



Communities In Schools of North Carolina is leading the national network in providing the most effective student supports and wraparound interventions and supports directly in schools to support students and teachers. Working collaboratively with 400 schools across North Carolina, Communities In Schools impacts the lives of more than 230,000 youth each year. Driven by research-based practices surrounding the best predictors of student success – attendance, behavior, coursework and parent and family engagement – Communities In Schools is changing the picture of education for students across North Carolina. Learn more about Communities In Schools of North Carolina at www.cisnc.org.



The Nonprofit Evaluation Support Program (NESP) is a collaborative effort between two University of North Carolina Greensboro organizations – The SERVE Center and The Office of Assessment, Evaluation, and Research Services (OAERS). NESP’s mission is to provide program evaluation services and program evaluation capacity building support to nonprofit and community-based organizations while providing authentic learning experiences for future leaders in the field of program evaluation.



The SERVE Center at The University of North Carolina Greensboro is a university-based research, development, dissemination, evaluation, and technical assistance center. For more than 24 years, SERVE Center has worked to improve K-12 education by providing evidence-based resources and customized technical assistance to policymakers and practitioners.



The University of North Carolina Greensboro (UNCG) is one of the sixteen university campuses of The University of North Carolina. UNCG holds two classifications from the Carnegie Foundation for the Advancement of Teaching, as a “research university with high research activity” and for “community engagement” in curriculum, outreach, and partnerships.

Copyright © 2015. Communities In Schools of North Carolina (CISNC). All rights reserved. No portion of this document may be copied or reproduced in whole or in part without the express permission of Communities In Schools of North Carolina.

Communities In Schools of North Carolina
222 North Person Street, Suite 203 | Raleigh, NC 27601
Phone: (919) 832-2700 | Toll Free: (800) 849-8881 | Fax: (919) 832-5436
<http://www.cisnc.org/>

Table of Contents

Overview	1
CISNC Introduction	1
Using Evidenced-Based Strategies.....	1
Problem/Rationale.....	2
Purpose.....	3
Implementation Plan	4
Uses	4
Audiences.....	4
Activities.....	4
Materials/Equipment/Space.....	5
Time	5
Lesson Plan of Activity	5
Sample Lesson – <i>Understanding Prefixes and Suffixes</i>	5
Tier 2 Intervention and Support Examples	7
Resources	8
Measuring Success.....	10
Appendices	11
A. Glossary	11
B. References	11
C. Research Alignment.....	11

Overview

CISNC Introduction

In the 14-15 school-year, Communities In Schools of North Carolina (CISNC) introduced a framework that aligns site and student metrics and interventions and supports to four areas that have been shown to have the greatest impact on student success: attendance, behavior, coursework, and parent involvement, or ABC+P. Both combined and individually, attendance, behavior, and coursework are among the best predictors of a student's academic success and on-time graduation. While collecting data around ABC+P is critically important to understanding the school and student, it is even more important to use the data to drive high impact intervention and support delivery to empower each student to reach their full potential. To this end, Communities In Schools of North Carolina has partnered with the SERVE Center at the University of North Carolina at Greensboro to design curricula specifically for CIS within the ABC+P framework to enhance student outcomes in school and success in life. This document is one of more than 50 modules developed to support local CIS staff and most importantly the students that are served. We encourage you to explore all of the modules available online at www.cisnc.org.

Using Evidenced-Based Strategies

There are a multitude of strategies that claim to address coursework, but there are few that actually do so for all students. We suggest that schools use an evidence-based, decision-making model to ensure that high quality information informs the decisions made.

The Institute of Education Sciences (IES) at the U.S. Department of Education defines evidence-based decision making as routinely seeking out the best available information on prior research and recent evaluation findings before adopting programs or practices that will demand extensive material or human resources (including both funding and teacher time) and/or affect significant numbers of students (Whitehurst, 2004).

