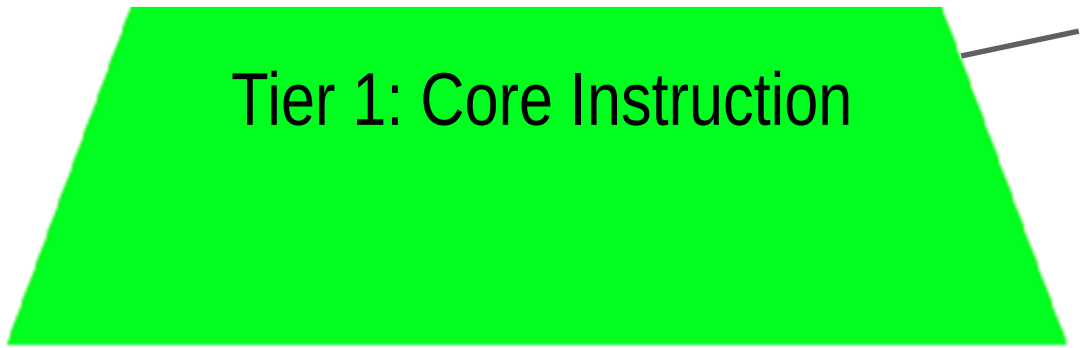


Source: Grosche, M., & Volpe, R. J. (2013). Response-to-intervention (RTI) as a model to facilitate inclusion for students with learning and behaviour problems. *European Journal of Special Needs Education, 28*, 254-269. http://dx.doi.org/10.1080/08856257.2013.768452

RTI/MTSS for Academics: Pyramid of Interventions

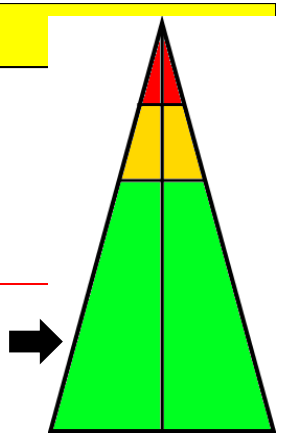


RTI/MTSS for Academics: Pyramid of Interventions

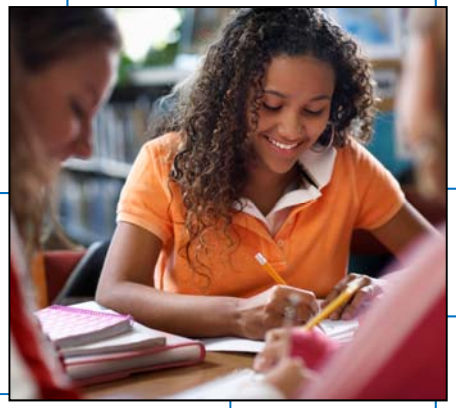


Tier 1: Core Instruction (100%). Teachers in all classrooms deliver effective instruction to reach the widest range of learners.

Tier 1: Core Instruction. The teacher's whole-group instruction...



…maximizes **time devoted to instruction** by reducing or avoiding interruptions—e.g., overlong transitions, episodes of problem behavior, etc.

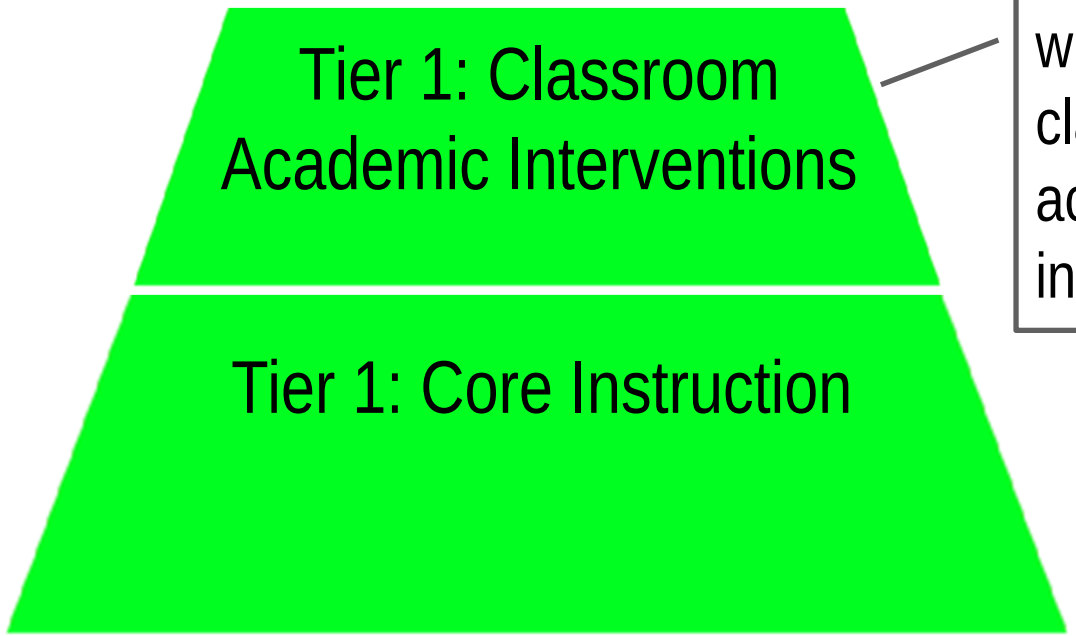


…incorporates essential elements of **explicit and systematic instruction** into lessons.

…for reading and mathematics instruction, uses programs and/or practices **supported by research.**

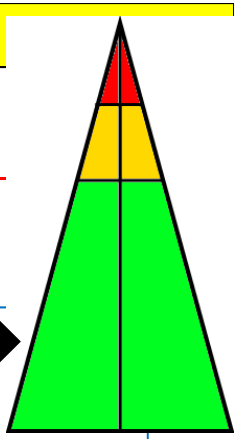
…provides **differentiated instruction** matched to student needs.

RTI/MTSS for Academics: Pyramid of Interventions



Tier 1: Classroom Intervention. The classroom teacher provides Tier 1 interventions to those individual students with academic difficulties who need additional classroom support to achieve success in core instruction.

Tier 1: Classroom Intervention. The teacher...



…has access to a bank of academic intervention ideas and data-collection methods accessible by all staff.

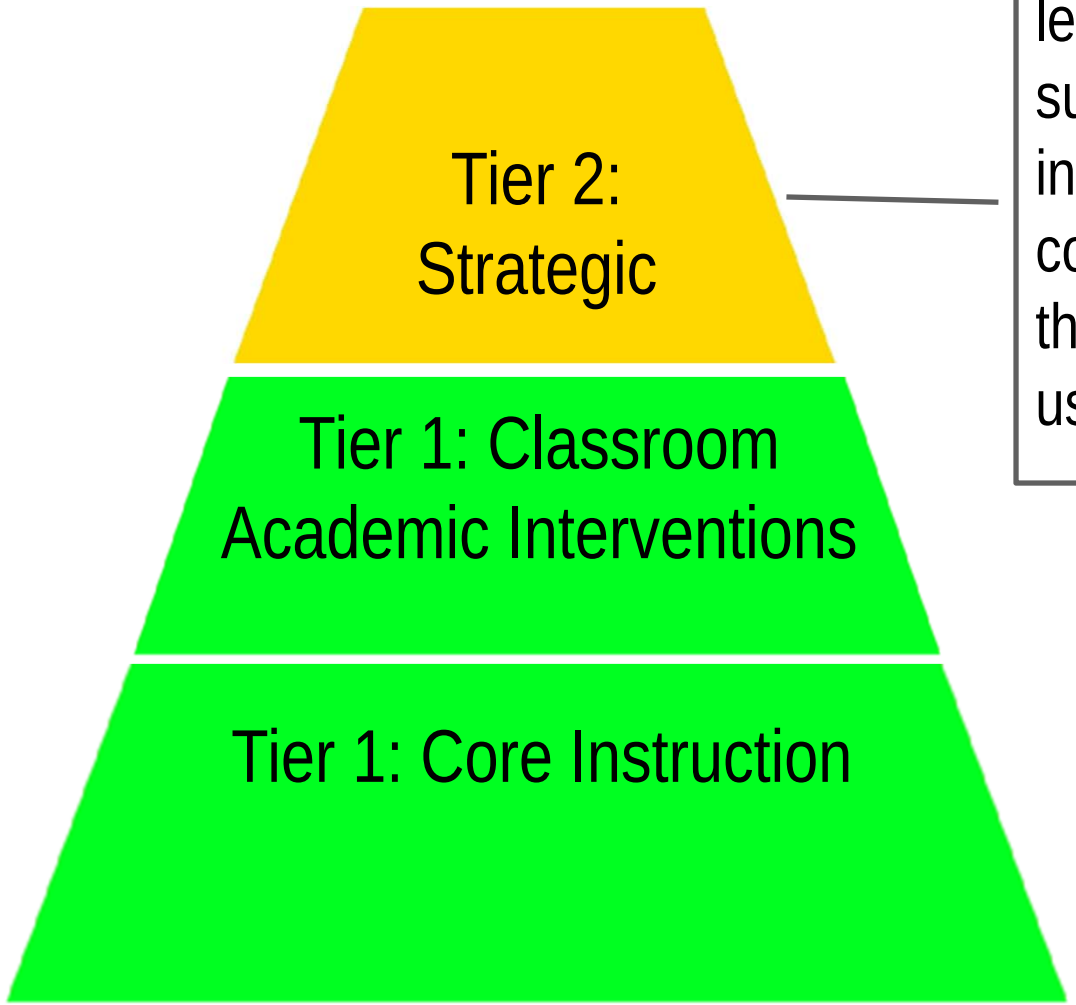
…uses standardized form(s) to record classroom interventions.

…defines the student's presenting academic problem(s) in clear and specific terms.

…chooses appropriate academic intervention(s) supported by research.

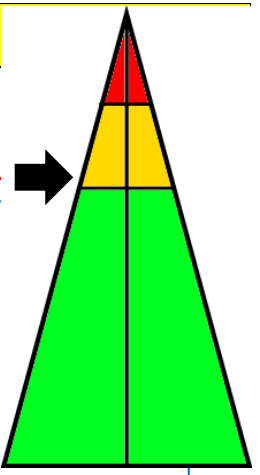
…selects method(s) to monitor student progress, setting a goal and collecting baseline data.

RTI/MTSS for Academics: Pyramid of I



Tier 2: Strategic Intervention (10-15%). Students with off-grade-level skill deficits receive supplemental small-group interventions outside of core instruction to fill in those gaps. Interventions used are research-based.

Tier 2: Supplemental Intervention. At Tier 2,...



…students enter and exit Tier 2 services based primarily on the objective data of the school-wide screening tool(s) (e.g., 20-25th% or below), with teacher nomination as only a minor source of recruitment.

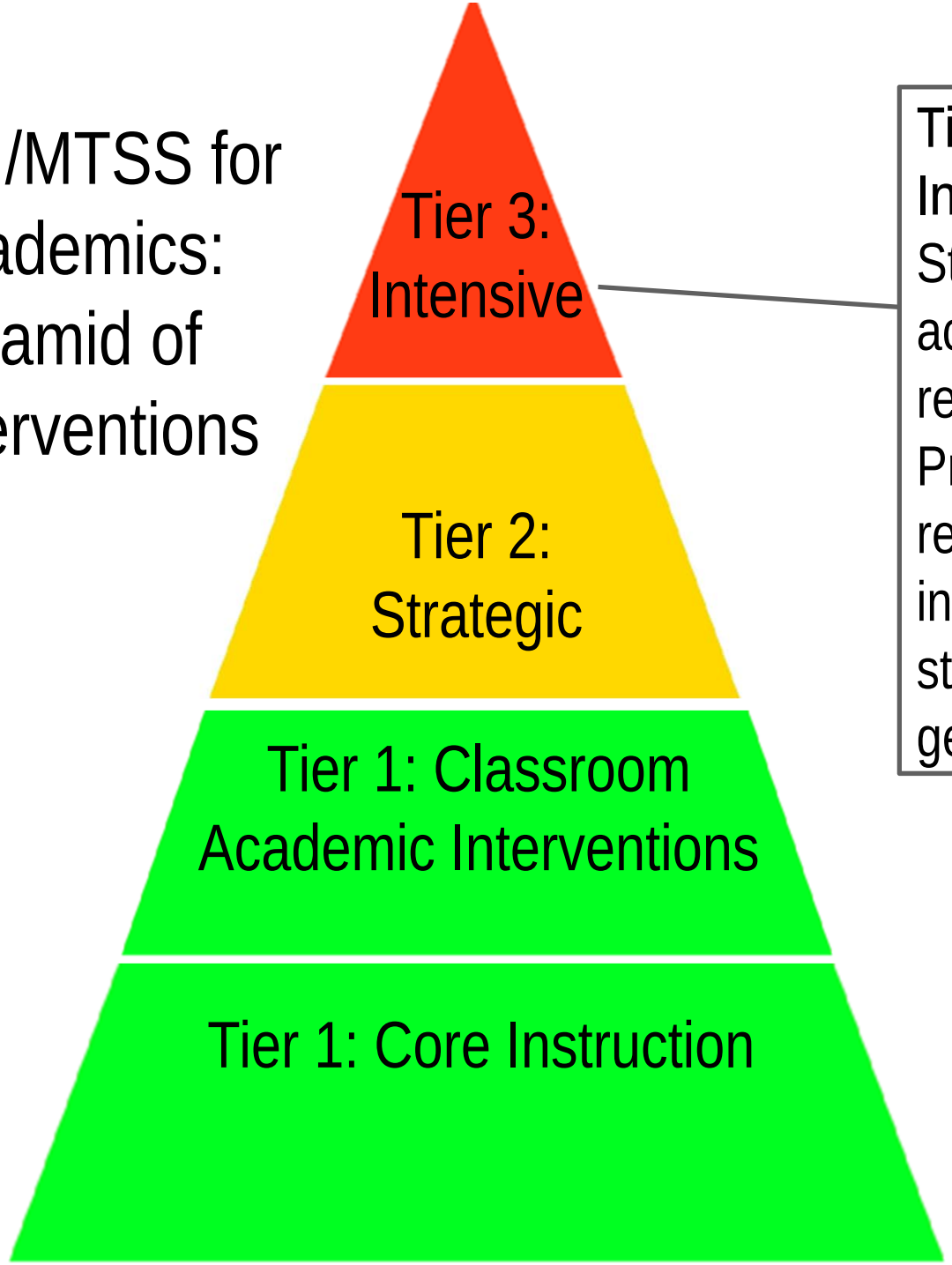
…interventions are documented in writing before Tier 2 services begin, and Tier 2 plans are archived electronically for easy access.

…the interventionist employs academic programs or practices supported by research.

…interventions seek to fix 'off-grade-level' academic deficits—and are not simply a reteaching of classroom instruction .

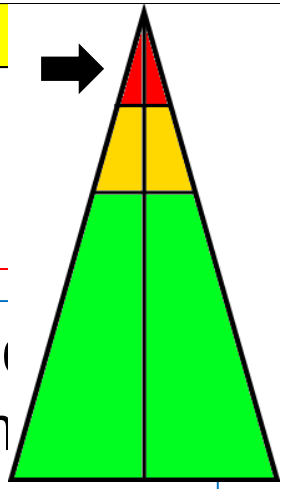
…the interventionist collects progress-monitoring data at least twice per month to monitor the success of the intervention.

RTI/MTSS for Academics: Pyramid of Interventions



Tier 3: Intensive Intervention (1-5%). Students with intensive academic gaps are reviewed by the RTI/MTSS Problem-Solving Team and receive a customized intervention plan. Most students at Tier 3 are **still** general-education.

Tier 3: Intensive Intervention. The RTI Problem-Solving Team…



…meets on referred students within 1-2 weeks of initial referral.

…follows a standardized problem-s meeting format, with defined meetin and steps.

…produces a written record of RTI /MTSS Team meeting discussion, including a customized intervention plan.

…routinely schedules follow-up meetings 6-8 instructional weeks after the initial meeting to evaluate intervention outcomes.

…expects that providers of Tier 3 interventions will collect data at least weekly to monitor student progress.

Strong Classroom Instruction. What are the elements of effective whole-group direct instruction? pp. 3-5

RTI: Tier 1: Core Instruction

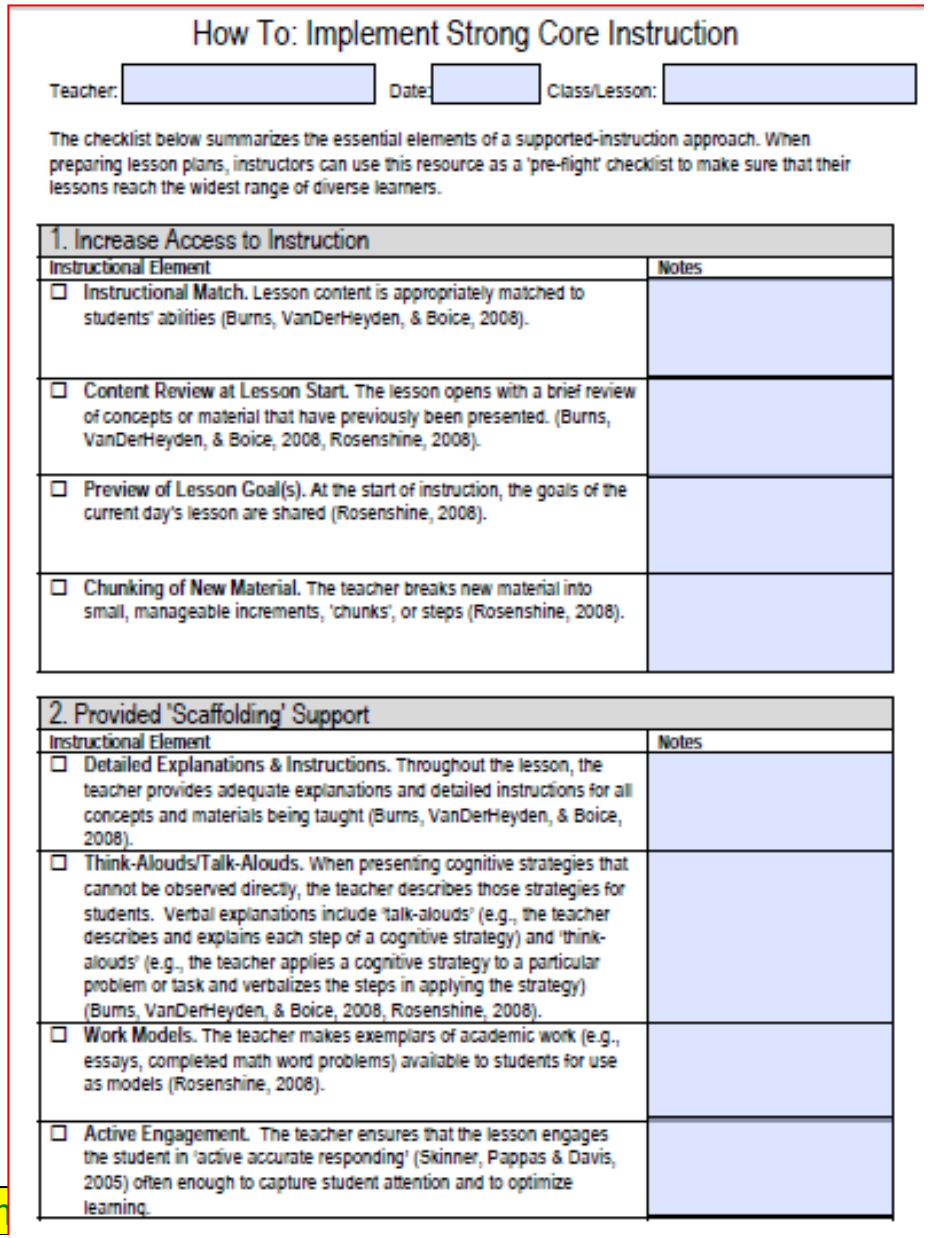
- Strong core instruction is the **foundation** of RTI.

  When teachers are able successfully to teach across the **full range** of classroom ability levels, individualized academic **interventions** are **not needed**.

  Strong instruction includes making optimal use **of instructional time**, integrating **direct-instruction elements** into lessons, and providing **accommodations** & **supports** as appropriate.

RTI: Tier 1: Core Instruction: Direct Instruction

Teachers can strengthen their lessons by incorporating into them elements of direct instruction.



How To: Implement Strong Core Instruction

Teacher: Date: Class/Lesson:

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
☐ **Instructional Match.** Lesson content is appropriately matched to students' abilities (Burns, VanDerHeyden, & Boice, 2008).	
☐ **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).	
☐ **Preview of Lesson Goal(s).** At the start of instruction, the goals of the current day's lesson are shared (Rosenshine, 2008).	
☐ **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
☐ **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).	
☐ **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).	
☐ **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).	
☐ **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.	

How to: Implement Strong Core Instruction

1. Access to Instruction	2. 'Scaffolding' Support (Cont.)
❑Instructional Match	❑Group Responding
❑Content Review at Lesson Start	❑High Rate of Student Success
❑Preview of Lesson Goal(s)	❑Brisk Rate of Instruction
❑Chunking of New Material	❑Fix-Up Strategies
2. 'Scaffolding' Support	3. Timely Performance Feedback
❑Detailed Explanations & Instructions	❑Regular Feedback
❑Talk Alouds/Think Alouds	❑Step-by-Step Checklists
❑Work Models	4. Opportunities for Review/ Practice
❑Active Engagement	❑Spacing of Practice Throughout Lesson
❑Collaborative Assignments	❑Guided Practice
❑Checks for Understanding	❑Support for Independent Practice
	❑Distributed Practice

How To Implement Strong Core Instruction

Increase Access to Instruction

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How To Implement Strong Core Instruction

Increase Access to Instruction

3. **Preview of Lesson Goal(s).** At the start of instruction, the goals of the current day's lesson are shared (Rosenshine, 2008).
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How To Implement Strong Core Instruction

Provide 'Scaffolding' Support

1. **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).
2. **Talk-Alouds/Think-Alouds.** Verbal explanations are given to explain cognitive strategies: '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).

How To Implement Strong Core Instruction

Provide 'Scaffolding' Support

3. **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).
4. **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.

How To Implement Strong Core Instruction

Provide 'Scaffolding' Support

5. **Collaborative Assignments.** Students have frequent opportunities to work collaboratively--in pairs or groups. (Baker, Gersten, & Lee, 2002; Gettinger & Seibert, 2002).
6. **Checks for Understanding.** The instructor regularly checks for student understanding by posing frequent questions to the group (Rosenshine, 2008).

How To Implement Strong Core Instruction

Provide 'Scaffolding' Support

7. **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).
8. **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).

How to: Implement Strong Core Instruction

1. Access to Instruction	2. 'Scaffolding' Support (Cont.)
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Motivating Students Through Collaboration: Numbered Heads Together

The Need. Teacher questioning during whole-group instruction is a key way for instructors to monitor student understanding of content. When questioning:

- 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 have enough wait-time to formulate an adequate answer.,
- the teacher should provide targeted performance feedback (Maheady et al., 2006).

Motivating Students Through Collaboration: Numbered Heads Together

- **Solution.** 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).

Motivating Students Through Collaboration: Numbered Heads Together

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.)

Motivating Students Through Collaboration: Numbered Heads Together

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.

Motivating Students Through Collaboration: Numbered Heads Together

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.]

How to: Implement Strong Core Instruction

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How To Implement Strong Core Instruction

Provide 'Scaffolding' Support

9. **Brisk Rate of Instruction**. The lesson moves at a brisk rate--sufficient to hold student attention (Carnine,1976; Gettinger & Seibert, 2002).
10. **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).

How To Implement Strong Core Instruction

Give Timely Performance Feedback

1. **Regular Feedback.** The teacher provides timely and regular performance feedback and corrections throughout the lesson as needed to guide student learning (Burns, VanDerHeyden, & Boice).
2. **Step-by-Step Checklists.** For multi-step cognitive strategies, the teacher creates checklists for students to use to self-monitor performance (Rosenshine, 2008).

How To Implement Strong Core Instruction

Provide Opportunities for Review & Practice

1. **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).

How To Implement Strong Core Instruction

Provide Opportunities for Review & Practice

2. **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).

How To Implement Strong Core Instruction

Provide Opportunities for Review & Practice

3. **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).
4. **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).

How to: Implement Strong Core Instruction

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❑Co	❑High Rate of Student Success
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Activity: Strong Direct Instruction

1. Review this list of **elements** of **direct instruction**.
2. Discuss how you might use this checklist in your own classroom or school.

Pivot Points. What are key classroom competencies that ANY student needs for school success?

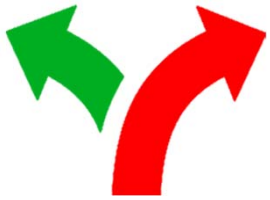
Handout p. 2

The Struggling Student in a General-Education Setting: Pivot Points

Directions. The student competencies in the table below represent 'pivot points'—opportunities for educators to support the at-risk student to 'pivot' them toward school success. \Number in descending order the **5** competencies that you believe pose the greatest challenge for students in your classroom or school to attain.

Ranking	Student Competency
	A. **Basic Academic Skills**. The student has sufficient mastery of basic academic skills (e.g., reading fluency) to complete classwork.
	B. **Academic Survival Skills**. The student possesses the academic survival skills (e.g., homework skills, time management, organization) necessary to manage their learning.
	C. **Work Completion**. The student independently completes in-class work and homework.
	D. **Transitions**. The student flexibly adapts to changing academic routines and behavioral expectations across activities and settings (e.g., content-area classes; specials).
	E. **Attentional Focus**. The student has a grade- or age-appropriate ability to focus attention in large and small groups and when working independently.
	F. **Emotional Control**. The student manages emotions across settings, responding appropriately to setbacks and frustrations.
	G. **Peer Interactions**. The student collaborates productively and has positive social interactions with peers.
	H. **Self-Efficacy**. The student possesses a positive view of their academic abilities, believing that increased effort paired with effective work practices will result in improved outcomes ('growth mindset').
	I. **Self-Understanding**. The student can articulate their relative patterns of strength and weakness in academic skills, general conduct, and social-emotional functioning.
	J. **Self-Advocacy**. The student advocates for their needs and negotiates effectively with adults.

The Struggling Student in a General-Education Setting: Pivot Points



Successful students must be able to juggle many competencies simultaneously as they negotiate complex classroom demands.

The following slides present 10 such pivot points that include competencies in academics, behavior, self-management, and motivation.

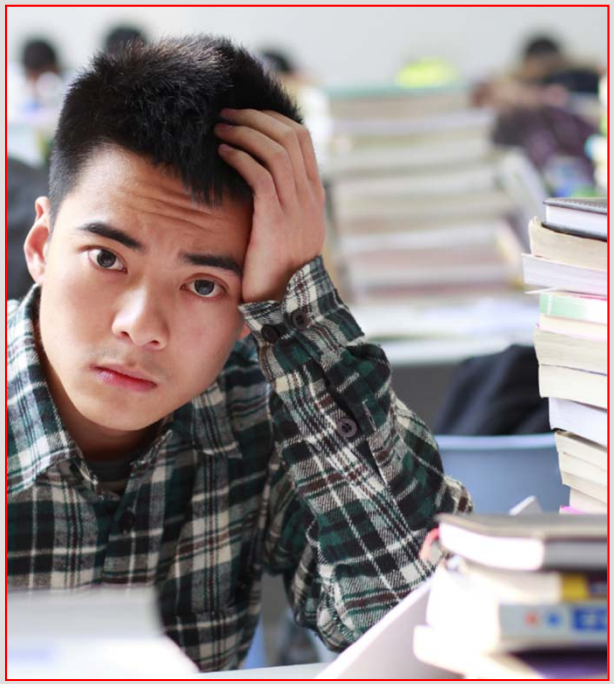
Teachers can play an important role in supporting the struggling student by identifying potentially weak pivot points and assisting the learner to attain them.

Pivot Points: Strengthening the Student Skillset

Basic academic skills

Emotional control

Academic 'survival skills'



Peer interactions

Work completion

Self-efficacy

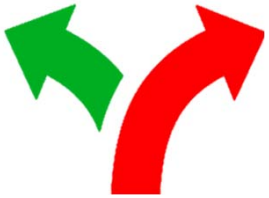
Transitions

Self-understanding

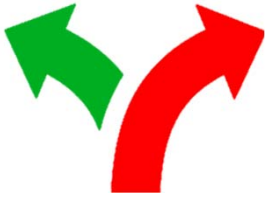
Attentional focus

Self-advocacy

Pivot Points: The Struggling Student in a General Education Setting

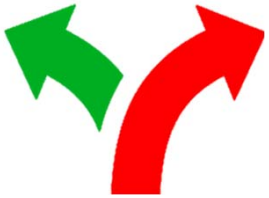


A. **Basic Academic Skills.** The student has sufficient mastery of basic academic skills (e.g., reading fluency) to complete classwork.

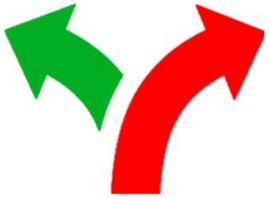


B. **Academic Survival Skills.** The student possesses the academic survival skills (e.g. homework skills, time management, organization) necessary to manage their learning.

Pivot Points: The Struggling Student in a General Education Setting

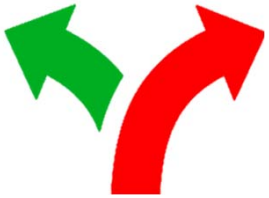


C. **Work Completion.** The student independently completes in-class work and homework.

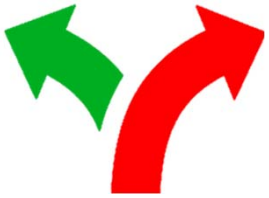


D. **Transitions.** The student flexibly adapts to changing academic routines and behavioral expectations across activities and settings (e.g., content-area classes; specials).

Pivot Points: The Struggling Student in a General Education Setting

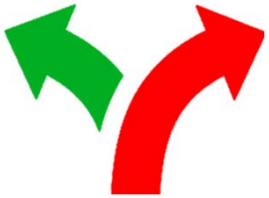


E. **Attentional Focus.** The student has a grade- or age-appropriate ability to focus attention in large and small groups and when working independently.

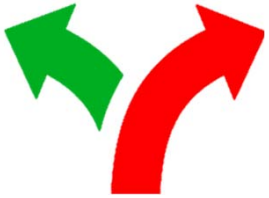


F. **Emotional Control.** The student manages emotions across settings, responding appropriately to setbacks and frustrations.

Pivot Points: The Struggling Student in a General Education Setting

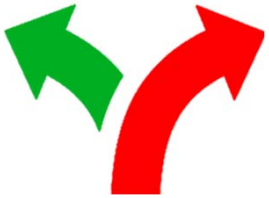


G. **Peer Interactions.** The student collaborates productively and has positive social interactions with peers.

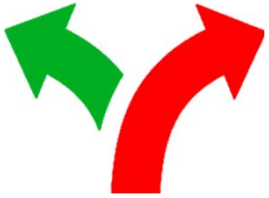


H. **Self-Efficacy.** The student possesses a positive view of their academic abilities, believing that increased effort paired with effective work practices will result in improved outcomes ('growth mindset').

Pivot Points: The Struggling Student in a General Education Setting



I. **Self-Understanding.** The student can articulate their relative patterns of strength and weakness in academic skills, general conduct, and social-emotional functioning.



J. **Self-Advocacy.** The student advocates for their needs and negotiates effectively with adults.

Pivot Points: The Struggling Student in a General-Education Setting: ACTIVITY

A. **Basic Academic Skills.** The student has sufficient mastery of
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tioning.

DIRECTIONS. Review the 10 'pivot points' discussed today.

1. Select up to 3 that you or your school find most challenging.

2. Number those selected in order from greatest ('1') to least ('3') importance.

3. Be prepared to report out.

J. **Self-Advocacy.** The student advocates for their needs and negotiates effectively with adults.

Pivot Points: The Struggling Student in a General-Education Setting: ACTIVITY

A. **Basic Academic Skills.** The student has sufficient mastery of basic academic skills (e.g., reading fluency) to complete classwork.

B. **Academic Survival Skills.** The student possesses the academic survival skills (e.g., homework skills, time management, organization) necessary to manage their learning.

C. **Work Completion.** The student independently completes in-class work and homework.

D. **Transitions.** The student flexibly adapts to changing academic routines and behavioral expectations across activities and settings (e.g., content-area classes; specials).

E. **Attentional Focus.** The student has a grade- or age-appropriate ability to focus attention in large and small groups and when working independently.

F. **Emotional Control.** The student manages emotions across settings, responding appropriately to setbacks and frustrations.

G. **Peer Interactions.** The student collaborates productively, has positive social interactions with peers.

H. **Self-Efficacy.** The student possesses a positive view of their academic abilities, believing that increased effort paired with effective work practices will result in improved outcomes.

I. **Self-Understanding.** The student can articulate their relative patterns of strength and weakness in academic skills, general conduct, and social-emotional functioning.

J. **Self-Advocacy.** The student advocates for their needs and negotiates effectively with adults.

What Classroom Supports Help a Struggling Student?

1. PROBLEM IDENTIFICATION. The student's specific academic deficits have been clearly defined.
2. INTERVENTIONS. The student receives research-based interventions to help them to succeed in core instruction.
3. ACCOMMODATIONS. The student has access to classroom accommodations as needed to reach grade-level potential.
4. PLAN. The student has a written intervention plan.
5. *DATA. The student has assessment data collected to better understand the academic delay and/or to track progress.*

Identifying the Academic Problem. What process for describing academic problems can increase teachers' chances of finding interventions that work?

Worksheet p. 24

Activity: Write an Academic Problem-Identification Statement for Your Student

1. Choose a student you work with that has 1 or more significant academic challenges requiring a Tier 1/Classroom Intervention Plan. Answer these questions regarding your student:

   a. **Academic Task.** What specific academic task is the greatest academic challenge for this student?

   b. **Current Performance.** How does your student currently perform on this task?

   c. **Expected Performance.** What level of performance would you expect on this task from a typical/average student?

2. **Write a 3-part Problem-Identification Statement.** Use this organizer to rewrite your student's academic problem in the form of a 3-part Problem ID statement. For examples, see handout:

3-Part Academic Problem ID Statement		
Environmental Conditions or Task Demands	**Problem Description**	**Typical or Expected Level of Performance**

Interventioncentral
5-Minute 'Count Down' Timer
05:00
www.interventioncentral.org

Academic Problems: Think of a Student

1. Choose a student you work with that has 1 or more significant academic challenges requiring a Tier 1/Classroom Intervention Plan. Answer these questions regarding your student:

   - **Academic Task.** What specific academic task is the greatest academic challenge for this student?
   - **Current Performance.** How does your student *currently* perform on this task?
   - **Expected Performance.** What level of performance would you expect on this task from a *typical/average* student?

Academic Problem Identification: 3 Steps pp. 6-7

1. Describe the problem.
2. Format the problem description as a 3-part problem-identification statement.
3. Choose a hypothesis for what is the most likely cause of the problem.

Academic Problem Identification: 3 Steps

Format the problem description as a 3-part problem-identification statement.

The process of writing this statement can help to make the **description** of the academic behavior more specific and also prompts the teacher to think about an appropriate performance **goal**.

Academic Problem Identification: 3 Parts

1. *Conditions*. ('What is the academic task?'). Describe the environmental conditions or task demands in place when the academic problem is observed.
2. *Problem Description*. ('What is the student's *current* performance?'). 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.
3. *Typical or Expected Level of Performance.* ('What is the student *expected* performance?'). Provide 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.

3-Part Problem ID Statement: Examples

Conditions	Problem Description	Typical/Expected Level o
When reading aloud from a 1-minute 4th-grade passage	Benjamin reads an average of 45 words	while the fall norm (20th percentile) at Grade 4 is 68 words per minute.

Benchmark Norms

General Problem: *Benjamin is a slow reader.*

3-Part Problem ID Statement: Examples

Conditions	Problem Description	Typical/Expected Level o
When completing sets of 5 short-answer questions based on assigned readings	Neda scores an average of 40% (2 of 5 correct)	while classmates score an average of 80%.

Class Norms

General Problem: *Neda does not retain important information from readings.*

3-Part Problem ID Statement: Examples

Conditions	Problem Description	Typical/Expected Level of Performance
When shown flashcards with multiplication math facts 0 to 12 for 3 seconds	Annika can answer 57 of 169 correctly	while most peers in her class can name all facts correctly.

Informal local (classroom) norms

General Problem: *Annika does not know all of her multiplication facts.*

3-Part Problem ID Statement: Examples

Conditions	Problem Description	Typical/Expected Level of Performance
When completing a beginning-level algebra word problem	Dennis is unable to translate that word problem into an equation with 1 variable	although this is a prerequisite skill for the course.

Entry-level/pre-requisite skills

General Problem: *Dennis cannot convert an algebra word problem into an equation.*

3-Part Problem ID Statement: Examples

Conditions	Problem Description	Typical/Expected Level of Performance
Given a 2-term addition or subtraction problem with proper fractions	Franklin (grade 7) cannot correctly solve	although this skill is a Grade 5 Common Core Learning Standard.

Common Core Learning Standard

General Problem: *Franklin cannot add or subtract fractions.*

3-Part Problem ID Statement: Examples

Conditions	Problem Description	Typical/Expected Level of Performance
On math homework	Neda attempts an average of 60 % of assigned items	while classmates typically attempt 90% or more of items.

Local (classroom) norms: Teacher homework log

General Problem: *Neda turns in incomplete math homework.*

Worksheet p. 24

Activity: Write an Academic Problem-Identification Statement for Your Student

1. Choose a student you work with that has 1 or more significant academic challenges requiring a Tier 1/Classroom Intervention Plan. Answer these questions regarding your student:

   a. **Academic Task.** What specific academic task is the greatest academic challenge for this student?

   b. **Current Performance.** How does your student currently perform on this task?

   c. **Expected Performance.** What level of performance would you expect on this task from a typical/average student?

2. **Write a 3-part Problem-Identification Statement.** Use this organizer to rewrite your student's academic problem in the form of a 3-part Problem ID statement. For examples, see handout:

3-Part Academic Problem ID Statement		
Environmental Conditions or Task Demands	**Problem Description**	**Typical or Expected Level of Performance**

Academic Problems: Think of a Student

Problem ID: Write a 3-part Problem-Identification Statement. On your worksheet, write your student's academic problem in the form of a 3-part Problem ID statement. For examples, see handout; pp. 6-7.

3-Part Academic Problem ID Statement		
Environmental Conditions or Task Demands	Problem Description	Typical or Expected Level of Performance

Academic Problem Identification: 3 Steps

Choose a hypothesis for what is the most likely cause of the problem.

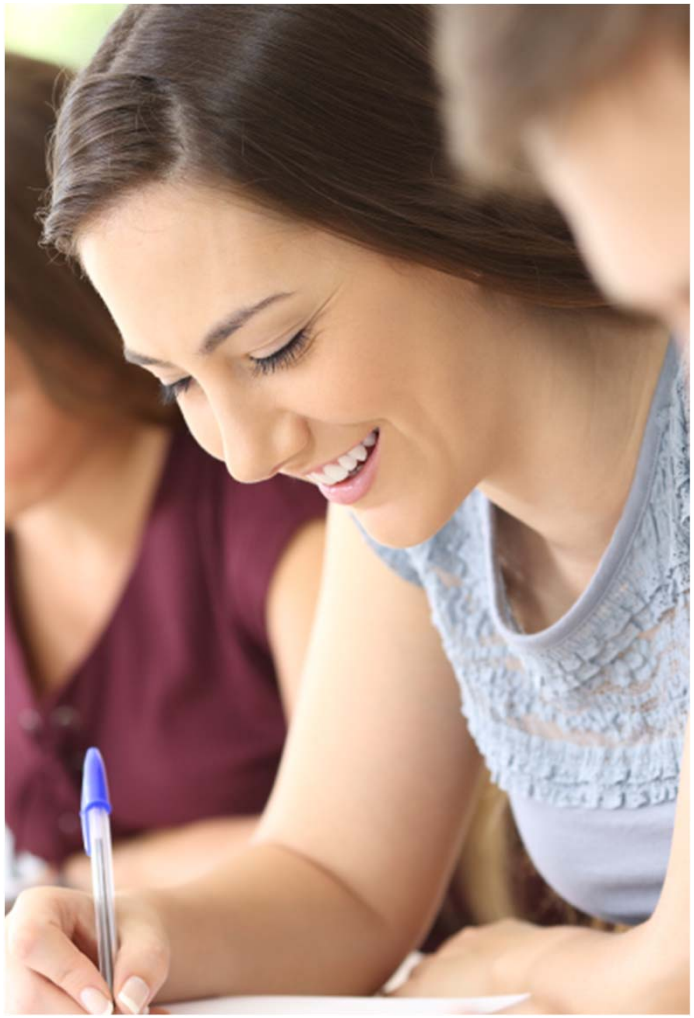
Handout pp. 8-10

2. **Select a hypothesis 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 selected, the hypothesis acts as a compass needle, pointing toward intervention that most logically address the student academic problems. Listed below are common reasons for academic problems. Note that occasionally more than on hypothesis may apply to a particular student (e.g., a student may demonstrate a skill deficit as well as a pattern of escape/avoidance).

Reason for Academic Problem	What It Looks Like	How to Respond	How to Measure: Sample Ideas
1. *Skill.* The student is unable to do the academic work.	• All information sources (direct observation, work products, past records) indicate the student lacks the necessary skill(s) to do the work.	• Actively teach the target skill(s). • Give the student models of correct performance to consult as needed (e.g., correctly completed math problems on board). • Provide timely feedback about correct performance. Offer praise and encouragement for effort.	• Select any method for data collection that provides direct, observable evidence of the student's mastery of the academic skills being taught: e.g., teacher-made quizzes; rubrics; work products, etc.
2. *Fluency.* The student possesses the necessary academic skills but lacks fluency in completing the work.	• The student can complete the work but is inefficient, requiring substantially more time than classmates to do so. The student may also be committing large amounts of cognitive energy to the basic task, preventing them from focusing on higher-level problem-solving or comprehension.	• Provide opportunities for the student to practice the skill and receive timely performance feedback. • Reinforce the student for fluency as well as accuracy.	• Administer brief, timed measures to track growth in speed and efficiency. NOTE: Curriculum-based measures (CBM's) (e.g., Oral Reading Fluency) are useful tools to track fluency in basic academic skills.
3. *Retention.* The student appears to have mastered the necessary academic skill(s) in one session but does not retain the skill(s) until the next session.	• The student demonstrates success on an academic task (e.g., correctly recalling a set of math facts from memory) but on a following day cannot repeat this same task.	• Give the student multiple opportunities to drill on and 'over-practice' the skill.	• Track student mastery of academic items (e.g., basic math facts) using a Cumulative Mastery Record.

Problem Identification: Example 1: Jackie

Concern: "Jackie doesn't know important academic vocabulary."



Problem Type: Skill Deficit

Skill

Reason for Academic Problem

- The student is unable to do the academic work.

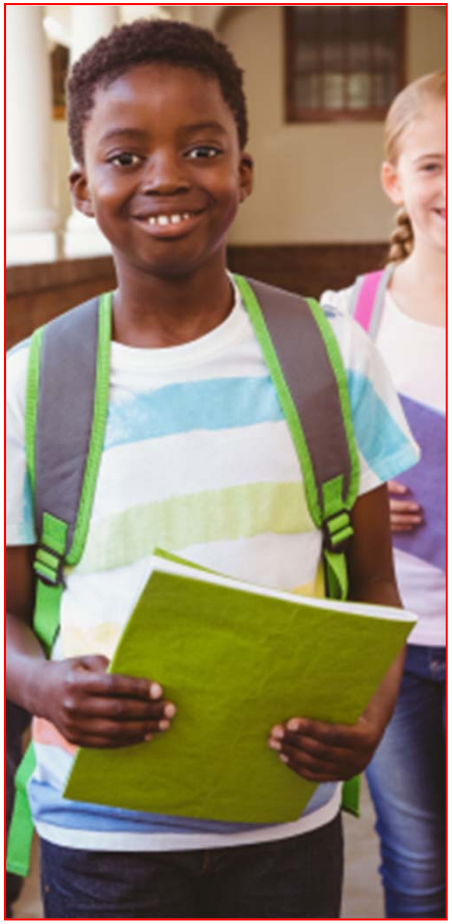
Skill

How to Respond

- Actively teach the target skill(s).
- Give the student models of correct performance to consult as needed (e.g., correctly completed math problems on board).
- Provide timely feedback about correct performance.
- Offer praise and encouragement for effort.

Problem Identification: Example 2: Jay

Concern: "Jay is inconsistent with his math facts...one day he knows them, the next day he doesn't."



Problem Type:

Retention Deficit

Retention

Reason for Academic Problem

- The student appears to have mastered the necessary academic skill(s) in one session but does not retain the skill(s) until the next session.

Retention

How to Respond

- Give the student multiple opportunities to drill on and 'over-practice' the skill.

Problem Identification: Example 3: Trevor

Concern: "Trevor doesn't use 'fix-up' skills learned in reading group in my classroom."

Problem Type:
Generalization Deficit

Generalization

Reason for Academic Problem

- The student possesses the necessary academic skill(s) but fails to recognize opportunities when they should use those skills.

Generalization

How to Respond

- Identify situations/settings in which the student should use the missing skills ('skills transfer')

- Select a method (e.g., adult prompt; self-monitoring with a checklist) through which the student is alerted to apply those missing skills in the new setting.

Student Self-Monitoring Checklist

Goal While Reading: I READ the passage carefully for full understanding:

While reading, I stop after each paragraph to ask, "Did I **understand** what I just read?"

If I **do** understand the paragraph, I mark it with a plus sign (+) and continue reading.
If I **do not** understand the paragraph, I mark it with a minus (-) sign and:

- reread the paragraph;
- slow my reading;
- focus my *full* attention on what I am reading;
- underline any words that I do not know and try to figure them out from the reading (context).

Problem Identification: Example 4: Amber

Concern: "Amber does not complete independent writing assignments unless I continuously monitor and encourage her."

Problem Type:

Overprompting

Overprompting

Reason for Academic Problem

- The student completes the work—but requires high rates of adult prompting during the task.

External Prompt Types (Online)

Table 1: Prompt Types (MacDuff et al., 2001)	
Manual Prompt	The student is guided manually to complete the skill. Guiding the student's hand to write letters on a worksheet is an example of a manual ('hand-over-hand') prompt. A partial manual prompt (e.g., the teacher guiding the student manually through only part of the task) is counted as a manual prompt.
Modeling Prompt	The student views a demonstration of the skill (e.g., demonstrated in person or via a video recording). Partial modeling (e.g., the teacher demonstrating a single step of a multi-step task) is counted as a modeling prompt.
Verbal Prompt	The student is prompted via verbal communication to demonstrate the skill. Verbal prompts can consist of a single word or several consecutive sentences. Encouragement and praise whose goal is to get the student to begin the task are considered verbal prompts.
Gestural Prompt	The student is prompted via a gesture (e.g., nodding, pointing, motioning, tapping on a worksheet) to complete the skill.
No Prompt	The student requires no prompting to complete the skill.

Overprompting

How to Respond

- A goal in reducing use of adult prompts is shift from more-intensive to less-intensive prompt types.

- For example, if the teacher demonstrates the skill (modeling), that teacher can aim to instead use a less-intensive verbal prompt. Similarly, a verbal prompt may be replaced by the teacher pointing to a checklist outlining steps the student is to follow (gestural prompt).

Problem Identification: Example 5: Owen

Concern: "Owen constantly comes to me for help when doing deskwork."

Problem Type:

Seeking Help Too Often

Seeking Help Too Often

Reason for Academic Problem

- The student has the ability to complete the work—but seeks repeated assistance during the task.