Evidence-based practice means delivering interventions and supports to students (clients) in ways that integrate the best available evidence from data, research, and evaluation; professional wisdom gained from experience; and contextual knowledge of the particular classroom, school, district, or state that might impact the design or implementation.

This document is written to provide schools with coursework strategies based on the best evidence from prior research and recent evaluations in middle schools. In the context of our review, we propose four strategies designed to help improve coursework:

- Coursework – EOG Prep strategy
- Coursework – Literacy strategies (2)
- Coursework – STEM strategy

This document will focus on one easy to implement EOG preparation literacy strategy for middle schools students.

Problem/Rationale

While standardized tests have been a part of public schooling since the 19th century, the passage of No Child Left Behind required states to conduct assessments to inform instruction, determine grade promotion, and help schools benchmark progress toward all students being proficient in math and reading. The form of assessments differ between states from end-of-grade, end-of-course, or annual benchmark assessments. Further, college bound high school students take entrance exams before applying for postsecondary institution. Preparing students to perform their best on these high-stakes tests benefit them in various ways—increasing their knowledge and skills of standards to be tested, teaching them best strategies for studying and taking exams, and reducing anxiety that can affect performance outcomes.

Recent research on effective methods for test preparation is limited, and most of the literature focuses on college entrance exams.

High school students who are preparing for college entry exams, such as the ACT or the SAT, often participate in classes that prepare them for the exam, hire a personal tutor, use a book, utilize online programs, and/or take the test multiple times (National Association for College Admission Counseling [NACA], 2009; Mehta & Gordon, 2008). Data from the National Education Longitudinal Study indicate 27% of students do not prepare for the SAT at all; 54% use public preparation activities (class, online class, etc.); 2% use a private tutor exclusively; and 17% use a combination of the above with 46% of these using two or more strategies (Buchmann, Condron, & Roscigno, 2010). However, Scholes and Lain (1997) found the types of preparation studied had little impact on students' performance.

Online test preparation programs can also be beneficial. A recent study of online test preparation programs preparing students for the ACT, SAT, and GRE found that fewer than 30% of SAT and GRE students practicing for the test attempted many questions and tended to focus on verbal questions, specifically analogy and sentence completion. Further, only 20% attempted reading comprehension questions despite the fact they account for about half the exams. This may have been due to the way the online program presented the order of the questions with verbal questions first, for example. However, the researchers found that when online programs modified the presentation order of test question types, students were able to cover a variety of question types (Loken, Radlinski, Crespi, Millet, & Cushing, 2004).

Yet, research suggests the average test gains from these programs only yield about 30 point gains on the SAT. While small gains compared to the test preparation industry claims of 100 point gains, even modest rises in test scores can make a difference for certain students (NACA, 2009).

The literature does provide some examples of best practices for preparing for standardized tests

- **Teach the content domain.**
There is a tendency to teach to the test, but this limits learning, knowledge and skills. Provide students with lots of opportunities to learn the content and from multiple sources of information ways (Miyasaka, 2000; Turner, 2009; Kontovourki & Campis, 2010; Welsh, Eastwood, & D’Agostino, 2014; Perlman, 2005).
- **Use a variety of assessments/formats/question types.**
Providing students with multiple opportunities to practice what they learn and to experience various test methods allow them to deepen their understanding and recall information (Broekkamp & VanHout-Wolters, 2012, Turner, 2009).
- **Include test preparation into daily instruction.**
Practice with different types of questions. Include regular practice with higher order questions, problem-solving, have students generate their own questions. Have students think aloud so that corrections to incorrect perceptions may be made. Finally, teach test-taking strategies (Kontovourki & Campis, 2010; Turner, 2009; Broekkamp & VanHout-Wolters, 2007; Hong, Sas, & Sas, 2006; Pearlman, 2003).
- **Teach time management.**
Not only on taking the test, such allotting certain time for each section, but also preparing for the test, such as daily tasks, weekly reviews, and preparing for a test the week before the exam (Miyasaka, 2000).
- **Assist students with personal skills.**
Students need help with motivational skills—setting goals, making connections between the curriculum and the real world, finding interesting content (Kontovourki & Campis, 2010; Guleck, 2003 as cited in Turner 2009; Miyasaka, 2000). Additionally, testing can cause high anxiety. Teach students how to deal with stress (Miyasaka, 2000).