Seeking Help Too Often

How to Respond

- Ensure that the student has supports to increase confidence during independent work (e.g., completed work models to review; fix-up strategies, etc.).
- Assign a fixed number of 'help requests' that the student can make (e.g., 3) during each work session. (Note: Consider also giving the student incentive NOT to use all help requests by allowing them to 'cash in' unused help requests for points, prizes, privileges, or rewards.)

Behavior Management Strategies: Skill-Building

- **Reinforcing lower rate of teacher help requests.** When a student too frequently seeks teacher help and reassurance, one strategy to fix the problem is to reinforce lower rates of help-seeking:

1. TRAIN THE STUDENT IN SELF-HELP STRATEGIES. The teacher meets with the student to generate a checklist of appropriate self-help skills (e.g., consult a glossary or dictionary, ask a peer) that should be attempted before seeking teacher help.

Behavior Management Strategies: Skill-Building

- **Reinforcing lower rate of teacher help requests.**(Cont.)

2. SELECT A MAXIMUM LIMIT FOR HELP REQUESTS. The teacher decides on a reasonable upper limit of times that the student can request help during a given period. For example, a teacher may decide that, during a 20-minute independent seatwork period, the student should require no more than 3 opportunities to seek teacher help.

Behavior Management Strategies: Skill-Building

- **Reinforcing lower rate of teacher help requests.**(Cont.)

3. CREATE A REQUEST-MONITORING CARD. The teacher makes a daily monitoring index-card to be placed on the student's desk. The card contains a series of check-off boxes equivalent to the acceptable maximum of help requests--plus an 'extra' box. For example, if 3 is the maximum for allowable help requests during a period, the card contains 4 check-off boxes.

Sample Teacher-Request Monitoring Card

Help Card for: _____ Date: _____

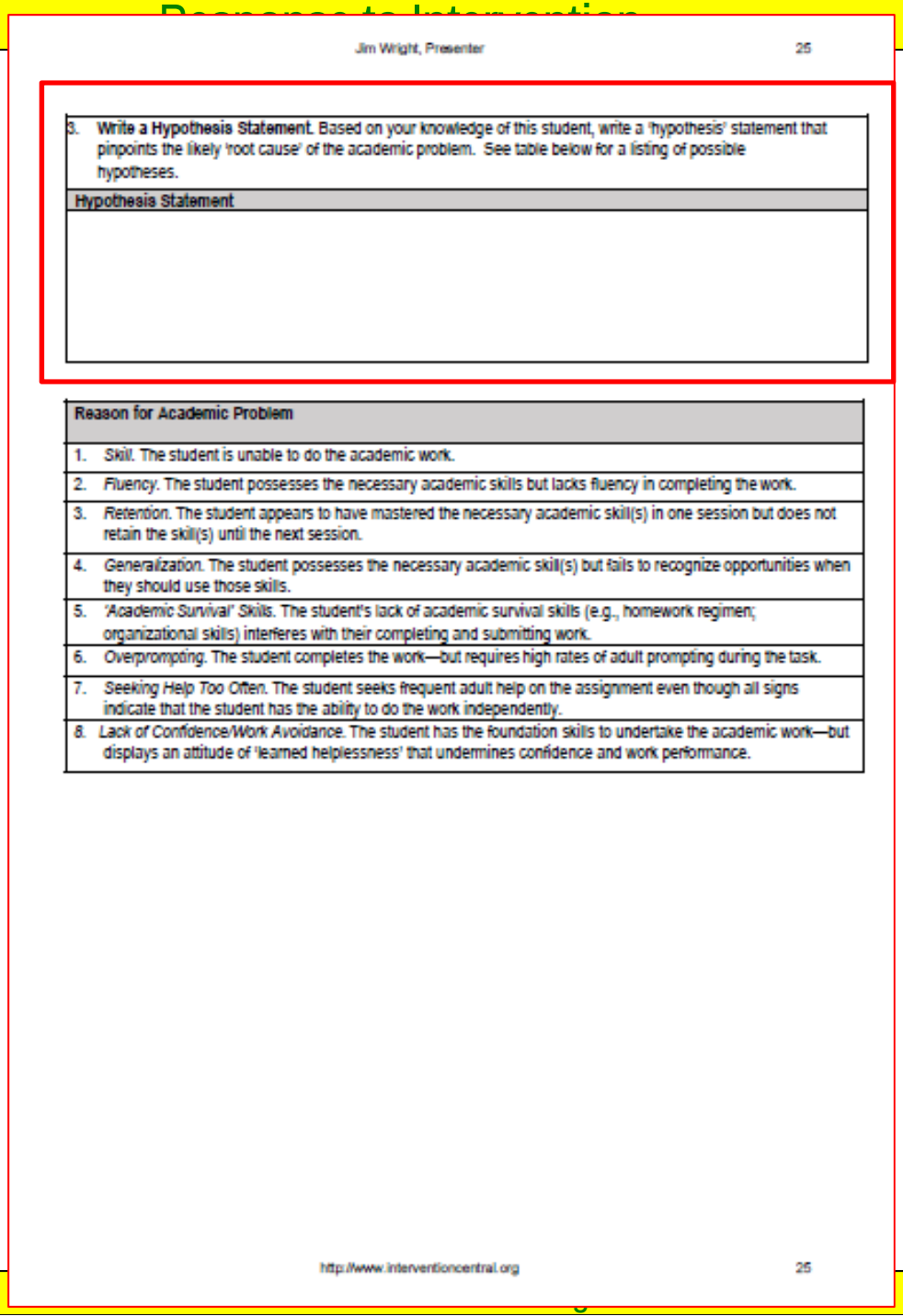
☐ Help 1 ☐ Help 2 ☐ Help 3 | ☐ Bonus Box

If the bonus box is unchecked at the end of the period, the student will earn ___ points.

Identifying Academic Problems in the Classroom

1. *Skill.* The student is unable to do the academic work.
2. *Fluency.* The student possesses the necessary academic skills but lacks fluency in completing the work.
3. *Retention.* The student appears to have mastered the necessary academic skill(s) in one session but does not retain the skill(s) until the next session.
4. *Generalization.* The student possesses the necessary academic skill(s) but fails to recognize opportunities when they should use those skills.
5. *'Academic Survival' Skills.* The student's lack of academic survival skills (e.g., homework regimen; organizational skills) interferes with their completing and submitting work.
6. *Overprompting.* The student completes work—requires frequent prompting.
7. *Seeking Help Too Often.* The student has the ability to complete the work—but seeks repeated assistance during the task.
8. *Lack of Confidence/Work Avoidance.* The student has the foundation skills to undertake the academic work—but displays an attitude of 'learned helplessness' that undermines confidence and work performance.

Worksheet p. 25



3. **Write a Hypothesis Statement.** Based on your knowledge of this student, write a 'hypothesis' statement that pinpoints the likely 'root cause' of the academic problem. See table below for a listing of possible hypotheses.

Hypothesis Statement

Reason for Academic Problem
1. *Skill.* The student is unable to do the academic work.
2. *Fluency.* The student possesses the necessary academic skills but lacks fluency in completing the work.
3. *Retention.* The student appears to have mastered the necessary academic skill(s) in one session but does not retain the skill(s) until the next session.
4. *Generalization.* The student possesses the necessary academic skill(s) but fails to recognize opportunities when they should use those skills.
5. *'Academic Survival' Skills.* The student's lack of academic survival skills (e.g., homework regimen; organizational skills) interferes with their completing and submitting work.
6. *Overprompting.* The student completes the work—but requires high rates of adult prompting during the task.
7. *Seeking Help Too Often.* The student seeks frequent adult help on the assignment even though all signs indicate that the student has the ability to do the work independently.
8. *Lack of Confidence/Work Avoidance.* The student has the foundation skills to undertake the academic work—but displays an attitude of 'learned helplessness' that undermines confidence and work performance.

Academic Problems: Think of a Student

3. **Write a Hypothesis Statement.** Based on your knowledge of this student, write a 'hypothesis' statement that pinpoints the likely 'root cause' of the academic problem. (See pp. 8-10 for complete descriptions of each hypothesis.)

Hypothesis Statement

Literacy Interventions. What are examples of classroom reading/writing interventions?

Response to Intervention

1. **Phonemic Awareness:** The ability to hear and manipulate sounds in words.

2. **Alphabetic Principle:** The ability to associate sounds with letters and use these sounds to form words.

Five Components of Reading

3. **Fluency with Text:** The effortless, automatic ability to read words in connected text.

4. **Vocabulary:** The ability to understand (receptive) and use (expressive) words to acquire and convey meaning.

5. **Comprehension:** The complex cognitive process involving the intentional interaction between reader and text to convey meaning.

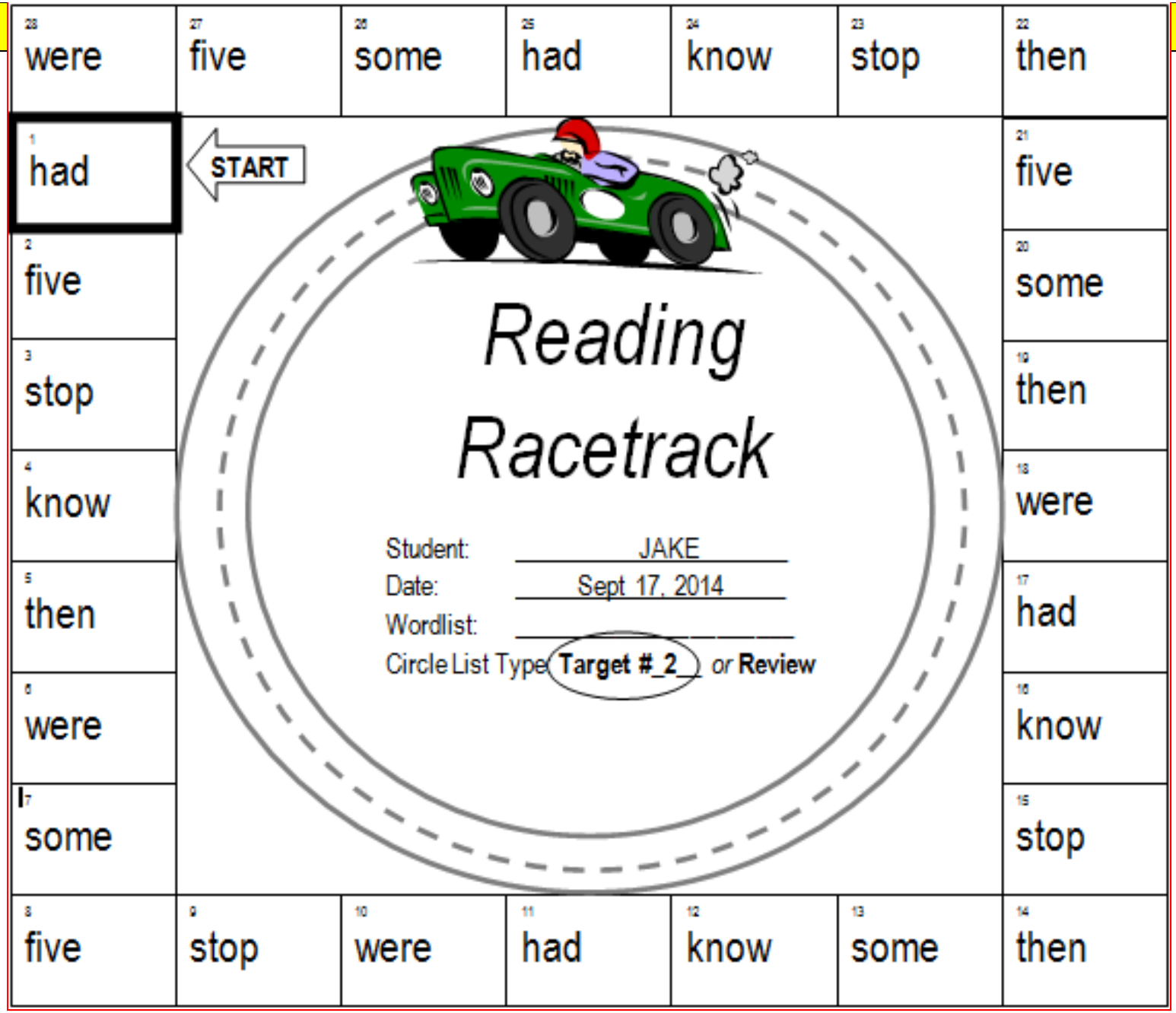
Source: Big ideas in beginning reading. University of Oregon. Retrieved September 23, 2007, from http://reading.uoregon.edu/index.php

Classroom Reading/Writing Interventions	
Vocabulary	Writing
• Reading Racetrack	• Sentence Combining
Fluency	
• Group-Based Repeated Reading	
Comprehension	
• Click or Clunk	
• Repeated Reading with Oral/Written Retell	
• Read-Ask-Paraphrase	
• Linking Pronouns to Referents	
• Ask-Read-Tell	
• Phrase-Cued Text Lesson	

Reading Racetrack

- The teacher selects 28 words from a sight word list (e.g., Dolch, Fry) to create ‘Reading Racetracks’.
- In one session, the student reads through four **target** Racetracks with 7 words each and one **review** Racetrack with all 28 words.
- The student reads words aloud from a ‘Reading Racetrack’ sheet for 1 minute.
- The student engages in repeated readings from that Racetrack wordlist until reaching a 90-word criterion or having read the list five times in a row.

Source: *Rinaldi, L., Sells, D., & McLaughlin, T. F. (1997). The effect of reading racetracks on the sight word acquisition and fluency of elementary students. Journal of Behavioral Education, 7, 219-233.*



Source: *Rinaldi, L., Sells, D., & McLaughlin, T. F. (1997). The effect of reading racetracks on the sight word acquisition and fluency of elementary students. Journal of Behavioral Education, 7, 219-233.*

Response to Intervention

Reading Racetrack Score Sheet

Student:_____ Wordlist:_____ Date:_____

TARGET LIST 1	#/Words Correct	#/Errors	Practice Words	TARGET LIST 3	#/Words Correct	#/Errors	Practice Words
First Read				First Read			
Second Read				Second Read			
Third Read				Third Read			
Fourth Read				Fourth Read			
Fifth Read				Fifth Read			

Source: *Rinaldi, L., Sells, D., & McLaughlin, T. F. (1997). The effect of reading racetracks on the sight word acquisition and fluency of elementary students. Journal of Behavioral Education, 7, 219-233.*

Group-Based Repeated Reading

(Available on Conference Web Page)

An effective *group repeated reading intervention* (Klubnik & Ardoin, 2010) has been developed that allows a tutor to work on reading fluency with up to 3 students in a group format. This tutoring package includes several components, with repeated reading as the 'engine' that drives student growth in reading fluency. A tutoring session using this group intervention will last about 15 minutes.

Source: Klubnik, C., & Ardoin, S. P. (2010). Examining immediate and maintenance effects of a reading intervention package on generalization materials: Individual versus group implementation. *Journal of Behavioral Education, 19, 7-29.*

Group-Based Repeated Reading

Preparation. The tutor selects a student passage of 150 words or longer at their instructional level.

Procedure:

1. *Passage Preview.* The tutor reads the passage aloud while students follow silently. The tutor stops at random points and calls on a student to read the word.
2. *Repeated Reading.* The tutor directs students to read the passage at rate of 1 sentence per student until passage is read. The tutor does 2 additional readings.
3. *Phrase-Drill Error Correction.* Students practice correct word embedded within sentence for each error.

Source: Klubnik, C., & Ardoin, S. P. (2010). Examining immediate and maintenance effects of a reading intervention package on generalization materials: Individual versus group implementation. *Journal of Behavioral Education, 19, 7-29.*

Reading Comprehension: Self-Management Strategies

CLICK OR CLUNK: MONITORING COMPREHENSION

- The student continually checks understanding of sentences, paragraphs, and pages of text while reading.
- If the student understands what is read, he/she quietly says 'CLICK' and continues reading.
- If the student encounters problems with vocabulary or comprehension, he/she quietly says 'CLUNK' and uses a checklist to apply simple strategies to solve those reading difficulties.

Source: Babbs, P. J. (1984). Monitoring cards help improve comprehension. The Reading Teacher, 38(2), 200-204.

'Click or Clunk' Check Sheet

MY READING CHECK SHEET*

Name: _____ **Class:** _____

Sentence Check... "Did I understand this sentence?"

If you had trouble understanding a word in the sentence, try...

- Reading the sentence over.
- Reading the next sentence.
- Looking up the word in the glossary (if the book or article has one).
- Asking someone.

If you had trouble understanding the meaning of the sentence, try...

- Reading the sentence over.
- Reading the whole paragraph again.
- Reading on.
- Asking someone.

Paragraph Check... "What did the paragraph say?"

If you had trouble understanding what the paragraph said, try...

- Reading the paragraph over.

Page Check... "What do I remember?"

If you had trouble remembering what was said on this page, try...

- Re-reading each paragraph on the page, and asking yourself, "What did it say?"

*Adapted from Anderson (1980), Babbs (1984)

Repeated Reading with Oral/Written Retell

Teachers can combine repeated reading and oral or written retell as a package to boost student fluency and retention of text details (Schisler, Joseph, Konrad, & Alber-Morgan, 2010).

Materials. To use repeated reading with oral or written retell, the tutor will need these materials:

- Tutor and student copies of an informational passage of at least 200 words.
- Stopwatch
- Lined paper (for written-retell procedure)

Source: Schisler, R., Joseph, L. M., Konrad, M., & Alber-Morgan, S. (2010). Comparison of the effectiveness and efficiency of oral and written retellings and passage review as strategies for comprehending text. Psychology in the Schools, 47(2) 135-152.

Repeated Reading with Oral/Written Retell

Procedure:

1. *The student reads the passage aloud with error correction.* The tutor follows along silently. For misreads or hesitations of 3 seconds or longer, the tutor uses the phrase-drill error correction technique. The tutor directs the student to read the passage once more.
2. *The student engages in oral or written retell.* When the student has read the passage twice, the tutor directs the student to use oral or written retell:
   Written retell. The student is given a lined sheet and given 3 mins to write down what they can remember from the passage.

Source: Klubnik, C., & Ardoin, S. P. (2010). Examining immediate and maintenance effects of a reading intervention package on generalization materials: Individual versus group implementation. *Journal of Behavioral Education, 19, 7-29.*

Informational Passage: Written Retell

Student: _____ Date: _____ Passage Title: _____

Directions: Write everything that you remember about the passage you have just read. Keep writing until you are directed to stop.

_____

_____

_____

Source: Schisler, R., Joseph, L. M., Konrad, M., & Alber-Morgan, S. (2010). Comparison of the effectiveness and efficiency of oral and written retellings and passage review as strategies for comprehending text. Psychology in the Schools, 47(2) 135-152.

Reading Comprehension: Self-Management Strategies

- RETAIN TEXT INFORMATION WITH PARAPHRASING (RAP). The student is trained to use a 3-step cognitive strategy when reading each paragraph of an informational-text passage: (1) READ the paragraph; (2) ASK oneself what the main idea of the paragraph is and what two key details support that main idea; (3) PARAPHRASE the main idea and two supporting details into one's own words. This 3-step strategy is easily memorized using the acronym RAP (read-ask-paraphrase). OPTIONAL BUT RECOMMENDED: Create an organizer sheet with spaces for the student to record main idea and supporting details of multiple paragraphs—to be used with the RAP strategy-to be used as an organizer and verifiable work product.

Source: Hagaman, J. L., Casey, K. J., & Reid, R. (2010). The effects of the paraphrasing strategy on the reading comprehension of young students. Remedial and Special Education, 33, 110-123.

Resp

Read-Ask-Paraphrase:
STEPS:

1. **Read:** Read the paragraph closely.
2. **Ask:** What is the main idea and 2 supporting details?
3. **Paraphrase:** Write key idea and details in your own words.

Page)

ww

Read-Ask-Paraphrase (RAP) Sheet

Name: Date: Title/Pages of Reading:

Student Directions: For *each paragraph* from your assigned reading, (1) READ the paragraph; (2) ASK yourself what the main idea of the paragraph is and what two key details support that main idea; (3) PARAPHRASE the main idea and two supporting details in your own words and write them in the blank provided.

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4

Paragraph 5

Delivering 'Classroom' Interventions: RAP Example

Tier 1: Classroom: Whole Class. Because many students need the intervention, the teacher trains the entire class to use RAP and assigns it as homework for challenging readings.

Tier 1: Classroom: Small Group. The teacher conducts a group training for several students who need the RAP strategy.

Tier 1: Classroom: 1:1. The teacher trains a single student to use RAP.

Read-Ask-Paraphrase

Tier 1/2: Cross-Age Peer Tutoring. Older students are assigned as tutors/mentors to younger learners. One item in their tutoring toolkit is RAP. Teaching staff supervise these tutors.

Tier 2: Small Group. The AIS provider creates a 6-week mini-course in applied reading comprehension strategies, including RAP. Students are recruited based on school-wide screening data and teacher nominations.

Tier 2: Adult Mentor. A teaching assistant 'checks in' with select Tier 2 students at the the start and end of the school day about their school work. The TA trains students to use RAP, monitors their use of it, and informs classroom teachers as well so they can support its use.

Reading Comprehension 'Fix-Up' Skills: A Toolkit

- **Linking Pronouns to Referents** (Hedin & Conderman, 2010). Some readers lose the connection between pronouns and the nouns that they refer to (known as 'referents')—especially when reading challenging text. The student is encouraged to circle pronouns in the reading, to explicitly identify each pronoun's referent, and (optionally) to write next to the pronoun the name of its referent. For example, the student may add the referent to a pronoun in this sentence from a biology text: *"The Cambrian Period is the first geological age that has large numbers of multi-celled organisms associated with* ***it*** *Cambrian Period."*

Respor

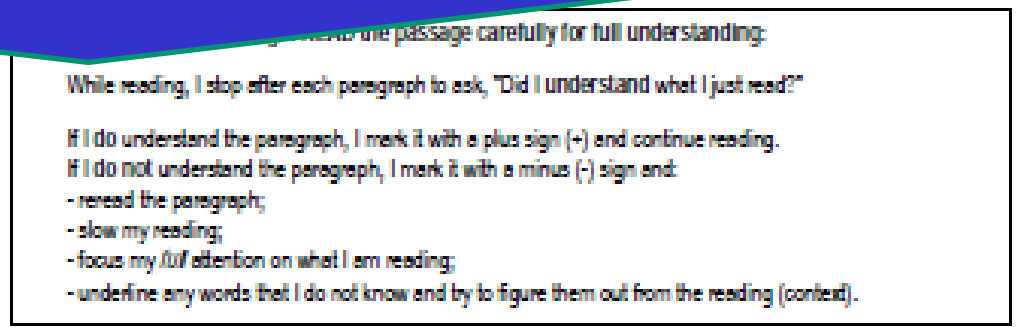
Step 2: Goal While Reading: I READ the passage carefully for full understanding:

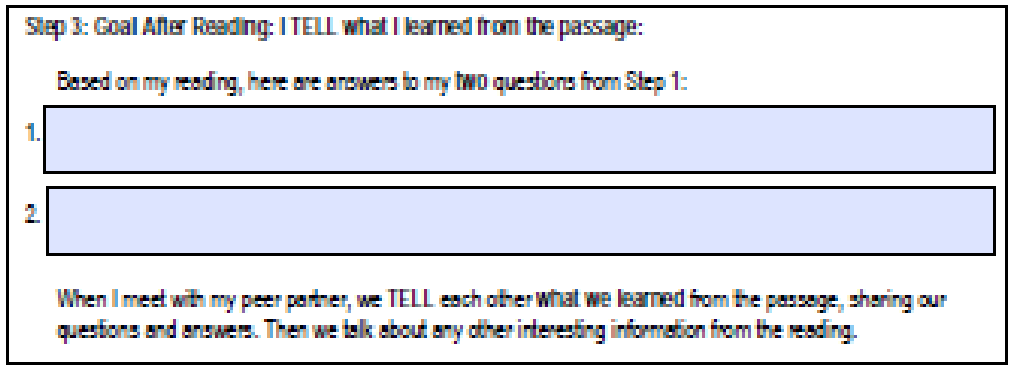
While reading, I stop after each paragraph to ask, "Did I **understand** what I just read?"

If I **do** understand the paragraph, I mark it with a plus sign (+) and continue reading.
If I **do not** understand the paragraph, I mark it with a minus (-) sign and:

- reread the paragraph;
- slow my reading;
- focus my *full* attention on what I am reading;
- underline any words that I do not know and try to figure them out from the reading (context).

Comprehension: Cognitive Strategy (Available on Conference Web Page)





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Phrase-Cued Text Lessons

- Phrase-cued texts are a means to train students to recognize the natural pauses that occur between phrases in their reading. Because phrases are units that often encapsulate key ideas, the student's ability to identify them can enhance comprehension of the text (Rasinski, 1990, 1994).

Sources: Rasinski, T.V. (1990). *The effects of cued phrase boundaries on reading performance: A review.* Kent, Ohio: Kent State University. (ERIC Document Reproduction Service No. ED313689).
Rasinski, T. V. (1994). Developing syntactic sensitivity in reading through phrase-cued texts. *Intervention in School and Clinic, 29*, 165-168.

Phrase-Cued Text Lessons

PREPARATION: Here are guidelines for preparing phrase-cued passages:

1. **Select a Passage.** Select a short (100-250 word) passage that is within the student's instructional or independent level.
2. **Mark Sentence Boundaries.** Mark the sentence boundaries of the passage with double slashes (//).
3. **Mark Within-Sentence Phrase-Breaks.** Read through the passage to locate 'phrase breaks' —naturally occurring pause points that are found within sentences. Mark each of these phrase breaks with a single slash mark (/).

Sources: Rasinski, T.V. (1990). *The effects of cued phrase boundaries on reading performance: A review.* Kent, Ohio: Kent State University. (ERIC Document Reproduction Service No. ED313689).
Rasinski, T. V. (1994). Developing syntactic sensitivity in reading through phrase-cued texts. *Intervention in School and Clinic, 29*,

Example: Passage With Phrase-Cued Text Annotation

Phrase-Cued Text

For animals that drift through the sea without the benefit of eyesight, / jellyfish have managed to survive remarkably well. // In fact, / in areas where overfishing and habitat destruction have reduced fish populations, / jellyfish are now becoming the dominant predators. //

It turns out that jellyfish, / despite their sluggish looks, / are just as effective at hunting and catching meals as their competitors with fins. // They may not move as quickly, / but in a study published in the journal Science, / researchers found that many jellyfish use their body size to increase their hunting success. // With their large, watery bodies and long tentacles, / they conserve energy by letting currents guide them into their

Phrase-Cued Text Lessons

INTERVENTION STEPS (Cont.):

Follow the Phrase-Cued Text Reading Sequence: The tutor prepares a new phrase-cued passage for each session and follows this sequence:

a) The tutor reads the phrase-cued passage aloud once as a model, while the student follows along silently.

b) The student reads the phrase-cued passage aloud 2-3 times. The tutor provides ongoing feedback about the student reading, noting the student's observance of phrase breaks.

c) The session concludes with the student reading aloud a copy of the passage *without* phrase-cue marks. The tutor provides feedback about the student's success in recognizing the natural phrase breaks in the student's final read-aloud.

Sources: Rasinski, T.V. (1990). *The effects of cued phrase boundaries on reading performance: A review.* Kent, Ohio: Kent State University. (ERIC Document Reproduction Service No. ED313689).
Rasinski, T. V. (1994). Developing syntactic sensitivity in reading through phrase-cued texts. *Intervention in School and Clinic, 29*,

Phrase Cued Text Generator

Previous Next

Step 1 of 3

Fill out the title, author, and copy & paste a passage of text into the form *below*:

Title

Jellyfish Are Effective Pre

Author

NY Times

Passage

For animals that drift through the sea without the benefit of eyesight, jellyfish have managed to survive remarkably well. In fact, in areas where overfishing and habitat destruction have reduced fish populations, jellyfish are now becoming the dominant predators.

It turns out that jellyfish, despite their sluggish looks, are just as effective at hunting and catching meals as their competitors with fins. They may not move as quickly, but in a study published in the journal Science, researchers found that many jellyfish use their body size to increase their hunting success. With their large, watery bodies and long tentacles, they conserve energy by letting currents guide them into their prey, said José Luis Acuña, an author of the paper and a biologist at the University of Oviedo in Spain.

"To our surprise, jellyfish were as good predators as visually predating fish in spite of being slow and blind, because they play an entirely different hydromechanical trick," he said in an e-mail.

Word Count: 163 (Min: 20 Max: 500)

☐ Remove all line breaks to create a single-paragraph passage

Previous Next

Sentence Combining

Students with poor writing skills often write sentences that lack 'syntactic maturity'. Their sentences often follow a simple, stereotyped format. A promising approach to teach students use of diverse sentence structures is through sentence combining.

In sentence combining, students are presented with kernel sentences and given explicit instruction in how to weld these kernel sentences into more diverse sentence types either

- by using connecting words to combine multiple sentences into one or
- by isolating key information from an otherwise superfluous sentence and embedding that important information into the base sentence.

Sources: Saddler, B. (2005). Sentence combining: A sentence-level writing intervention. *The Reading Teacher, 58,* 468-471.

Strong, W. (1986). *Creative approaches to sentence combining.* Urbana, OL: ERIC Clearinghouse on Reading and Communication Skill & National Council of Teachers of English.

Formatting Sentence Combining Examples

- 'Connecting words' to be used as a sentence-combining tool appear in parentheses at the end of a sentence that is to be combined with the base clause.

  Example: **Base clause:** The car stalled.
  Sentence to be combined: The car ran out of gas. (because)
  Student-Generated Solution: *The car stalled because it ran out of gas.*

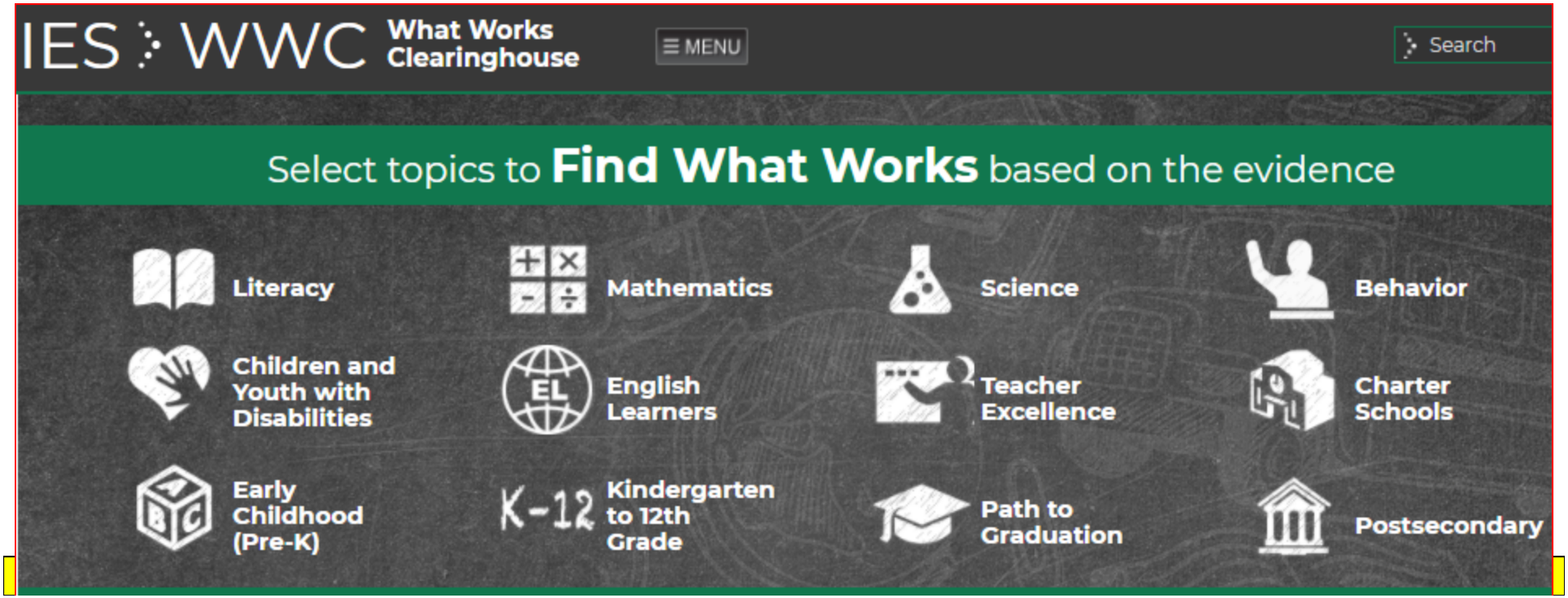
- The element(s) of any sentence to be embedded in the base clause are underlined.

  Example: **Base clause:** The economic forecast resulted in strong stock market gains.
  Sentence to be embedded: The economic forecast was upbeat.
  Student-Generated Solution: *The upbeat economic forecast resulted in strong stock market gains.*

Intervention Sources: WWC Practice Guides

- The What Works Clearinghouse is a federally sponsored site that includes a series of 'practice guides': summaries of current best practices in classroom instruction.

  All guides are written for teachers and are free for download.

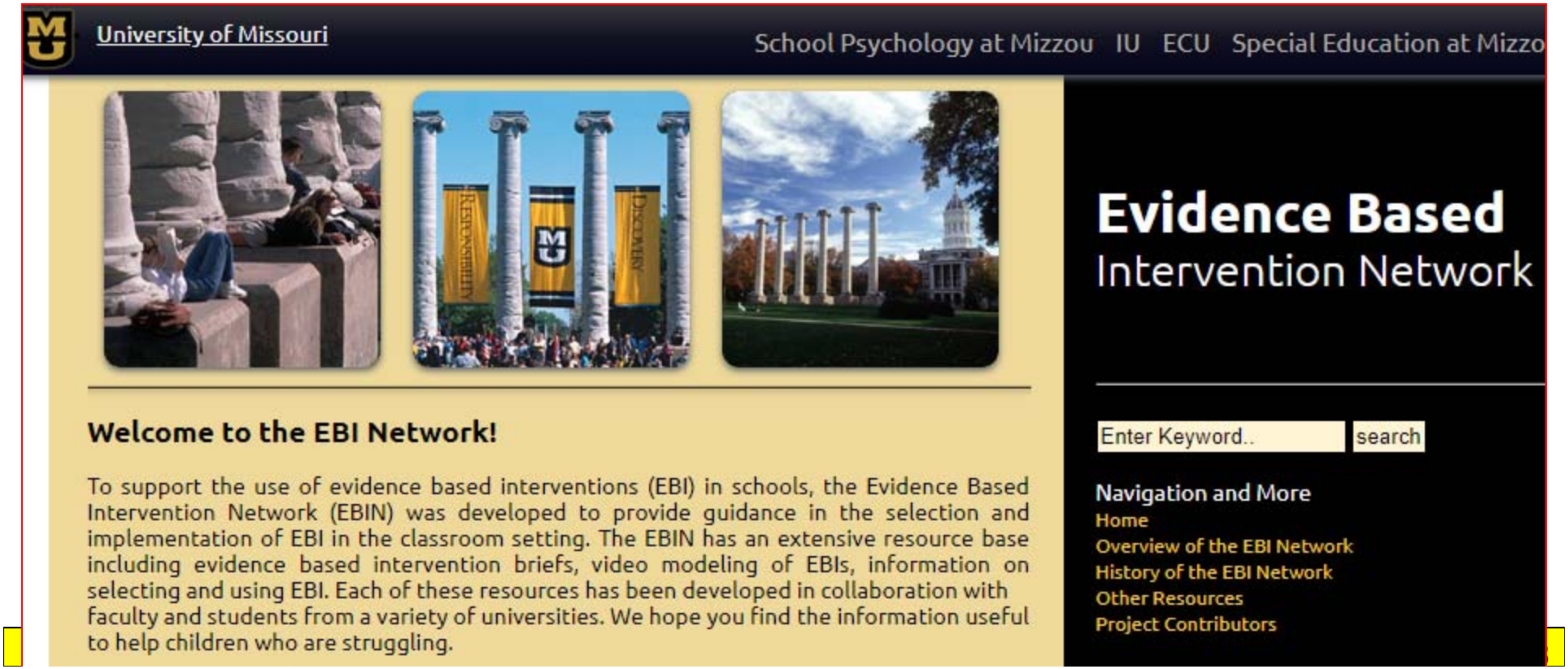


Intervention Sources: Florida Center for Reading Research

- This website is a product of a research center at Florida State University.
- The site includes free **lesson plans** for reading across grades K-5. (Many of the grade 4-5 resources are appropriate for secondary students with reading delays.)

Intervention Sources: Evidence-Based Intervention Network

- This site is co-sponsored by school psychology programs at East Carolina University and University of Missouri.
- It contains research-based ideas for reading, math, and behavior interventions.



Classroom Reading/Writing Interventions

Vocabulary

- Reading Racetrack

Fluency

- Group-Based Repeated Reading

Comprehension

- Click or Clunk
- Repeated Reading with Oral/Written Retell
- Read-Ask-Paraphrase
- Linking Pronouns to Referents
- Ask-Read-Tell
- Phrase-Cued Text Lesson

Writing

- Sentence Combining

Lab Work: Select Interventions to Pilot.

Review this list of sample classroom reading/writing intervention ideas.

Select 1-2 ideas that you would MOST like to try in your classroom.

How to individualize instruction. What are ideas to differentiate/ scaffold instruction for academic success?

Differentiation vs. Scaffolding: Two Kinds of Support

Differentiation & scaffolding share similarities. Both require individualization and are used to increase student engagement and academic success. However, they also differ…

Differentiation. The academic task itself is altered to match student abilities.

- Easier assigned readings
- Shorter independent work periods
- Different assignment format (e.g., multiple-choice vs. short-answer)

Scaffolding. The student is given supports that allow them to meet the demands of the original academic task.

- Pre-teaching vocabulary
- Chunking of tasks into smaller increments
- Use of organizers to highlight key information from text

Source: Alber, R. (2014). 6 scaffolding strategies to use with your students. Edutopia. Retrieved from https://www.edutopia.org/blog/scaffolding-lessons-six-strategies-rebecca-alber

Differentiation & Scaffolding: Enabling Strategies

Assisted Reading Level: Gr 8 Assignment

Providing a reading guide

Providing easier text

Pre-teaching vocabulary

Independent Reading Level: Gr 4 Assignment

Gr 8 RDNG	Zone of Proximal Development
Gr 7 RDNG	
Gr 6 RDNG	
Gr 5 RDNG	
Gr 4 RDNG	Zone of Independence
Gr 3 RDNG	

Source: Clark, K. F., & Graves, M. F. (2004). Scaffolding students' comprehension of text. The Reading Teacher, 58(6), 570-580.

Interventions, Instructional Adjustments & Modifications: Sorting Them Out (Handout; p. 11)

- **Academic Intervention.** An *academic intervention* is a strategy used to teach a new skill, build fluency in a skill, or encourage application of an existing skill to new situations or settings. *Example: Read-Ask-Paraphrase.*

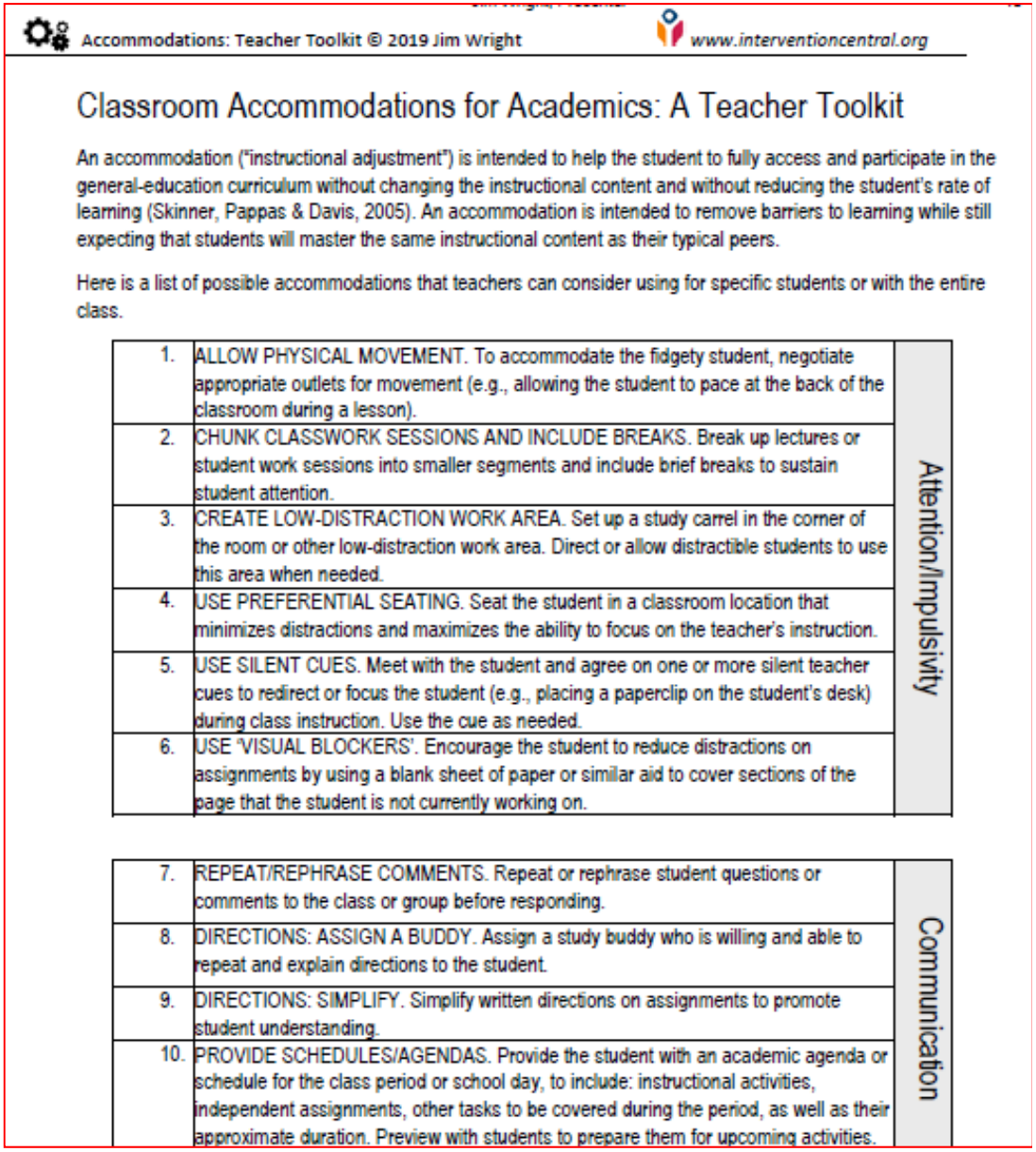
- **Instructional Adjustment/ Accommodation.** An *instructional adjustment* (also known as an 'accommodation') helps the student to fully access and participate in the general-education curriculum without changing the instructional content or reducing the student's rate of learning. *Examples: Chunking larger tasks into smaller sub-tasks; keyboarding a writing assignment in lieu of handwriting.*

- **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. *Example: Open book test for one.*

Deciding How to Accommodate. What are examples of classroom 'instructional adjustments' (accommodations) that can benefit struggling learners? pp. 13-15

Classroom Accommodations for Academics: A Teacher Toolkit

pp. 13-15



Classroom Accommodations for Academics: A Teacher Toolkit

An accommodation ("instructional adjustment") 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.

Here is a list of possible accommodations that teachers can consider using for specific students or with the entire class.

1.	ALLOW PHYSICAL MOVEMENT. To accommodate the fidgety student, negotiate appropriate outlets for movement (e.g., allowing the student to pace at the back of the classroom during a lesson).	Attention/Impulsivity
2.	CHUNK CLASSWORK SESSIONS AND INCLUDE BREAKS. Break up lectures or student work sessions into smaller segments and include brief breaks to sustain student attention.	
3.	CREATE LOW-DISTRACTION WORK AREA. Set up a study carrel in the corner of the room or other low-distraction work area. Direct or allow distractible students to use this area when needed.	
4.	USE PREFERENTIAL SEATING. Seat the student in a classroom location that minimizes distractions and maximizes the ability to focus on the teacher's instruction.	
5.	USE SILENT CUES. Meet with the student and agree on one or more silent teacher cues to redirect or focus the student (e.g., placing a paperclip on the student's desk) during class instruction. Use the cue as needed.	
6.	USE 'VISUAL BLOCKERS'. Encourage the student to reduce distractions on assignments by using a blank sheet of paper or similar aid to cover sections of the page that the student is not currently working on.	

7.	REPEAT/REPHRASE COMMENTS. Repeat or rephrase student questions or comments to the class or group before responding.	Communication
8.	DIRECTIONS: ASSIGN A BUDDY. Assign a study buddy who is willing and able to repeat and explain directions to the student.	
9.	DIRECTIONS: SIMPLIFY. Simplify written directions on assignments to promote student understanding.	
10.	PROVIDE SCHEDULES/AGENDAS. Provide the student with an academic agenda or schedule for the class period or school day, to include: instructional activities, independent assignments, other tasks to be covered during the period, as well as their approximate duration. Preview with students to prepare them for upcoming activities.	

- **Attention/Impulsivity:** USE 'VISUAL BLOCKERS'. Encourage the student to reduce distractions on assignments by using a blank sheet of paper or similar aid to cover sections of the page that the student is not currently working on.

1

- **Communication:** DIRECTIONS: SIMPLIFY. Simplify written directions on assignments to promote student understanding.

2

- **Independent Work:** STRUCTURE ASSIGNMENTS FOR INITIAL SUCCESS. Promote student motivation on worksheets and independent assignments by presenting easier items first and more challenging items later. .

3

Lab Work: Find an Accommodation for Your Classroom

In your groups:

1. Scan the sample accommodation ideas on pp. 13-15 of your handout.
2. Select:
   - one idea that you **currently** use in your classroom.
   - one idea that you would like to **start using.**
3. Share your selections with your group.

Self-Management. What interventions can help students to better manage their own learning?

Self-Regulation: Motivation…With a Plan

"*Self-regulation of learning* involves learners setting goals, selecting appropriate learning strategies, maintaining motivation, engaging in self-monitoring, and evaluating their own academic progress." p. 451

Source: Bembenutty, H. (2011). Meaningful and maladaptive homework practices: The role of self-efficacy and self-regulation. Journal of Advanced Academics, 22, 448-473.

How To…Promote Academic Self-Management: The Learning Contract

Learning Contracts: Put Student Promises in Writing…

- **Description.** A learning contract is a voluntary, student-completed document that outlines actions the learner promises to take in a course to achieve academic success.

- This contract is signed by the student, the instructor, and (optionally) the parent.

Sources: Frank, T., & Scharff, L. F. V. (2013). Learning contracts in undergraduate courses: Impacts on student behaviors and academic performance. Journal of the Scholarship of Teaching and Learning, 13(4), 36-53.

Greenwood, S. C., & McCabe, P. P. (2008). How learning contracts motivate students. Middle School Journal, 39(5), 13-22.

Learning Contract: Example

Name: Russell B. **Teacher:** Mr. Rappaport **Class/Course:** Science 10 **Date:** Feb 4, 2018

Russell B: Success Contract: Science 10

I am taking part in this learning contract to improve my grades and pass the course.

Student Responsibilities

I have chosen to complete the following actions:

1. I will arrive to class on time.
2. I will bring my work materials to class, including paper, notebook, textbook, and current assignments.
3. I will keep my desk organized during independent work.
4. I will submit any current homework at the start of class.