While all of these strategies are important and can be useful, strong reading skills that support comprehension is critical. Shanahan (2015) points out the importance of understanding the text on which the test questions are based, “Outcome variance is due not to the questions but to the passages” (p. 460). He proposes a focus on vocabulary building through teaching word meaning, (using context cues, understanding prefixes and suffixes) and making sense of sentences (dependent versus independent clauses, combining and reducing sentences), as well as building students’ sustained reading abilities. These are concrete skills on which to build test preparation.

Purpose

The purpose of this lesson is to provide students with practice in grammar skills that will improve reading comprehension and assist students as they tackle passages they will encounter on standardized tests. Vocabulary and word meaning is a foundational building block to help students understand what they read. However, just teaching vocabulary they may find in difficult texts is not sufficient. Typically, standardized tests contain reading passages on subject unknown to students; there is no way for teachers to prepare students for all of the vocabulary they *may* encounter on a test (Shanahan, 2015). Therefore,

teaching students how to decipher word meaning by understanding suffixes and prefixes is a step toward building vocabulary and stronger comprehension skills. The sample lesson will:

- Review the meanings of common prefixes and suffixes.
- Provide students with opportunities to build their vocabularies.
- Give students the chance to practice prefixes and suffixes' meanings.

Implementation Plan

This guide will provide suggestions teachers can use to help middle schools students build word knowledge and increase vocabulary skills through learning the meanings of prefixes and suffixes. These lessons can be used in English language arts classes but can also be incorporated across content areas, especially as students develop word fluency and make connections between word meanings and how they are integrated into other topic areas. Teachers are encouraged to work with teachers from other areas to share common words that are applied similarly. Further, teachers can help students identify prefixes and suffixes in their regular textbook reading.

Uses

Overuse of dictionary hunting, definition writing, or teacher explanation can turn students off learning new words and does not necessarily result in better comprehension or learning. Word learning is a complicated process. It requires giving students a variety of opportunities to connect new words to related words, analyze word structure, understand multiple meanings, and use words actively in authentic ways. The goal of vocabulary instruction should be to build students' independent word learning strategies that can empower them for lifelong learning. (Bromley, 2007, p. 536)

Teaching vocabulary often means finding unique words that are found in a given text to be studied so that students are prepared to understand what they are about to read. Teachers have students build word walls, vocabulary notebooks, and test weekly vocabulary words. But, according to Shanahan (2015), these techniques are inadequate for preparing students to tackle new concepts often encountered during standardized tests.

Audiences

This guide is a resource for educators to help students build vocabulary skills through understanding the meaning of common prefixes and suffixes, many of which are found across content area words.

Activities

The activities include:

- Building prefix and suffix meaning through play.

- Searching content area texts to identify common prefixes and suffixes specific to that content.
- Creating their own game to test others.

Follow the steps outlined under the Lesson Plan Activity section. Links to download resources and handouts to be used and/or shared during the activity can be found under the Resources section.

Materials/Equipment/Space

- Cards with common prefixes and suffixes with their meaning on other cards.
- Textbooks from other content areas.
- Materials for game development (index cards, dice, markers, and game building software such as <http://www.puzzle-maker.com> to create crosswords or word searches.

Note: For presentations, check for access to computer, Smartboard or data projector and screen, relevant power cords, and remote slide advancer.

Time

Establish a grammar time each day for students to review basic concepts that may improve their comprehension and writing skills. Allow 30 minutes to introduce the concept to students, follow up with the game maker activity, and then spiral back through short “bell-ringer” activities for review.