Teacher Responsibilities

My teacher will help me to achieve success in this course through these actions/supports:

1. Weekly reminders about any missing homework.
2. Extra-help period available for challenging assignments.
3.
4.

Length of Contract

The terms of this contract will continue until:

April 8, 2018: At that point, teacher and student will review progress and decide whether to continue, amend, or end this learning contract.

Sign-Offs

Mr. Rappaport	Russell B.	
Mr. Rappaport	Russell B.	[Parent Name]
Teacher	Student	Parent

Learning Contracts: Put Student Pledges in Writing…

Benefits. Learning contracts:

- provide academic structure and support,
- motivate struggling learners by having them pledge publicly to engage in specific, positive study and learning behaviors, and
- serve as a vehicle to bring teachers and students to agreement on what course goals are important and how to achieve them.

Sources: Frank, T., & Scharff, L. F. V. (2013). Learning contracts in undergraduate courses: Impacts on student behaviors and academic performance. Journal of the Scholarship of Teaching and Learning, 13(4), 36-53.

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Teacher	Student	Parent

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Learning Co

Statement of Purpose. The contract opens with a statement presenting a rationale for why the contract is being implemented.

Name: Russell B. **Teacher:** Mr. Rappaport **Class/Course:** Science 10 **Date:** Feb 4, 2018

ntract: Science 10

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2. I will bring my work materials to class, including paper, note assignments.
3. I will keep my desk organized during independent work.
4. I will submit any current homework at the start of class.

Student Actions. The contract lists any actions that the student is pledging to complete to ensure success in the course.

Sign-Offs

Mr. Rappaport	Russell B.	
Mr. Rappaport	Russell B.	[Parent Name]
Teacher	Student	Parent

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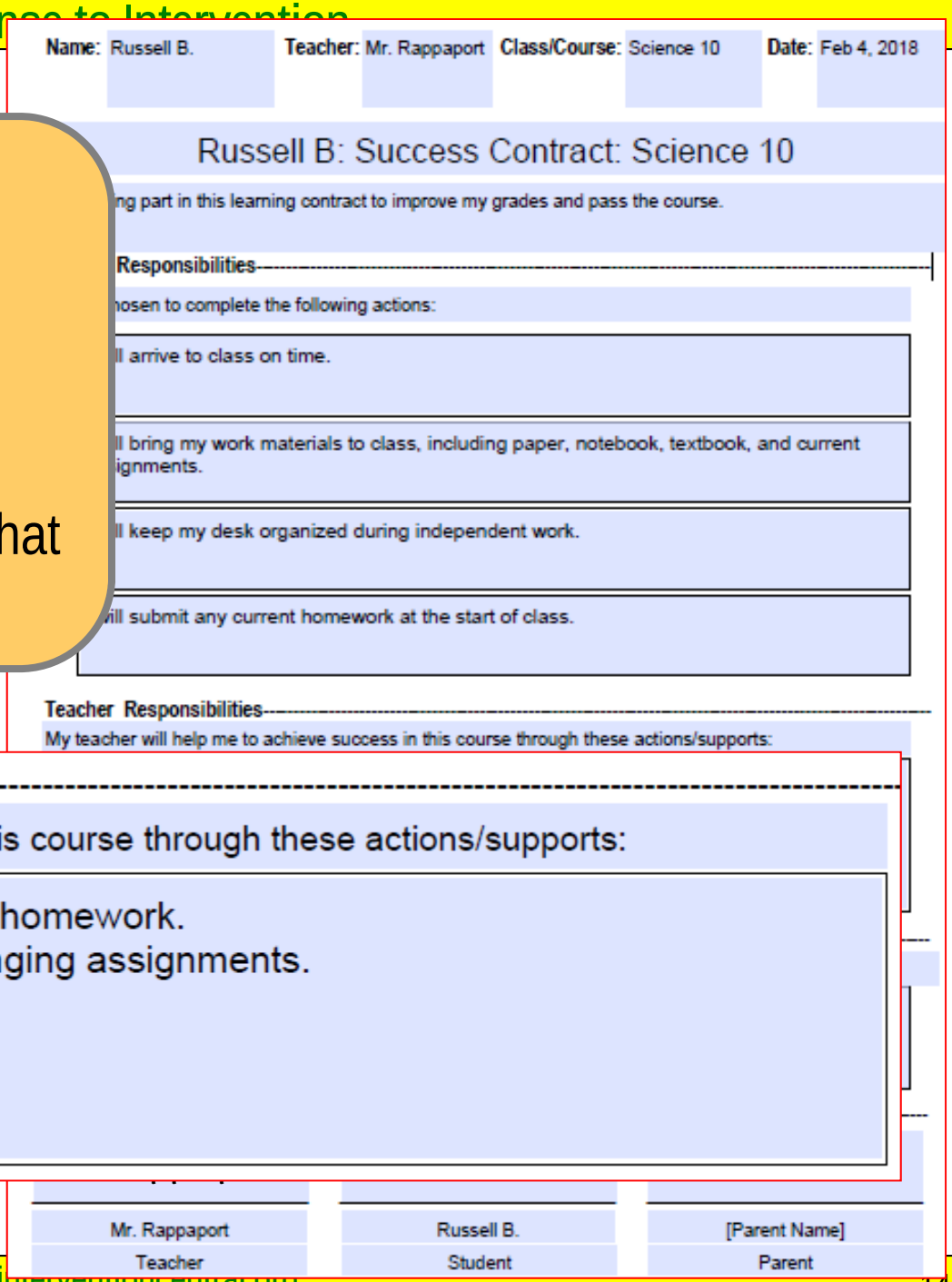
Teacher Actions. Listing teacher responsibilities on the contract emphasizes that success in the course is a shared endeavor and can prod the student to take advantage of instructor supports that might otherwise be overlooked.



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Mr. Rappaport — Teacher

Russell B. — Student

[Parent Name] — Parent

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2. I will bring my work materials to class, including paper, notebook, textbook, and current assignments.
3. I will keep my desk organized during independent work.
4. I will submit any current homework at the start of class.

Teacher Responsibilities

My teacher will help me to achieve success in this course through these actions/supports:

1. Weekly reminders about any missing homework.
2. Extra-help period available for challenging assignments.
3.
4.

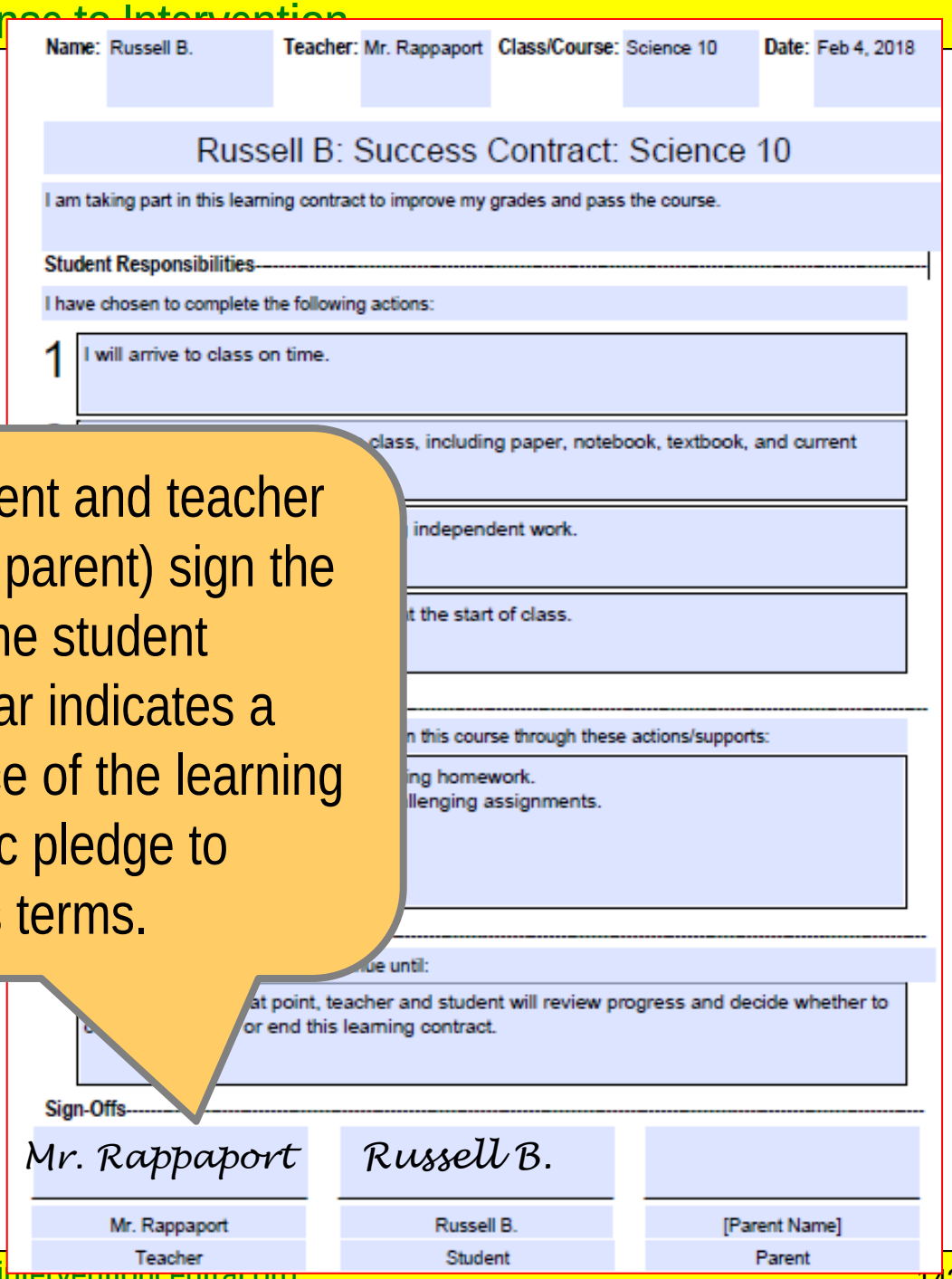
Length of Contract

The terms of this contract will continue until:

April 8, 2018: At that point, teacher and student will review progress and decide whether to continue, amend, or end this learning contract.

Sign-Offs

Mr. Rappaport	Russell B.	
Mr. Rappaport	Russell B.	[Parent Name]
Teacher	Student	Parent



Name: Russell B. Teacher: Mr. Rappaport Class/Course: Science 10 Date: Feb 4, 2018

Russell B: Success Contract: Science 10

I am taking part in this learning contract to improve my grades and pass the course.

Student Responsibilities

I have chosen to complete the following actions:

1 I will arrive to class on time.

class, including paper, notebook, textbook, and current

independent work.

t the start of class.

n this course through these actions/supports:

ing homework.
llenging assignments.

ue until:

at point, teacher and student will review progress and decide whether to
or end this learning contract.

Sign-Offs

Mr. Rappaport	Russell B.	
Mr. Rappaport	Russell B.	[Parent Name]
Teacher	Student	Parent

Sign-Off. Both student and teacher (and, optionally, the parent) sign the learning contract. The student signature in particular indicates a voluntary acceptance of the learning contract and a public pledge to follow through on its terms.

Learning Contract: Example

Name: Russell B. **Teacher:** Mr. Rappaport **Class/Course:** Science 10 **Date:** Feb 4, 2018

Russell B: Success Contract: Science 10

I am taking part in this learning contract to improve my grades and pass the course.

Student Responsibilities

I have chosen to complete the following actions:

1. I will arrive to class on time.
2. I will bring my work materials to class, including paper, notebook, textbook, and current assignments.
3. I will keep my desk organized during independent work.
4. I will submit any current homework at the start of class.

Teacher Responsibilities

My teacher will help me to achieve success in this course through these actions/supports:

1. Weekly reminders about any missing homework.
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April 8, 2018: At that point, teacher and student will review progress and decide whether to continue, amend, or end this learning contract.

Sign-Offs

Mr. Rappaport	Russell B.	
Mr. Rappaport	Russell B.	[Parent Name]
Teacher	Student	Parent

How To…Promote Academic Self-Management: Academic Survival Skills Checklists

The Problem That This Tool Addresses:

Academic Survival Skills Checklist

Students who would achieve success on the ambitious Common Core State Standards must first cultivate a set of general 'academic survival skills' that they can apply to any coursework (DiPerna, 2006).

Examples of academic survival skills include the ability to study effectively, be organized, and manage time well.

When academic survival skills are described in global terms, though, it can be difficult to define them. For example, two teachers may have different understandings about what the term 'study skills' means.

Source: DiPerna, J. C. (2006). Academic enablers and student achievement: Implications for assessment and intervention services in the schools. Psychology in the Schools, 43, 7-17.

Academic Survival Skills Checklist: What It Is…

- The teacher selects a global skill (e.g., homework completion; independent seatwork). The teacher then breaks the global skill down into a checklist of component sub-skills. An observer (e.g., teacher, another adult, or even the student) can then use the checklist to note whether a student successfully displays each of the sub-skills on a given day.

Academic Survival Skills Checklist

Academic Survival Skills Checklist: Homework
1. WRITE DOWN HOMEWORK ASSIGNMENTS CORRECTLY. Make sure that you have copied down your homework assignment(s) correctly and completely. If necessary, approach the instructor before leaving the classroom to seek clarification about the homework assignment.
2. ASSEMBLE ALL NECESSARY HOMEWORK MATERIALS. Make a list of those school work materials that you will need for that night's homework assignments and ensure that you have them before going home. School materials may include the course text, copies of additional assigned readings, your class notes, and partially completed assignments that are to be finished as homework. Additionally, monitor your work supplies at home (e.g., graph paper, pens, printer cartridges) and replenish them as needed.
3. USE AVAILABLE SCHOOL TIME TO GET A START ON HOMEWORK. Take advantage of open time in school (e.g., time given in class, study halls, etc) to get a start on your homework. Getting a head start on homework in school can reduce the amount of time needed to complete that work later in the day. Also, if you start homework in school and run into problems, you have a greater chance of being able to seek out a teacher or fellow student to resolve those problems proactively and thus successfully complete that assignment.

Source: Academic Survival Skills Checklist Maker. (2012). Retrieved from http://www.interventioncentral.org/tools/academic-survival-skills-checklist-maker

4. Behavioral Checklists: Example 3: Academic Survival Skills Checklist

Academic Survival Skills Checklist: Homework
4. CREATE AN OPTIMAL HOMEWORK SPACE. Create an organized space at home for getting homework done. The space can be temporary (e.g., kitchen table) or permanent (e.g., a desk in your bedroom). It should be quiet, well-lit, and include a table or desk large enough to lay out your work materials and a comfortable chair.
5. SCHEDULE A REGULAR HOMEWORK TIME. Homework is easier to complete if you set aside sufficient time in your schedule to do it. If possible, your daily routine should include a standing time when any homework is to be done. In deciding when to schedule a homework period, consider such factors as when your energy level is highest, when surrounding distractions are less likely to occur, and when shared resources such as a computer or printer may be available for your use.
6. DEVELOP A DAILY HOMEWORK PLAN. Before beginning your homework each day, take a few minutes to review all of your homework assignments and to develop a work plan. Your plan should include a listing of each homework task and an estimate of how long it will take to complete that task. It is a good rule of thumb to select the most difficult homework task to complete first, when your energy and concentration levels are likely to be at their peak. At the conclusion of your homework session, review the plan, check off all completed tasks, and reflect on whether your time estimates were adequate for the various tasks.

Source: Academic Survival Skills Checklist Maker. (2012). Retrieved from http://www.interventioncentral.org/tools/academic-survival-skills-checklist-maker

Academic Survival Skills Checklists: 5 Uses

1. Create consistent expectations among teachers.
2. Allow for proactive training of students.
3. Encourage students to self-evaluate and self-manage.
4. Monitor progress in acquiring these 'survival skills'.
5. Can guide parent conferences.

Resi

Academic Survival Skills Checklist Maker

http://www.interventioncentral.org/tools/academic-survival-skills-checklist-maker

The Academic Survival Skills Checklist Maker provides a starter set of strategies to address:

- homework
- note-taking
- organization
- study skills
- time management.

Teachers can use the application to create and print customized checklists and can also save their checklists online.

wv

Activity: Tools for Self-Management

In your groups:

- Review the academic self-management tools presented in this workshop.
- Discuss how you might use any of these tools in your own practice to motivate students by giving them the skills to break down and complete complex tasks.

Self-Management Tools

- Learning Contracts
- Academic Survival Skills Checklists

Writing Down Tier 1/Classroom Interventions. What is a convenient form that allows teachers to quickly document classroom intervention plans while following an RTI problem-solving process? pp. 16-20

Teacher Problem-Solving: Just a Part of the Job…

Instructors regularly engage in problem-solving efforts, such as:

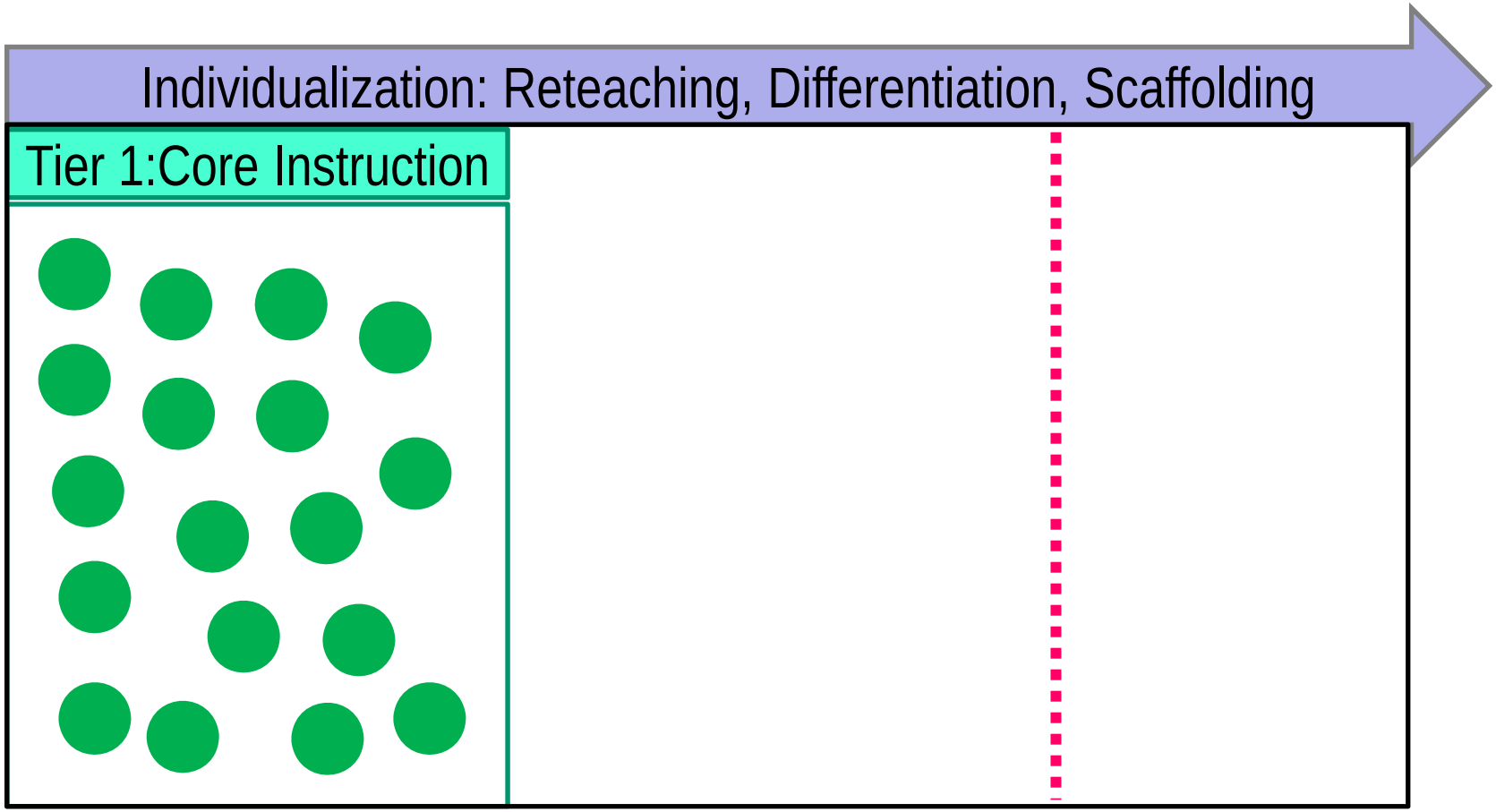
- searching the Internet for ideas to help a struggling learner.
- pulling a student aside to identify deficits in knowledge or skills and reteach instructional content as needed.
- conferencing with a student to develop an action-plan to improve academic performance.
- brainstorming with members of the grade-level or instructional team for ideas to support a student.
- meeting with a consultant (school psychologist; reading or math teacher, etc.) for intervention suggestions.
- scheduling student-parent conferences to enlist home and school to boost academic performance or address behaviors.

Teacher Problem-Solving: All the Work, Little Credit…

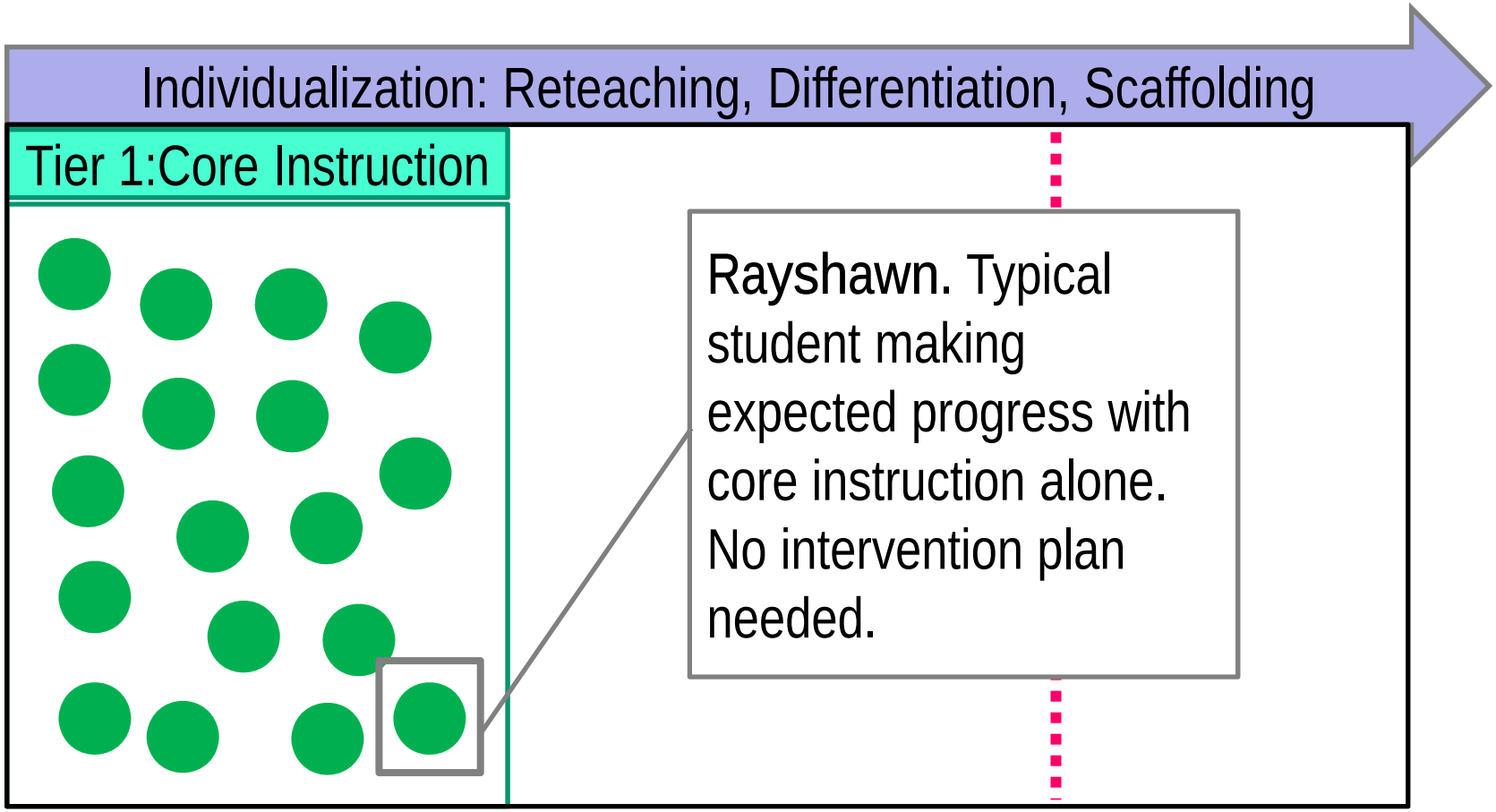
In this era of accountability, classroom intervention efforts are not acknowledged unless they are documented: *"Teachers are already doing 90% of the work. But they are often getting zero credit."*

RTI/MTSS provides a structure and toolkit for teachers to record and share classroom intervention plans. With little or no extra time, instructors can get full credit for their problem-solving work.

The Individualization Continuum: When Should Classroom Intervention Efforts Be Documented?



The Individualization Continuum: When Should Classroom Intervention Efforts Be Documented?



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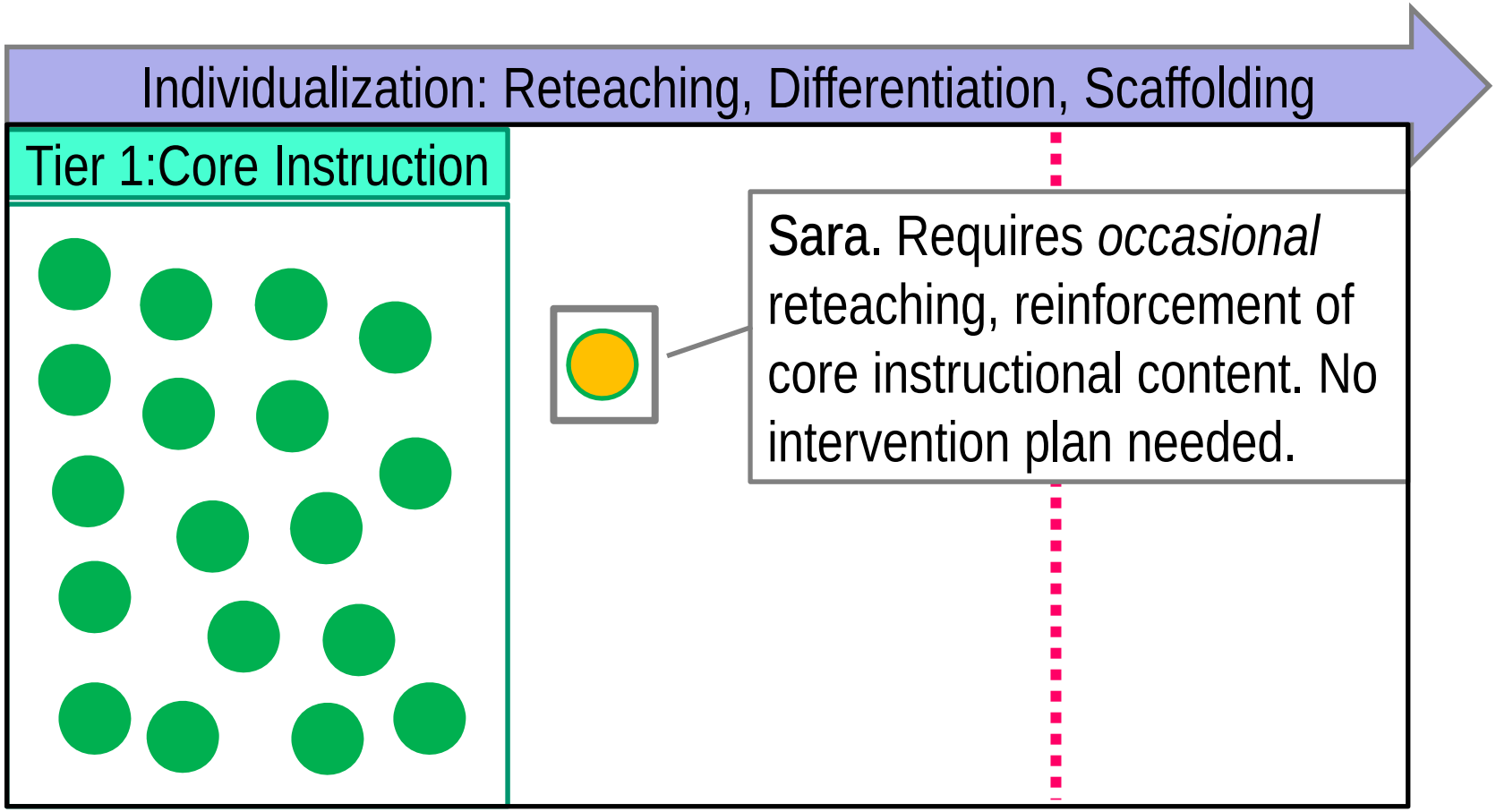
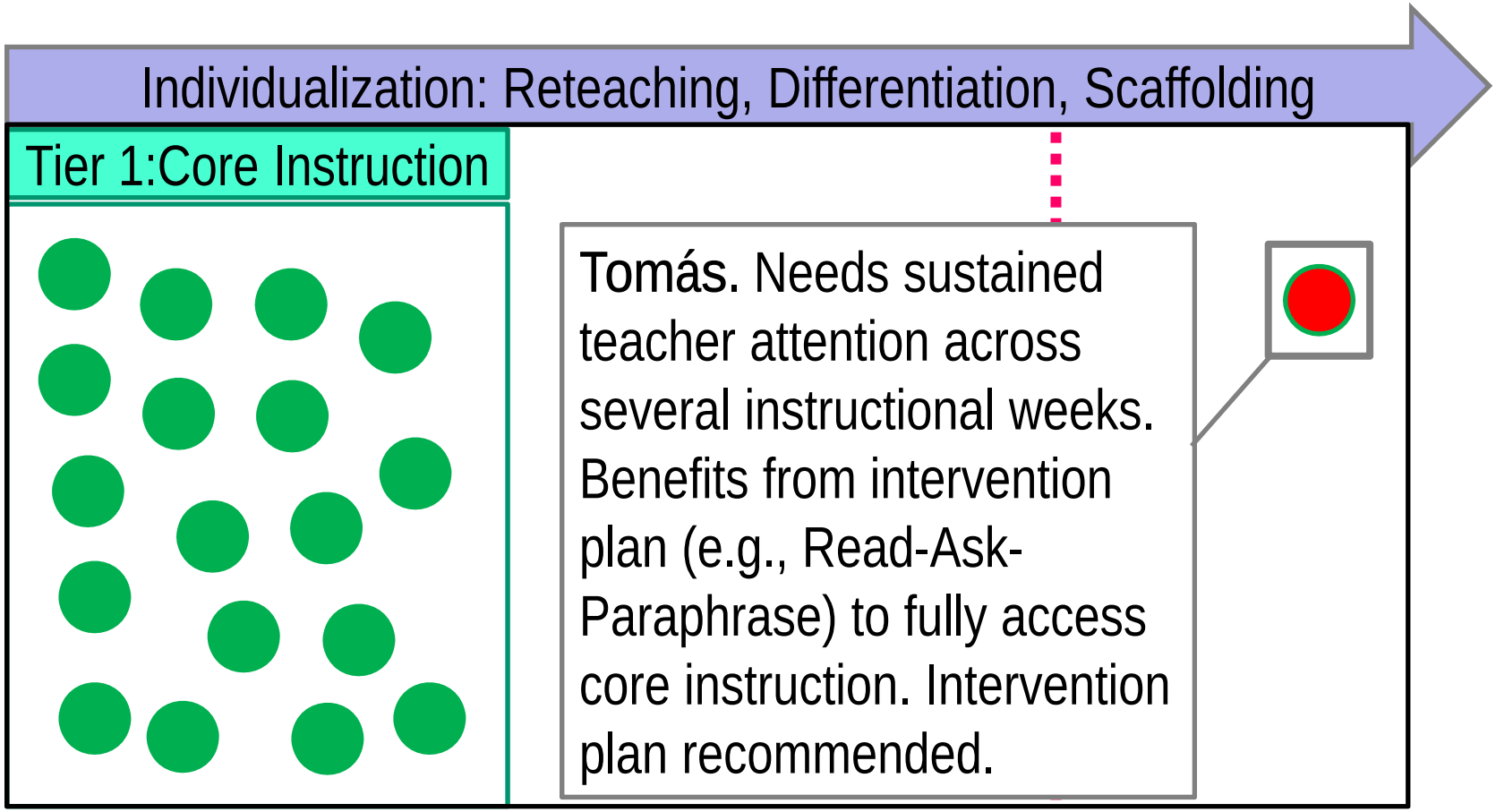
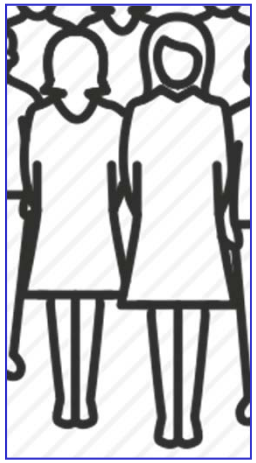


The Individualization Continuum: When Should Classroom Intervention Efforts Be Documented?



Teachers & Classroom Support Plans: Finding the Balance

When helping teachers to plan Tier 1/classroom interventions, what is the right balance between *too little* and *too much* support?

Too *Little* Support	"Sweet Spot": Appropriate Support		Too *Much* Support
Teacher Alone	Teacher & Consultant	Teacher & Grade-Level/Instructional Team	Teacher & RTI Problem-Solving Team
			

RTI/MTSS Classroom Support Plan: 'Message in a Bottle': Who might benefit?

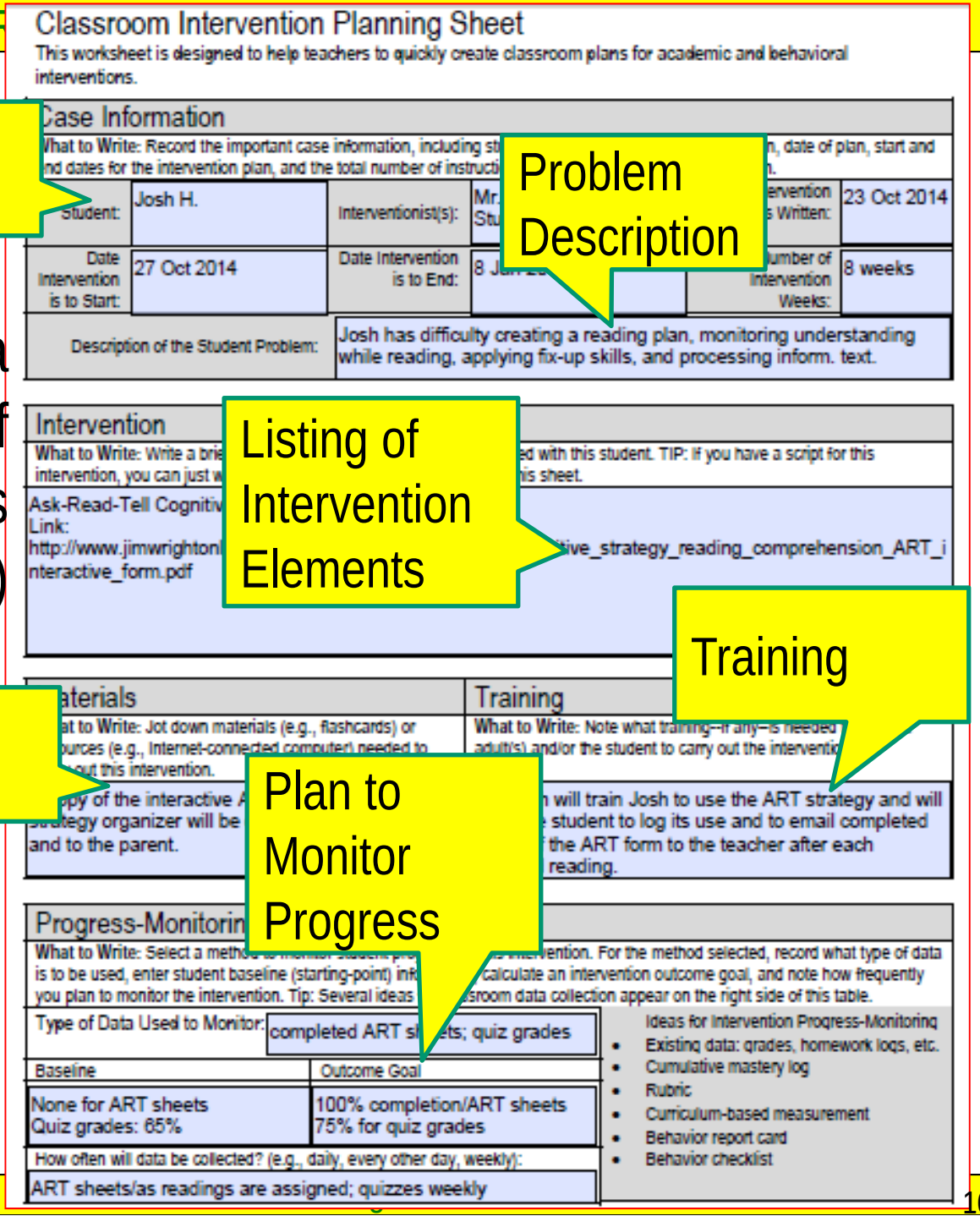
Colleagues. Your intervention efforts can be read by your fellow teachers and future educators

Parents & Student. You can make the creation of the Classroom Support Plan the focus of student and parent conferences.

RTI/MTSS Problem-Solving Team. Your classroom intervention plan helps the team to make better recommendations.

CSE/Special Education Eligibility Team. Evidence of a classroom intervention plan is often a requirement when attempting to diagnose a learning disability or other IEP condition.

How To: Create a Written Record of Classroom Interventions (pp. 16-20)



Classroom Intervention Planning Sheet

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 st… n, date of plan, start and nd dates for the intervention plan, and the total number of instructi… n.

Student:	Josh H.	Interventionist(s):	Mr. Stu…	…ervention …s Written:	23 Oct 2014
Date Intervention is to Start:	27 Oct 2014	Date Intervention is to End:	8 Jan …	…umber of Intervention Weeks:	8 weeks
Description of the Student Problem:	Josh has difficulty creating a reading plan, monitoring understanding while reading, applying fix-up skills, and processing inform. text.				

Intervention

What to Write: Write a brie… …ed with this student. TIP: If you have a script for this intervention, you can just w… …his sheet.

Ask-Read-Tell Cognitiv…
Link:
http://www.jimwrighton… …tive_strategy_reading_comprehension_ART_i
nteractive_form.pdf

Materials

…at to Write: Jot down materials (e.g., flashcards) or …ources (e.g., Internet-connected computer) needed to …out this intervention.

…opy of the interactive A… …ategy organizer will be … and to the parent.

Training

What to Write: Note what training–if any–is needed … adult(s) and/or the student to carry out the interventi…

…n will train Josh to use the ART strategy and will …e student to log its use and to email completed …f the ART form to the teacher after each … reading.

Progress-Monitorin…

What to Write: Select a metho… …vention. For the method selected, record what type of data is to be used, enter student baseline (starting-point) inf… …calculate an intervention outcome goal, and note how frequently you plan to monitor the intervention. Tip: Several ideas … …sroom data collection appear on the right side of this table.

Type of Data Used to Monitor:	completed ART s… …ets; quiz grades
Baseline	Outcome Goal
None for ART sheets Quiz grades: 65%	100% completion/ART sheets 75% for quiz grades
How often will data be collected? (e.g., daily, every other day, weekly):	
ART sheets/as readings are assigned; quizzes weekly	

Ideas for Intervention Progress-Monitoring
- Existing data: grades, homework logs, etc.
- Cumulative mastery log
- Rubric
- Curriculum-based measurement
- Behavior report card
- Behavior checklist

Case Information

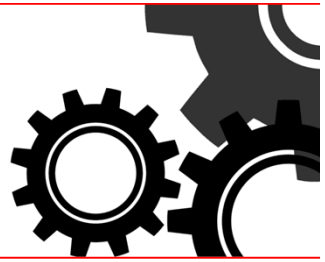
Problem Description

Listing of Intervention Elements

Training

Materials

Plan to Monitor Progress



Interventions: Activity

When Would You Document?

List situations at your school when you may want to document (put into writing) a classroom intervention plan.

How well would the sample form on pp. 17-18 suit your needs?

Classroom Intervention Planning Sheet

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:	Josh H.	Interventionist(s):	Mr. Smith, Social Studies/Grade 7	Date Intervention Plan Was Written:	23 Oct 2014
Date Intervention is to Start:	27 Oct 2014	Date Intervention is to End:	8 Jan 2015	Total Number of Intervention Weeks:	8 weeks
Description of the Student Problem:	Josh has difficulty creating a reading plan, monitoring understanding while reading, applying fix-up skills, and processing inform. text.				

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.

Ask-Read-Tell Cognitive Strategy:
Link:
http://www.jimwrightonline.com/mixed_files/WI_ED_2014/cognitive_strategy_reading_comprehension_ART_interactive_form.pdf

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.
A copy of the interactive Ask-Read-Tell cognitive strategy organizer will be emailed to the student and to the parent.	Mr. Smith will train Josh to use the ART strategy and will direct the student to log its use and to email completed copies of the ART form to the teacher after each assigned reading.

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: completed ART sheets; quiz grades

Baseline	Outcome Goal
None for ART sheets Quiz grades: 65%	100% completion/ART sheets 75% for quiz grades

How often will data be collected? (e.g., daily, every other day, weekly):
ART sheets/as readings are assigned; quizzes weekly

Ideas for Intervention Progress-Monitoring
- Existing data: grades, homework logs, etc.
- Cumulative mastery log
- Rubric
- Curriculum-based measurement
- Behavior report card
- Behavior checklist

Using Motivational Tools for Communication pp. 21-23

Using Motivational Teacher Tools

Teacher communication strategies are a powerful means to motivate students. In this segment, we look at four methods for increasing student motivation and academic engagement:

- change talk
- praise
- growth mindset statements
- wise feedback

Change Talk. Draw attention to change-oriented student talk.

1

Change Talk. Highlight Change-Oriented Talk

- **What It Is.** Change talk (Miller & Rollnick, 2004) is *any statement (or partial statement) that expresses hope, interest in making positive changes, a willingness to try new strategies, or other positive attitudes.*

  Elements of student change talk are often intermixed with expressions of uncertainty, frustration, and doubt.

Source: Miller, W. R., & Rollnick, S. (2004). Talking oneself into change: Motivational interviewing, stages of change, and therapeutic process. Journal of Cognitive Psychotherapy, 18(4), 299-308.

Change Talk. Focus on Positive Change

When people talk about taking on the challenge of changing their behavior to achieve desired outcomes, their comments can veer between:

- 'Change Talk': Exploring the desired change, and
- 'Obstacles Talk'. Highlighting obstacles to change.

Change Talk	Obstacles Talk
I want to get more exercise…	*but I am so busy with work!*

Source: Miller, W. R., & Rollnick, S. (2004). Talking oneself into change: Motivational interviewing, stages of change, and therapeutic process. Journal of Cognitive Psychotherapy, 18(4), 299-308.

Change Talk. Focus on Positive Change

An effective way to encourage others to make beneficial changes in their lives is to listen…and to single out and respond to the positive 'change talk' elements in their responses.

Change Talk

I want to get more exercise…

Obstacles Talk

but I am so busy with work!

Source: Miller, W. R., & Rollnick, S. (2004). Talking oneself into change: Motivational interviewing, stages of change, and therapeutic process. Journal of Cognitive Psychotherapy, 18(4), 299-308.

Change Talk. Focus on R

An effective way to encou
changes in their lives is t
respond to the positive 'c
responses.

Less Effective Response: "Well, if you spent less time watching Netflix, you would have more time to work out!"

Change Talk

I want to get more exercise…

Obstacles Talk

but I am so busy with work!

Source: Miller, W. R., & Rollnick, S. (2004). Talking oneself into change: Motivational interviewing, stages of change, and therapeutic process. Journal of Cognitive Psychotherapy, 18(4), 299-308.

C… n Positive Change

…e others to make beneficial …en…and to single out and …ge talk' elements in their

More Effective Response: "Yes, you might have more energy if you increased your exercise."

Change Talk

I want to get more exercise…

Obstacles Talk

but I am so busy with work!

Source: Miller, W. R., & Rollnick, S. (2004). Talking oneself into change: Motivational interviewing, stages of change, and therapeutic process. Journal of Cognitive Psychotherapy, 18(4), 299-308.

Change Talk. The Power of Differential Attention

By listening carefully, the educator can draw attention to elements of change talk shared by the student, reinforce them, have the student elaborate on them, and thus increase that learner's optimism and confidence (Miller & Rollnick, 2004).

"I want to do better in this course…"	*"…but the work is so hard!"*
"Sure, it would be great if I could bring my grades up …"	*"…but I am not smart in math."*

1

Conferencing with Students: Two Suggestions

When you conference with students, the motivational interview literature (Miller & Rollnick, 2004) suggests 2 important strategies:

1. AVOID an authoritarian tone. The goal is to motivate the student to take responsibility for positive behavior change—not to win a debate.
2. DO use your comments to draw attention to instances of student 'change talk' -- statements expressing interest in making positive changes.

Source: Miller, W. R., & Rollnick, S. (2004). Talking oneself into change: Motivational interviewing, stages of change, and therapeutic process. Journal of Cognitive Psychotherapy, 18(4), 299-308.

Comments to Encourage Change Talk: Examples

STUDENT: **Sure, it would be great if I could bring my grades up**, but I'm not smart in math.

- *Tell me more about **improving your grades**. Why is that important to you?*
- *So there are challenges, sure, but it sounds like **getting your grades up** is something you would like to focus on.*
- *If **improving your grades** is a goal you are willing to commit to, we can talk about strategies that might help.*
- *I agree that **getting higher grades** is important. Are you ready to develop a plan that can help you to achieve it?*

Source: Miller, W. R., & Rollnick, S. (2004). Talking oneself into change: Motivational interviewing, stages of change, and therapeutic process. Journal of Cognitive Psychotherapy, 18(4), 299-308.

Behavior-Specific Praise. Shape student behavior with this positive coaching tool.

2

Behavior-Specific Praise. Shape Behavior with This Positive Coaching Tool

- **What It Is.** Praise is positive teacher attention "paired with a specific informational statement" (Landrum & Sweigart, 2014).

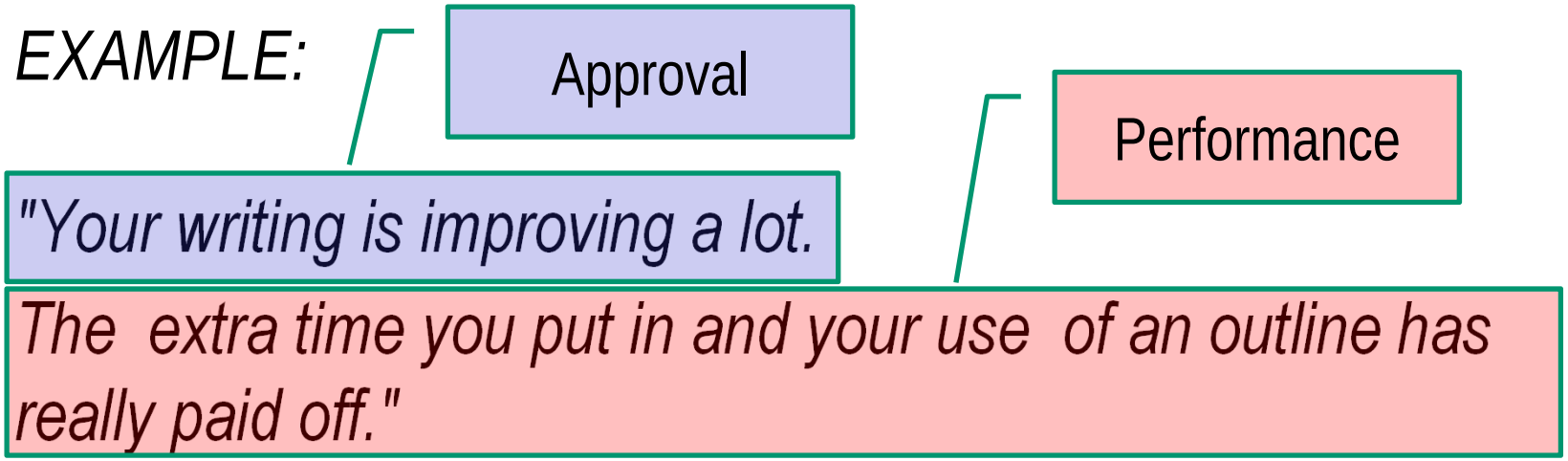
Source: Landrum, T. J., & Sweigart, C. A. (2014). Simple, evidence-based interventions for classic problems of emotional and behavioral disorders. Beyond Behavior, 23(3), 3-9.