Lesson Plan of Activity

Review the resources listed in the Resource section.

The lesson plan includes:

- Building prefix and suffix meaning through play.
- Searching content area texts to identify common prefixes and suffixes specific to that content.
- Creating their own game to test others.

Sample Lesson – Understanding Prefixes and Suffixes

The sample activity below is based on the idea that students need to understand prefixes and suffixes to deconstruct word meaning and build vocabulary for improved comprehension, especially on standardized test passages.

A daily review of different concepts, such as prefix/suffix meaning, root word identification, and building meaning through context, can support students’ reading and

writing skills. Allow about 1 ½ hours for two activities; however total time depends on the lesson, concept to be reviewed, and students’ knowledge of the concept. Once the lesson is complete, spiral back to the concept briefly each week to ensure understanding.

Activity	Process Notes
Activity #1: 30-40 minutes	
<p>Introduce the concept of prefixes and suffixes https://www.youtube.com/watch?v=H2Z4p0au1yk</p>	<p><i>Let students know that the class will be discussing prefixes and suffixes added to root words to change the meaning.</i></p> <p><i>If the teacher has a good rapport with the students, the catchy video can be used. Middle school students still like to be silly if the teacher establishes an atmosphere of fun and helping kids laugh together.</i></p>
<p>Provide some sample sentences on the board in front of the class. Start with some easy words from the video, from a text, or choose a few from the list provided in the resources section.</p>	<p><i>Examples:</i></p> <ul style="list-style-type: none"> - Discover - Triangle - Submarine - Eventful - Beginning - Happiness
<p>Together with students, practice adding prefixes to root words. Do it again with suffixes</p>	<p><i>Look at the list in the resource pages to get some ideas.</i></p>
<p>Split the class into groups of 3-4. Have them play “concentration” with prefix/suffix cards and try to match them with their meaning</p> <p>Now that students have had some introduction and a chance to practice with the teacher, have them work on creating words on their own.</p>	<p><i>On one set of colored index cards, write prefixes and suffixes (one per card). On another set of cards, print their meaning. Have students mix up the cards and spread them out. They then take turns turning over two at a time to “match” the prefix/suffix with its meaning.</i></p>
Activity #2: 50 minutes	
<p>Have students create their own game for classmates to play. In pairs, have students create some sort of game using prefixes/suffixes. It can be a board game (using paper, colored pencils, spinner, etc.) or they can create word searches/cross word puzzles using the definitions as the clue for the prefix/suffix.</p>	<p><i>Provide them with materials to make the games and/or links to software they can use.</i></p>
<p>Students can switch with another pair to play their game.</p>	<p><i>Give a small prize for the team with the most entertaining game.</i></p>
<p>Extend learning by:</p> <p>Including root words. Throughout the year, break apart words that are unfamiliar to students. Focus on words that may appear in other subject areas and not words unique to a specific topic—those can just be reviewed.</p> <p>Having students bring in examples from other classes. For example, apply, construct, review, evaluate, etc.</p>	

Tier 2 Intervention and Support Examples

At the middle school level, intervention strategies for at-risk students include providing additional instruction in reading comprehension, strategy use, and vocabulary development to improve student outcomes.

Example 1: Learning Strategies Curriculum (LSC)

The LSC is a supplement to the regular curriculum wherein students in the targeted intervention receive an additional 50–60 min of the LSC instruction in addition to the regular language arts instruction each day over the course of the school year. Eight critical instructional procedures common across the strategies include: pretest and make commitments, describe, model, verbal practice, controlled practice and feedback, advanced practice and feedback, posttest and make commitments, and generalization.

Cantrell, S. C., Almasi, J. F., Carter, J. C., Rintamaa, M., & Madden, A. (2010). The impact of a strategy-based intervention on the comprehension and strategy use of struggling adolescent readers. *Journal of Educational Psychology*, 102(2), 257-280.