Intervention Central

Behavior-Specific Praise

Effective teacher praise has two elements: (1) a behavior-specific description of noteworthy student performance, and (2) a signal of teacher approval (Hawkins & Hellin, 2011). Because this 'process praise' ties performance directly to effort, it reinforces a growth mindset in students who receive it.

EXAMPLE:



Growth Mindset. Structure your statements to encourage optimism and motivation.

3

Growth Mindset. Encourage an Optimistic Frame of Mind

- **What It Is.** The habitual ways that people have of thinking about their abilities can be thought of as '**mindsets**'. Mindsets fall into two categories: **Fixed** vs. **growth**.

  As we will see, a **fixed mindset** encourages 'learned helplessness', while a **growth mindset** motivates the student to apply increased effort to academic tasks.

Source: Dweck, C. S. (2006). Mindset: The new psychology of success. New York: Ballantine.

3

Beliefs About Mindsets: Fixed vs. Growth

- Fixed Mindset	+ Growth Mindset
Intelligence (general ability) is fixed. **Effort** plays a **minor role** in determining one's level of accomplishment. Thus, **setbacks** are viewed as a **lack of ability.** (Blackwell, et al., 2015).	Intelligence and other attributes are '**malleable**'--they can increase with effort. This perspective views **struggle** as a **positive**-- "an opportunity for growth, not a sign that a student is incapable of learning." (Paunesku, et al., 2015).

The ‘Malleability’ of Intelligence

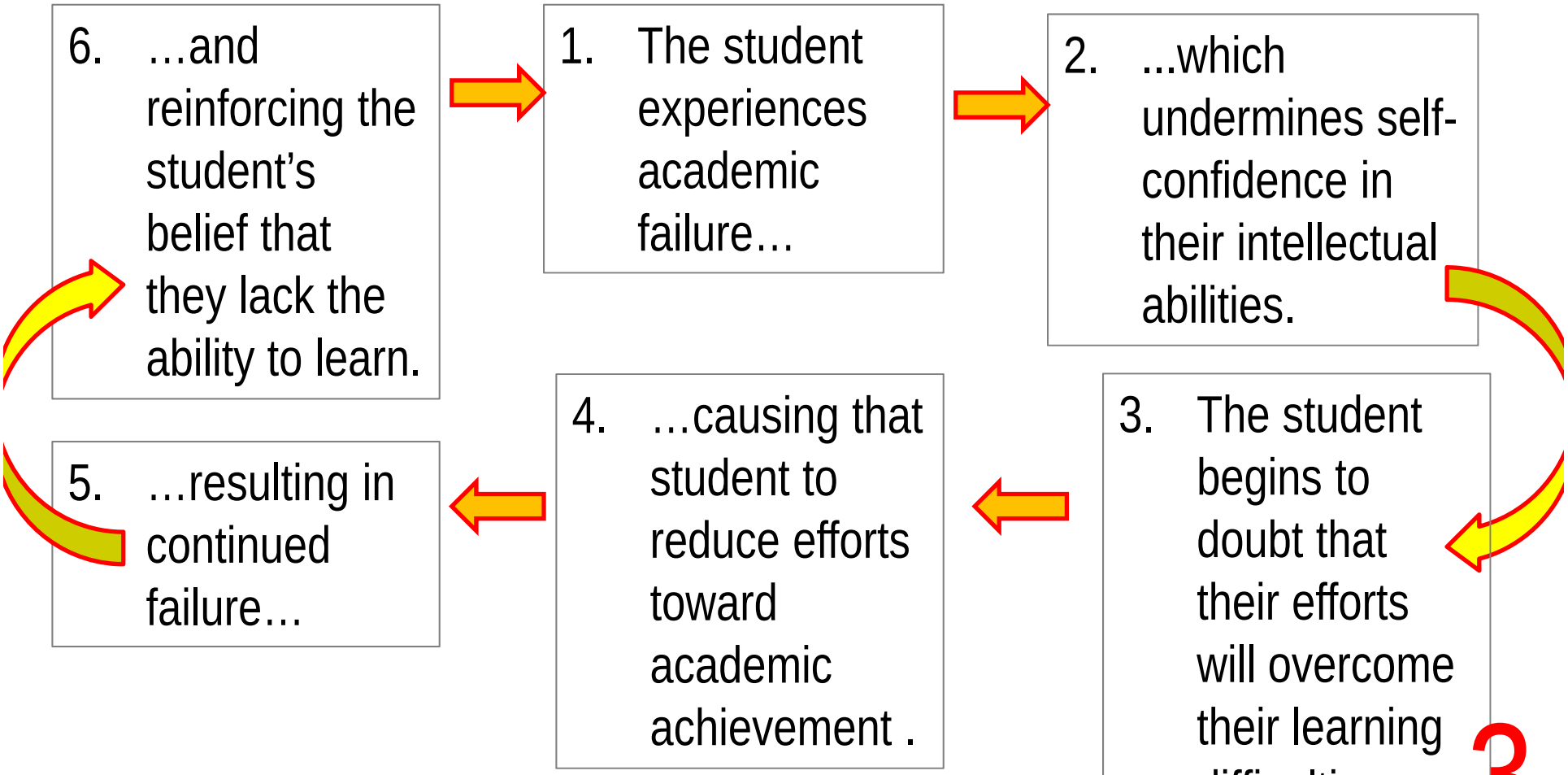
“It is important to recognize that believing intelligence to be malleable does not imply that everyone has exactly the same potential in every domain, or will learn everything with equal ease.

Rather, it means that for any given individual, intellectual ability can always be further developed.”

Source: Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. Child Development, 78(1), 246-263.

Learned Helplessness: The Failure Cycle

Students with a history of school failure are at particular risk of falling into the learned-helplessness cycle:



Source: Sutherland, K. S., & Singh, N. N. (2004). Learned helplessness and students with emotional or behavioral disorders: Deprivation in the classroom. Behavioral Disorders, 29(2), 169–181.

Contrasting Mindsets: Responses to Setbacks

- Fixed Mindset: The student may:	+ Growth Mindset: The student will:
• give up • withdraw effort • 'disidentify' with challenge subject: e.g., "*I don't like math much anyway.*" • be at greater risk for cheating	• view setback as an opportunity for learning • increase effort • figure out deficiencies in work or study processes and correct them

Source: Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. Child Development, 78(1), 246-263.

Mindsets: Fixed vs. Growth

"[Fixed vs. growth] mindsets affect students' achievement by creating **different psychological worlds**."

Dr. Carol Dweck

Source: Dweck, C. S. (2008). Mindsets: How praise is harming youth and what can be done about it. School Library Media Activities Monthly, 24(5), 55-58; p. 56.

Mindsets: Fixed vs. Growth

Does a student's type of mindset have a significant impact on school performance?

When students are not experiencing significant learning challenges, those with **fixed** and **growth** mindsets may do **equally well**.

However, during times of difficult academic work or dramatic changes in the learning environment (e.g., middle school), g**rowth-mindset** students tend to do **significantly better** than their fixed-mindset peers.

Source: Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. Child Development, 78(1), 246-263.

Fixed-Mindset Statements: What NOT to Say

Fixed-mindset statements reinforce the (untrue) idea that individuals have a fixed quantity of 'ability' that cannot expand much despite the learner's efforts. Avoid statements that send a fixed-mindset message to students, such as:

- *"Excellent essay. You are a **natural-born** writer!"*
- *"You need to work harder. I have seen your grades and know that you are **smart enough** to get an A in this course."*
- *"It's OK-not everyone **can be good** at math."*

3

To Promote a 'Growth Mindset'…Use Process-Oriented Statements

Teachers ' growth-mindset statements are varied. However, they tend to include these elements:

- CHALLENGE. The teacher acknowledges that the learning task is difficult—but frames that challenge as an opportunity to learn.
- PROCESS. The teacher identifies the specific process that the student should follow to accomplish the academic task.
- CONFIDENCE. The teacher provides assurance that the student can be successful if the learner puts in sufficient effort and follows the recommended process.

Source: Dweck, C. S. (2007). The perils and promises of praise. Educational Leadership, 65(2), 34-39.

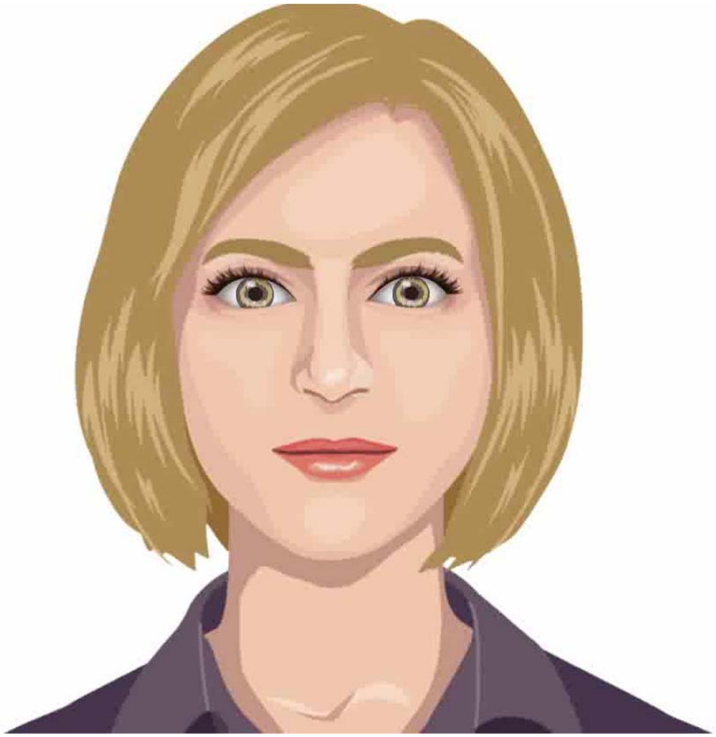
3

Integrate 'Pro-Growth-Mindset' Statements into Classroom Discourse

In day-to-day communication with students, instructors have many opportunities use growth-mindset principles to infuse their statements with optimism, including:

- praise
- work-prompts
- encouragement
- introduction of assignments

Source: *Dweck, C. S. (2007). The perils and promises of praise. Educational Leadership, 65(2), 34-39.*



Work Prompt

"Sarah, please keep reading....you still have 10 minutes to work on the assignment.

It's a challenging passage, so if you get stuck, be sure to use your reading fix-up skills.

Remember, it's also OK to ask a neighbor or to come to me for help.

Use your strategies and you will be successful!"

Growth Mindset: Teacher Examples

Work Prompt

When students stop working during an independent assignment, the teacher can structure the "get-back-to-work" prompt to follow a growth-mindset format.

EXAMPLE:

"Sarah, please keep reading....you still have 10 minutes to work on the assignment.	Prompt: Keep Working
It's a challenging passage,	Challenge
so if you get stuck, be sure to use your reading fix-up skills. Remember, it's also OK to ask a neighbor or to come to me for help.	Process: Fix-Up Skills & Help Options
Use your strategies and you will be successful!"	Confidence

Assignment

"You should plan spend at least 90 minutes on tonight's math homework.

When you start the assignment, some problems might look like they are too difficult to solve.

But if you give it your best and follow your problem-solving checklist, you should be able to answer them."

Growth Mindset: Teacher Examples
Assignment

The teacher can give assignments a growth-mindset spin--describing challenge(s), appraising the effort required, reminding what strategies or steps to use, and stating confidently that following the process will lead to success.

EXAMPLE:

"You should plan to spend at least 90 minutes on tonight's math homework.	Effort Needed
When you start the assignment, some problems might look like they are too difficult to solve.	Challenge
But if you give it your best and follow your problem-solving checklist,	Process & Effort
you should be able to answer them."	Confidence

'Wise' Feedback. Promote student acceptance of critical instructional feedback.

4

Wise Feedback. Increase Acceptance of Academic Feedback

- **What It Is.** Wise feedback follows a specific structure to signal to the student that the critical feedback is well-intentioned and appropriately matched to the student's abilities.

Source: Dweck, C. S. (2006). Mindset: The new psychology of success. New York: Ballantine.

4

Critical Feedback. The Problem…

The intention of teachers' instructional feedback is often ambiguous, leaving learners free to impose their own interpretations.

Students already sensitive to being stereotyped (e.g., because of race, gender, or economic class) may construe teacher feedback in a negative light—as a sign of stereotyping or bias (Cohen, Steele, & Ross, 1999; Yeager et al., 2013). So the student 'tunes out' that adult feedback—resulting in the 'mentor's dilemma'.

Sources: Cohen, G. L., Steele, C. M., and Ross, L. D. (1999). The mentor's dilemma: Providing critical feedback across the racial divide. Personality and Social Psychology Bulletin, 25(10), 1302-1318.

Yeager, D. S., Purdie-Vaughns, V., Garcia, J., Apfel, N., Brzustoski, P., Master, A., Hessert, W. T., & Williams, M. E. (2013). Breaking the cycle of mistrust: Wise interventions to provide critical feedback across the racial divide. Journal of Experimental Psychology: General, 143, 804-824.

‘Wise’ Feedback. Formatting Critical Feedback to Promote Student Acceptance

‘Wise feedback’ prevents the student from taking criticism about their work personally. Written or verbal feedback about a student’s academic performance follows this format:

- FEEDBACK DESCRIPTION. The teacher describes the nature of the feedback being offered.
- HIGH STANDARDS. The teacher emphasizes and explains the high standards used to evaluate the student work.
- ASSURANCE OF ABILITY. The teacher states explicitly his or her confidence that the student has the skills necessary to successfully meet those standards.

Source: *Cohen, G. L., Steele, C. M., & Ross, L. D. (1999). The mentor's dilemma: Providing critical feedback across the racial divide. Personality and Social Psychology Bulletin, 25, 1302-1318.*

Wise Feedback: Student Paper

Feedback Description

"Your paper met the basic requirements of the assignment but needs work. Please look over my comments. You will see that I give detailed feedback."

High Standards

"The expectation in this class is that you will take your writing to a level suitable for college or business communication."

Assurance of Student Ability

"Your past writing assignments have shown me that you have the skills and motivation to use my feedback to revise and improve this paper."

4

Wise Feedback: Additional Suggestions…

- *Do not pair grades with wise feedback.* When possible, teachers should avoid attaching grades to any student work that contains wise feedback.

  Students tend to view a summative number or letter grade as the 'real' evaluation of an assignment and are therefore likely to ignore comments that accompany them (Yeager et al., 2013). So grades can 'short-circuit' the positive impact of wise feedback.

  One strategy to keep wise-feedback and grading separate on an assignment is to return the first draft of the assignment ungraded with wise feedback. The student is then directed to use the feedback to revise the assignment and submit for a grade.

4

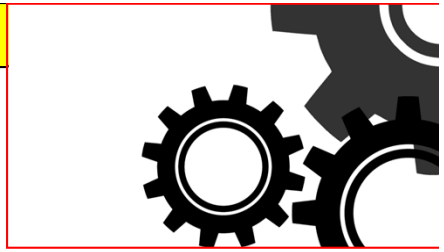
Wise Feedback: Additional Suggestions…

- *Make student feedback 'ambitious'*. In an attempt to bond with unmotivated students, the teacher may over-praise them for mediocre work or provide only easy suggestions for improving the assignment.

  Either strategy sets a low bar for performance and can backfire. When students sense that instructors have limited expectations of them, they can feel patronized and stereotyped, lose motivation, and further withdraw effort from academic tasks (Yeager et al., 2013).

  Instead, the teacher should praise work that truly deserves it and offer ambitious feedback appropriate to students' skill level.

4



LAB WORK: Using Motivational Teacher Communication Tools

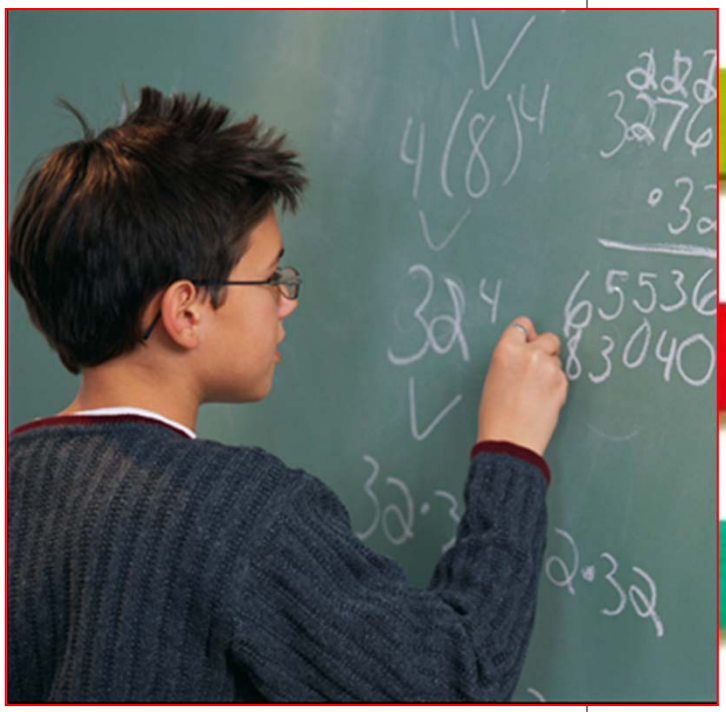
This workshop highlights strategies that teachers use to increase student motivation and optimism, including:

- change talk
- praise
- growth mindset statements
- wise feedback

In your discussion groups, select **one** of these 4 strategies.

Share examples of how you have successfully used your selected strategy to encourage students to be more motivated, self-directed, learners.

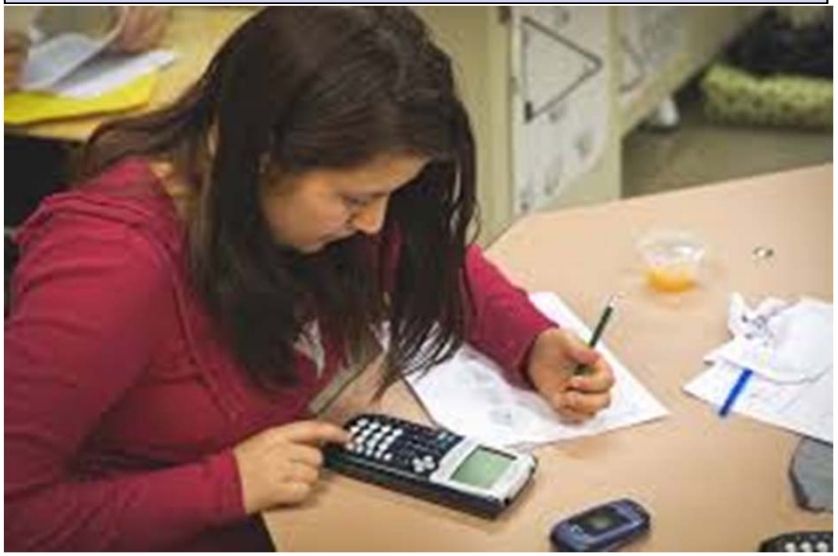
Interventions for Math.
What are examples of classroom interventions to address math deficits?



1. **Understanding.** Comprehending mathematical concepts, operations, and relations--knowing what mathematical symbols, diagrams, and procedures mean.

2. **Computing.** Carrying out mathematical procedures, such as adding, subtracting, multiplying, and dividing numbers flexibly, accurately, efficiently, and appropriately.

Five Strands of Mathematical Proficiency



3. **Applying.** Being able to formulate problems mathematically and to devise strategies for solving them using concepts and procedures appropriately.

4. **Reasoning.** Using logic to explain and justify a solution to a problem or to extend from something known to something less known.

5. **Engaging.** Seeing mathematics as sensible, useful, and doable—if you work at it—and being willing to do the work.

Source: : National Research Council. (2002). Helping children learn mathematics. Mathematics Learning Study Committee, J. Kilpatrick & J. Swafford, Editors, Center for Education, Division of Behavioral & Social Sciences & Education. Washington, DC: National Academy Press.

The Math-Challenged Student: 12-Pt Profile

1. Problems with short-term memory.
2. Difficulty understanding math concepts/abstractions.
3. Limited attention span (difficulty remaining on-task).
4. Difficulty with spatial awareness.
5. Failure to apply previously learned knowledge.
6. Unable to apply math concepts/reasoning to real-life situations.
7. Struggle with visual sequencing—the ability to see objects in a sequential order (e.g., copying from the board, sequencing numbers).
8. Confusion of various math signs and symbols.
9. Deficits in math-related vocabulary.
10. Limited reading skills (e.g., comprehension).
11. Difficulty following directions.
12. Easily overwhelmed with new learning.

Source: National Council for Curriculum and Assessment [Dublin, Ireland]. (n.d.). Mathematics Guidelines for teachers of students with mild general learning disabilities. Retrieved from http://www.ncca.ie/uploadedfiles/P_Mild_Maths.pdf

Math Interventions

Math Fact Fluency	**Timely Work Complet**
• Explicit Time Drill	• Problem-Interspersal Technique
• Incremental Rehearsal	**Student Self-Monitoring**
• Cover-Copy-Compare	• Math Self-Correction Checklist
• Peer Tutoring: Math Facts	**Math Anxiety**
Math Word Problems	• Antecedent ('Anxiety') Essay
• STAR Self-Guided Strategy: Search-Translate-Answer-Review	

Sample Strategies to Promote… Acquisition/Fluency of Math Facts

- Explicit Time Drill
- Incremental Rehearsal
- Cover-Copy-Compare
- Peer Tutoring/Constant Time Delay

Computation Fluency: Benefits of Automaticity of 'Arithmetic Combinations' (Gersten, Jordan, & Flojo, 2005)

- There is a strong correlation between poor retrieval of arithmetic combinations ('math facts') and global math delays
- Automatic recall of arithmetic combinations frees up student 'cognitive capacity' to allow for understanding of higher-level problem-solving
- By internalizing numbers as mental constructs, students can manipulate those numbers in their head, allowing for the intuitive understanding of arithmetic properties, such as *associative property* and *commutative property*

Source: *Gersten, R., Jordan, N. C., & Flojo, J. R. (2005). Early identification and interventions for students with mathematics difficulties. Journal of Learning Disabilities, 38, 293-304.*

Math Fact Fluency: Explicit Time Drill

The teacher hands out a math-fact worksheet. Students are told that they will have 3 minutes to work on problems on the sheet. The teacher starts the stop watch and tells the students to start work. At the end of the first minute, 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. This process is repeated at the end of minutes 2 and 3. At the conclusion of the 3 minutes, the teacher collects the student worksheets (Rhymer et al., 2002).

Math Review: Incremental Rehearsal of 'Math Facts'

Step 1: The tutor writes down on a series of index cards the math facts that the student needs to learn. The problems are written without the answers.