Example 2: Reading Comprehension with Vocabulary Development

When combined with effective Tier I literacy strategies, additional, regular, ongoing Tier II instruction consisting of a balance of word analysis (including beginning decoding or structural decoding), fluency development, and reading comprehension with vocabulary development can positively impact student outcomes.

Graves, A. W., Duesbery, L., Pyle, N. B., Brandon, R. R., & McIntosh, A. S. (2011). Two studies of tier II literacy development. *The Elementary School Journal*, 111(4), 641-661.

Resources

Read through these resources carefully to become familiar with any concepts and instructions as they pertain to the content and activity.

English language roots: Quick chart

<http://www.prefixsuffix.com/rootchart.php>

List of educational game software

<http://classroom-aid.com/play-and-learn/game-building/>

Shanahan, T. (2015). Let's get higher scores on these new assessments. *The Reading Teacher*, 68(6), 459-463.

The following optional resources provide additional information and concepts for sharing with others or expanding the activity. Read through these resources to become familiar with the information and to determine the level of usefulness within the school setting.

Mountain, L. (2015). Recurrent prefixes, roots, and suffixes. *Journal of Adolescent & Adult Literacy*, 58(7), 561-567.

ABSTRACT: Students in a content-area reading course examined the vocabulary of each of their disciplines, focusing on recurrent roots and affixes. They wanted to become teachers of math, science, English, music, and history; therefore, they needed to learn discipline-specific morphemes so they could help their future students figure out new words in their content areas. The students: analyzed words in their disciplinary vocabularies, using recurrent roots and affixes to aid in comprehension of word meaning; adapted traditional reading strategies for disciplinary use; discovered that many roots and affixes which were seemingly particular to one discipline also contributed to the meanings of words in other disciplines; designed content-area lessons using a morphemic approach. The class learned that teaching the meanings of morphemes could improve disciplinary literacy and could also help with vocabulary in other content areas. [ABSTRACT FROM AUTHOR]

Flanigan, K., Templeton, S., & Hayes, L. (2012). What's in a word? Using content vocabulary to generate growth in general academic vocabulary knowledge. *Journal of Adolescent & Adult Literacy*, 56(2), 132-140.

ABSTRACT: The article explores several strategies that can be implemented by upper elementary, middle, and high school teachers to help students develop their general vocabulary knowledge while also increasing their **comprehension** of content area words and concepts. Particular focus is given to methods in which teachers allow students to explore the etymology of words through an understanding of roots, **prefixes**, and **suffixes** that are common to the English

language. Other topics explored include morphological knowledge, direct instruction, and spelling-meaning connections.

Bromley, K. (2007). Nine things every teacher should know about words and vocabulary instruction. *Journal of Adolescent & Adult Literacy*, 50(7), 528-537.

ABSTRACT: The article presents suggestions for teaching vocabulary in a manner that engages U.S. middle-school students and engenders successful readers. The author explains that vocabulary is essential to **comprehension**, fluency, and achievement. She explains that: the English language is vast; the rules of the language are simple; language proficiency grows from oral to written **comprehension**; word associations are important; many frequently-used words have multiple meanings; most multisyllabic words can be analyzed by their parts; direct vocabulary instruction influences **comprehension** greatly; teaching fewer words well is more effective than teaching many words superficially; and effective teachers show excitement and interest in words and language. Handouts and classroom suggestions are included.

Note: All posters, images, and activity guides identified are copyright cleared for non-commercial use.

Measuring Success

Identifying outcomes and collecting data to measure the success of strategies implemented can help the school track quality of implementation as well as the effectiveness of these strategies. Following are some suggestions that schools may find useful to begin measuring success.

To assess student understanding of suffixes/prefixes, ask students:

- To break apart words, separating them by prefix/root/suffix.
- Practice identifying words with common roots specific to content areas (*bio-*, *optic-*, *-ology* in science class) and across content areas.