4 x 5 =__	2 x 6 =__	5 x 5 =__
3 x 2 =__	3 x 8 =__	5 x 3 =__
6 x 5 =__	9 x 2 =__	3 x 6 =__
8 x 2 =__	4 x 7 =__	8 x 4 =__
9 x 7 =__	7 x 6 =__	3 x 5 =__

Math Review: Incremental Rehearsal of 'Math Facts'

Step 2: The tutor reviews the 'math fact' cards with the student. Any card that the student can answer within 2 seconds is sorted into the 'KNOWN' pile. Any card that the student cannot answer within two seconds—or answers incorrectly—is sorted into the 'UNKNOWN' pile.

'KNOWN' Facts		'UNKNOWN' Facts
4 x 5 =__	2 x 6 =__	3 x 8 =__
3 x 2 =__	5 x 3 =__	9 x 2 =__
3 x 6 =__	8 x 4 =__	5 x 5 =__
6 x 5 =__	4 x 7 =__	8 x 2 =__
9 x 7 =__	7 x 6 =__	3 x 5 =__

Math Review: Incremental Rehearsal of 'Math Facts'

Step 3: The tutor is now ready to follow a nine-step incremental-rehearsal sequence: First, the tutor presents the student with a single index card containing an 'unknown' math fact. The tutor reads the problem aloud, gives the answer, then prompts the student to read off the same unknown problem and provide the correct answer.

3 x 8 =__

Math Review: Incremental Rehearsal of 'Math Facts'

Step 3: Next the tutor takes a math fact from the 'known' pile and pairs it with the unknown problem. When shown each of the two problems, the student is asked to read off the problem and answer it.

3 x 8 =__	4 x 5 =__

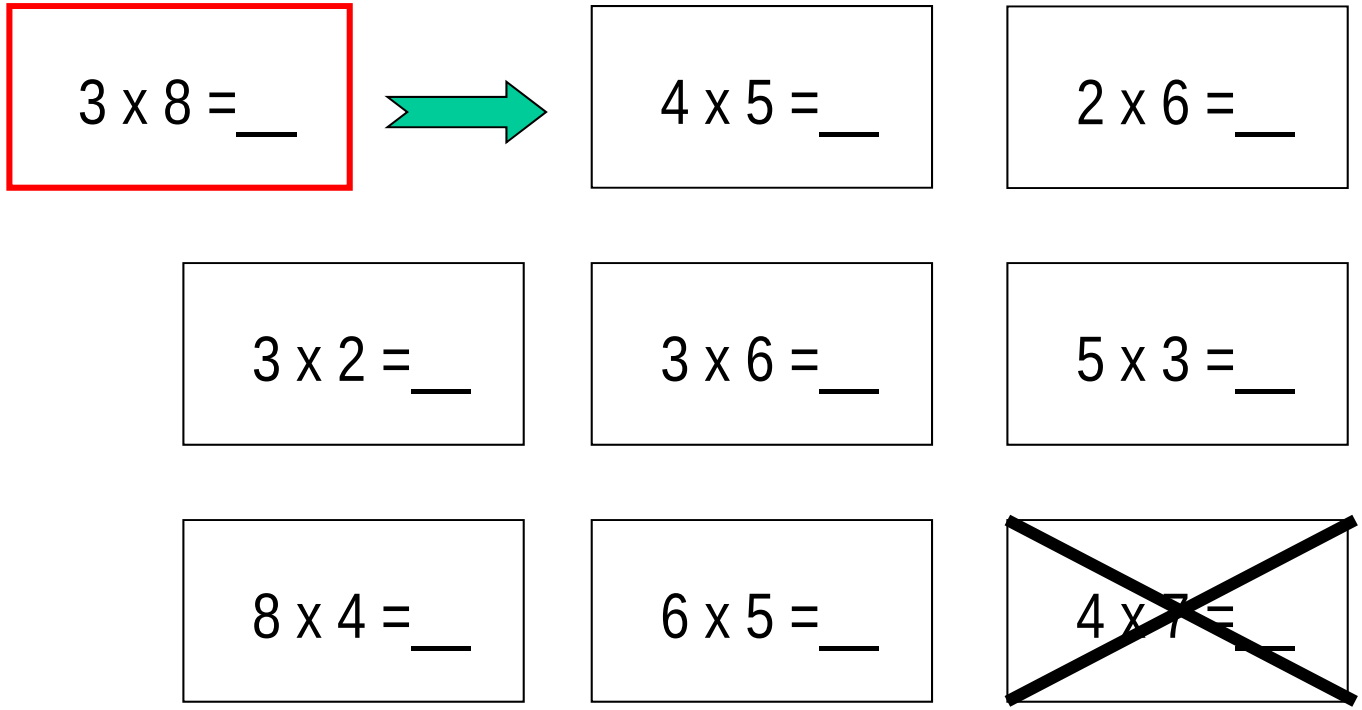
Math Review: Incremental Rehearsal of 'Math Facts'

Step 3: The tutor then repeats the sequence--adding yet another known problem to the growing deck of index cards being reviewed and each time prompting the student to answer the whole series of math facts—until the review deck contains a total of one 'unknown' math fact and nine 'known' math facts.

3 x 8 =__	4 x 5 =__	2 x 6 =__
3 x 2 =__	3 x 6 =__	5 x 3 =__
8 x 4 =__	6 x 5 =__	4 x 7 =__

Math Review: Incremental Rehearsal of 'Math Facts'

Step 4: At this point, the last 'known' math fact that had been added to the student's review deck is discarded (placed back into the original pile of 'known' problems) and the previously 'unknown' math fact is now treated as the first 'known' math fact in new student review deck for future drills.



Math Review: Incremental Rehearsal of 'Math Facts'

Step 4: The student is then presented with a new 'unknown' math fact to answer--and the review sequence is once again repeated each time until the 'unknown' math fact is grouped with nine 'known' math facts—and on and on. Daily review sessions are discontinued either when time runs out or when the student answers an 'unknown' math fact incorrectly three times.

9 x 2 =__	3 x 8 =__	4 x 5 =__
2 x 6 =__	3 x 2 =__	3 x 6 =__
5 x 3 =__	8 x 4 =__	6 x 5 =__

Cover-Copy-Compare: Math Facts

In this intervention to promote acquisition of math facts, the student is given a sheet with the math facts with answers. The student looks at each math model, covers the model briefly and copies it from memory, then compares the copied version to the original correct model (Skinner, McLaughlin & Logan, 1997).

Intervention Central

Response to

Cover-Copy-Compare Math Fact Student Worksheet

Worksheet: Cover-Copy-Compare Student: _____ Date: _____

Math Facts	Student Response
1. 9 x 7 = 63	1a. 9 x 7 = 63
	1b.
2. 9 x 2 = 18	2a.
	2b.
3. 9 x 4 = 36	3a.
	3b.
4. 9 x 1 = 9	4a.
	4b.
5. 9 x 9 = 81	5a.
	5b.
6. 9 x 6 = 54	6a.
	6b.
7. 9 x 3 = 27	7a.
	7b.
8. 9 x 5 = 45	8a.
	8b.
9. 9 x 10 = 90	9a.
	9b.
10. 9 x 8 = 72	10a.
	10b.

Peer Tutoring in Math Computation with Constant Time Delay

Peer Tutoring in Math Computation with Constant Time Delay

- DESCRIPTION: This intervention employs students as reciprocal peer tutors to target acquisition of basic math facts (math computation) using constant time delay (Menesses & Gresham, 2009; Telecsan, Slaton, & Stevens, 1999). Each tutoring 'session' is brief and includes its own progress-monitoring component--making this a convenient and time-efficient math intervention for busy classrooms.

Peer Tutoring in Math Computation with Constant Time Delay

MATERIALS:

Student Packet: A work folder is created for each tutor pair. The folder contains:

- ❑ 10 math fact cards with equations written on the front and correct answer appearing on the back. NOTE: The set of cards is replenished and updated regularly as tutoring pairs master their math facts.
- ❑ Progress-monitoring form for each student.
- ❑ Pencils.

Peer Tutoring in Math Computation with Constant Time Delay

Tutoring Activity. Each tutoring 'session' last for 3 minutes. The tutor:

- *Presents Cards*. The tutor presents each card to the tutee for 3 seconds.
- *Provides Tutor Feedback*. [When the tutee responds correctly] The tutor acknowledges the correct answer and presents the next card.

  [When the tutee does not respond within 3 seconds or responds incorrectly] The tutor states the correct answer and has the tutee repeat the correct answer. The tutor then presents the next card.
- *Provides Praise*. The tutor praises the tutee immediately following correct answers.
- *Shuffles Cards*. When the tutor and tutee have reviewed all of the math-fact carts, the tutor shuffles them before again presenting cards.

Peer Tutoring in Math Computation with Constant Time Delay

Progress-Monitoring Activity. The tutor concludes each 3-minute tutoring session by assessing the number of math facts mastered by the tutee. The tutor follows this sequence:

- *Presents Cards.* The tutor presents each card to the tutee for 3 seconds.
- *Remains Silent*. The tutor does not provide performance feedback or praise to the tutee, or otherwise talk during the assessment phase.
- *Sorts Cards*. Based on the tutee's responses, the tutor sorts the math-fact cards into 'correct' and 'incorrect' piles.
- *Counts Cards and Records Totals*. The tutor counts the number of cards in the 'correct' and 'incorrect' piles and records the totals on the tutee's progress-monitoring chart.

Peer Tutoring in Math Computation: Score Sheet

Math Tutoring: Score Sheet

Tutor 'Coach': _____ Tutee 'Player': _____

Directions to the Tutor: Write down the number of math-fact cards that your partner answered *correctly* and the number answered *incorrectly*.		
Date:	Cards Correct:	Cards Incorrect:
Date:	Cards Correct:	Cards Incorrect:
Date:	Cards Correct:	Cards Incorrect:
Date:	Cards Correct:	Cards Incorrect:
Date:	Cards Correct:	Cards Incorrect:
Date:	Cards Correct:	Cards Incorrect:
Date:	Cards Correct:	Cards Incorrect:
Date:	Cards Correct:	Cards Incorrect:

Peer Tutoring in Math Computation with Constant Time Delay

Tutoring Integrity Checks. As the student pairs complete the tutoring activities, the supervising adult monitors the integrity with which the intervention is carried out. At the conclusion of the tutoring session, the adult gives feedback to the student pairs, praising successful implementation and providing corrective feedback to students as needed.

NOTE: Teachers can use the attached form *Peer Tutoring in Math Computation with Constant Time Delay: Integrity Checklist* to conduct integrity checks of the intervention and student progress-monitoring components of the math peer tutoring.

Peer Tutoring in Math Computation: Intervention Integrity Sheet: (Part 1: Tutoring Activity)

Peer Tutoring in Math Computation with Constant Time Delay: Integrity Checklist			
Tutoring Session: Intervention Phase			
Directions: Observe the tutor and tutee for a full intervention session. Use this checklist to record whether each of the key steps of the intervention were correctly followed.			
Correctly Carried Out?	Step	Tutor Action	NOTES
__Y__N	1.	**Promptly Initiates Session.** At the start of the timer, the tutor immediately presents the first math-fact card.	
__Y__N	2.	**Presents Cards.** The tutor presents each card to the tutee for 3 seconds.	
__Y__N	3.	**Provides Tutor Feedback.** [When the tutee responds correctly] The tutor acknowledges the correct answer and presents the next card. [When the tutee does not respond within 3 seconds or responds incorrectly] The tutor states the correct answer and has the tutee repeat the correct answer. The tutor then presents the next card.	
__Y__N	4.	**Provides Praise.** The tutor praises the tutee immediately following correct answers.	
__Y__N	5.	**Shuffles Cards.** When the tutor and tutee have reviewed all of the math-fact carts, the tutor shuffles them before again presenting cards.	
__Y__N	6.	**Continues to the Timer.** The tutor continues to presents math-fact cards for tutee response until the timer rings.	

Peer Tutoring in Math Computation: Intervention Integrity Sheet (Part 2: Progress-Monitoring)

Tutoring Session: Assessment Phase			
Directions: Observe the tutor and tutee during the progress-monitoring phase of the session. Use this checklist to record whether each of the key steps of the assessment were correctly followed.			
Correctly Carried Out?	Step	Tutor Action	NOTES
__Y__N	1.	**Presents Cards.** The tutor presents each card to the tutee for 3 seconds.	
__Y__N	2.	**Remains Silent.** The tutor does not provide performance feedback or praise to the tutee, or otherwise talk during the assessment phase.	
__Y__N	3.	**Sorts Cards.** The tutor sorts cards into 'correct' and 'incorrect' piles based on the tutee's responses.	
__Y__N	4.	**Counts Cards and Records Totals.** The tutor counts the number of cards in the 'correct' and 'incorrect' piles and records the totals on the tutee's progress-monitoring chart.	

Sample Strategy to Promote… Solution of Math Word Problems

- STAR: Improving Performance on Math Word Problem-Solving

STAR: Improving Performance on Math Word Problems

Students can improve their performance on math word problems when they follow STAR, a simple 4-step self-guided strategy.

STAR is easy to recall and prompts the student to apply problem-solving steps in a logical order. It was found to be particularly effective with students with emotional/behavioral disorders.

Source: *Peltier, C., & Vannest, K. J. (2016). Utilizing the STAR strategy to improve the mathematical problem-solving abilities of students with emotional and behavioral disorders. Beyond Behavior, 25(1), 9-15.*

STAR: Solving Math Word Problems: 4-Step Strategy

Step	What I Do
Search	I search the problem for important information by: • reading it aloud • highlighting key words • crossing out information that is not important.
Translate	I translate the word problem into a number sentence. I can: • arrange counters/objects to understand the problem • draw the problem • explain the problem in my own words.
Answer	I answer the problem. When doing this, I: • consider the math operations I will use • think about the steps I will follow and their proper order • check my numbers to make sure they are written clearly and are placed correctly • show my work.
Review	I review my answer to make sure it is correct. To do this, I: • recheck my calculations • reread the problem and ask myself whether my answer makes sense.

STAR: Solving Math Word Problems

Student Name: _____

Directions: Use this step-by-step organizer as you solve each math word problem.

Step	*What I Do*	*My Workspace*
Search.	I **s**earch the problem for important information by: • reading it aloud • highlighting key words • crossing out information that is not important.	
Translate	I **t**ranslate the word problem into a number sentence. I can: • arrange counters/objects to understand the problem • draw the problem • explain the problem in my own words.	
Answer	I **a**nswer the problem. When doing this, I: • consider the math operations I will use • think about the steps I will follow and their proper order • check my numbers to make sure they are written clearly and are placed correctly • show my work.	
Review	I **r**eview my answer to make sure it is correct. To do this, I: • recheck my calculations • reread the problem and ask myself whether my answer makes sense.	

Sample Strategy to Promote…Timely Math Work Completion

Math Computation: Problem Interspersal Technique

- The teacher first identifies the range of 'challenging' problem-types (number problems appropriately matched to the student's current instructional level) that are to appear on the worksheet.
- Then the teacher creates a series of 'easy' problems that the students can complete very quickly (e.g., adding or subtracting two 1-digit numbers). The teacher next prepares a series of student math computation worksheets with 'easy' computation problems interspersed at a fixed rate among the 'challenging' problems.
- The ratio of easy to challenge problems can vary from 1:1 for student-completed independent work to 3:1 for problems that are read aloud by another and the student responds.

Source: *Hawkins, J., Skinner, C. H., & Oliver, R. (2005). The effects of task demands and additive interspersal ratios on fifth-grade students' mathematics accuracy. School Psychology Review, 34, 543-555..*

PROBLEM-INTERSPERSAL TECHNIQUE: WITHIN AN ASSIGNMENT. The teacher selects a ratio of 'easy-to-challenge' problems or items (e.g., 3: 1). The instructor then formats the assignment or worksheet according to the 'easy-to-challenge' ratio.

Problem-Interspersal Technique: Example	
Easy	12 + 14 =?
Easy	21 + 8 = ?
Easy	3 + 14 = ?
Challenge	9 x 7 = ?

Sample Strategy to Promote…Student Self-Monitoring

Student Self-Monitoring: Customized Math Self-Correction Checklists

DESCRIPTION: The teacher analyzes a particular student's pattern of errors commonly made when solving a math algorithm (on either computation or word problems) and develops a brief error self-correction checklist unique to that student. The student then uses this checklist to self-monitor—and when necessary correct—his or her performance on math worksheets before turning them in.

Sources: *Dunlap, L. K., & Dunlap, G. (1989). A self-monitoring package for teaching subtraction with regrouping to students with learning disabilities. Journal of Applied Behavior Analysis, 229, 309-314.*

Uberti, H. Z., Mastropieri, M. A., & Scruggs, T. E. (2004). Check it off: Individualizing a math algorithm for students with disabilities via self-monitoring checklists. Intervention in School and Clinic, 39(5), 269-275.

Increase Student Math Success with Customized Math Self-Correction Checklists

MATERIALS:

- Customized student math error self-correction checklist
- Worksheets or assignments containing math problems matched to the error self-correction checklist

Sources: *Dunlap, L. K., & Dunlap, G. (1989). A self-monitoring package for teaching subtraction with regrouping to students with learning disabilities. Journal of Applied Behavior Analysis, 229, 309-314.*

Uberti, H. Z., Mastropieri, M. A., & Scruggs, T. E. (2004). Check it off: Individualizing a math algorithm for students with disabilities via self-monitoring checklists. Intervention in School and Clinic, 39(5), 269-275.

Sample Self-Correction Checklist

Math Self-Correction Checklist

Student Name: _____ Date: _____

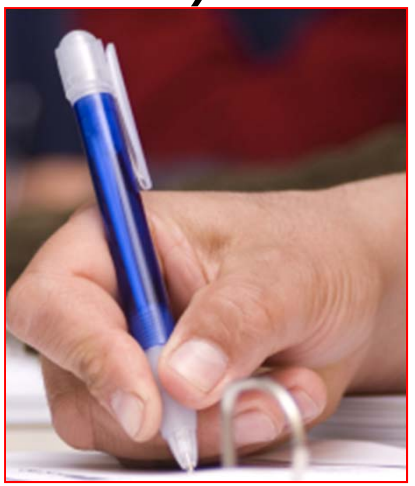
Rater: Student Classroom: _____

Directions: To the Student: BEFORE YOU START: Look at each of these goals for careful math work before beginning your assignment. AFTER EACH PROBLEM: Stop and rate YES or NO whether you performed each goal correctly.

	Problem#1	Problem#2	Problem#3	Problem#4	Problem#5
I underlined all numbers at the top of the subtraction problem that were smaller than their matching numbers at the bottom of the problem. Did the student succeed in this behavior goal? ❑ YES ❑ NO	__Y __N	__Y __N	__Y __N	__Y __N	__Y __N
I wrote all numbers carefully so that I could read them easily and not mistake them for other numbers. Did the student succeed in this behavior goal? ❑ YES ❑ NO	__Y __N	__Y __N	__Y __N	__Y __N	__Y __N
I lined up all numbers in the right place-value columns. Did the student succeed in this behavior goal? ❑ YES ❑ NO	__Y __N	__Y __N	__Y __N	__Y __N	__Y __N
I rechecked all of my answers. Did the student succeed in this behavior goal? ❑ YES ❑ NO	__Y __N	__Y __N	__Y __N	__Y __N	__Y __N

Sample Strategy to Reduce…Anxiety

Managing Academic Anxiety Through an Antecedent Writing Activity (Online)



Description. Students may become anxious when faced with academic tasks such as test-taking—to the point at which the anxiety seriously interferes with their work performance.

Being barraged with anxious thoughts while trying to complete academic tasks is a negative form of multi-tasking and taxes working memory (Beilock & Willingham, 2014). Anxious thoughts divert attention and thus degrade student performance.

Source: Beilock, S. L., & Willingham, D. T. (2014). Math anxiety: Can teachers help students reduce it? American Educator, 38(2), 28-32, 43.

Managing Academic Anxiety Through an Antecedent Writing Activity

Description (Cont.) One strategy that can help students to minimize the intrusion of anxious thoughts during a stressful test or assignment is to have them first complete a brief (7- to 10-minute) writing exercise in which they write about their anxiety (Park, Ramirez, & Beilock, 2014).

This activity can lower anxiety levels and thus allow the student to complete the academic task without interference.

Source: Beilock, S. L., & Willingham, D. T. (2014). Math anxiety: Can teachers help students reduce it? American Educator, 38(2), 28-32, 43.

Managing Academic Anxiety Through an Antecedent Writing Activity

Procedure. Before an individual student or larger group begins an academic task likely to trigger anxiety, the teacher hands out a worksheet with these (or similar) instructions:

Writing Exercise: This Assignment: How Are You Feeling?

I would like you to write honestly about what you are thinking and feeling as you prepare to take this exam/start this assignment.

Because everyone is unique, there is no 'correct response' to this writing task. You should just describe as fully as you can your thoughts and feelings about the exam/assignment. You can also write about how your current thoughts and feelings might be the same as—or different from—those you experienced in similar past situations.

You will have __ minutes to write. Please keep writing until you are told to stop. I will not collect this assignment.

Source: Beilock, S. L., & Willingham, D. T. (2014). Math anxiety: Can teachers help students reduce it? American Educator, 38(2), 28-32, 43.

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Procedure (Cont.) The instructor gives students 7-10 minutes to complete the writing assignment.

Students are then instructed to put their compositions away (they are not collected).

The class then begins the high-stakes academic task.

Source: Beilock, S. L., & Willingham, D. T. (2014). Math anxiety: Can teachers help students reduce it? American Educator, 38(2), 28-32, 43.

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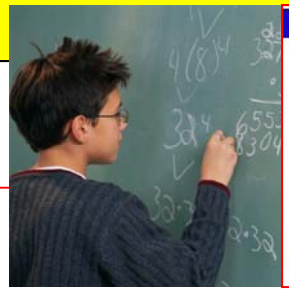
Tips for Use. Here are suggestions for using this antecedent writing exercise:

- *Administer to the entire class.* Certain academic tasks, such as important tests, will trigger anxiety in many, if not most, students in a classroom. Teachers can use this writing exercise with the entire group as an efficient way to 'take the edge off' this anxiety for all students and potentially improve their test performance.

Source: Beilock, S. L., & Willingham, D. T. (2014). Math anxiety: Can teachers help students reduce it? American Educator, 38(2), 28-32, 43.



Math Interventions: Activity

- Discuss the interventions reviewed today.
- Select 1 idea that you would like to try in your classroom/school.

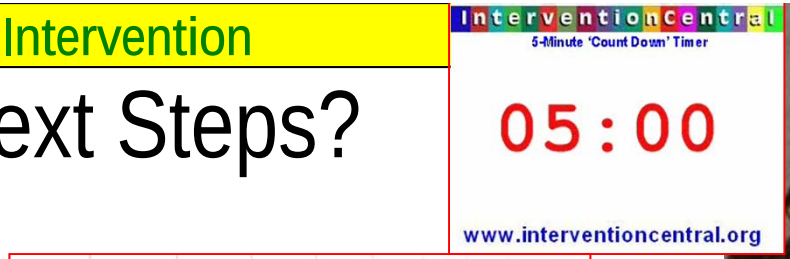
Math Interventions

Math Fact Fluency	**Timely Work Completion**
• Explicit Time Drill	• Problem-Interspersal Technique
• Incremental Rehearsal	**Student Self-Monitoring**
• Cover-Copy-Compare	• Math Self-Correction Checklist
• Peer Tutoring: Math Facts	**Math Anxiety**
Math Word Problems	• Antecedent ('Anxiety') Essay
• STAR Self-Guided Strategy: Search-Translate-Answer-Review	

What Classroom Supports Help a Struggling Student?

1. PROBLEM IDENTIFICATION. The student's specific academic deficits have been clearly defined.
2. INTERVENTIONS. The student receives research-based interventions to help them to succeed in core instruction.
3. ACCOMMODATIONS. The student has access to classroom accommodations as needed to reach grade-level potential.
4. PLAN. The student has a written intervention plan.
5. *DATA. The student has assessment data collected to better understand the academic delay and/or to track progress.*

Activity: What Are Your Next Steps?



Identify 2-3 'next steps' to use key ideas and resources from this data-collection training back in your classroom or **school.**