Appendices

A. Glossary

B. References

C. Research Alignment

Appendix A: Glossary

Spiral practice – is a strategy of revisiting material already taught to reinforce prior learning and to create a bridge to new more complex learning.

Bell-ringer activities (do now activities, warm-up activities) – are activities that can be used during classroom down time (e.g., as students are coming into the classroom, while teachers are taking attendance, during other classroom transitions) to allow students to begin engaging with content in order to be ready for learning. Activities should be meaningful and can be used to review prior content, practice skills, or prepare for new learning.

Appendix B: References

- Broekkamp, H., & Van Hout-Wolters, B. (2012). Students' adaptation of study strategies when preparing for classroom tests. *Educational Psychology Review, 19*, 401-428.
- Bromley, K. (2007). Nine things every teacher should know about words and vocabulary instruction. *Journal of Adolescent & Adult Literacy, 50*(7), 528-537.
- Buchmann, C., Condrón, D. J., & Roscigno, V. J. (2010). Shadow education: American style test preparation, the SAT and college enrollment. *Social Forces, 89*(2), 435-462.
- Cantrell, S. C., Almasi, J. F., Carter, J. C., Rintamaa, M., & Madden, A. (2010). The impact of a strategy-based intervention on the comprehension and strategy use of struggling adolescent readers. *Journal of Educational Psychology, 102*(2), 257-280.
- DeSocio, J., VanCura, M., Nelson, L. A., Hewitt, G., Kitzman, H., & Cole, R. (2007). Engaging truant adolescents: Results from a multifaceted Intervention pilot. *Preventing School Failure, 51*(3), 3-11.
- Graves, A. W., Duesbery, L., Pyle, N. B., Brandon, R. R., & McIntosh, A. S. (2011). Two studies of tier II literacy development. *The Elementary School Journal, 111*(4), 641-661.
- Gulek, C. (2003). Preparing for high-stakes testing. *Theory into Practice, 42*(1), 42-50.
- Hong, E., Sas, M., & Sas, J. C. (2006). Test-taking strategies of high and low mathematics achievers. *The Journal of Educational Research, 99*(3), 144-155.
- Kontovourki, S., & Campis, C. (2010). Meaningful practice: Test prep in a third-grade public school classroom. *The Reading Teacher, 64*(4), 236-245.
- Loken, E., Radlinski, F., Crespi, V. H., Millet, J., & Cushing, L. (2004). Online study behavior of 100,000 students preparing for the SAT, ACT, and GRE. *Journal of Educational Computing Research, 30*(3), 255-262.
- Marvual, J. N. (2012). If you build it, they will come: A successful truancy intervention program in a small high school. *Urban Education, 47*(1), 144-169.
- Mehta, S., & Gordon, L. (2008). Multiple choice for SAT takers. *Los Angeles Times*. [June 21, 2008]. Retrieved from <http://articles.latimes.com/2008/jun/21/local/me-sat21>
- Miyasaka, J. R. (2000). *A framework for evaluating the validity of test preparation practices*. Paper presented at the Annual Meeting of the American Educational Research Association. [New Orleans, LA, April 24-29, 2000]. ED454256.

- National Association for College Admission Counseling. (2009). *Preparation for College Admission Exams*. Arlington, VA: NACAC. Retrieved from <http://www.nacacnet.org/Pages/default.aspx>
- Perlman, C. L. (2003). Practice tests and study guides: Do they help? Are they ethical? What is ethical test preparation practice? In *Measuring Up: Assessment Issues for Teachers, Counselors, and Administrators*. ED480062.
- Scholes, R. J., & Lain, M. M. (1997). *The effects of test preparation activities on ACT assessment scores*. Paper presented at the National Meeting of the American Educational Research Association. [Chicago, IL, March 24-28, 1997].
- Shanahan, (2015). Let's get higher scores on these new assessments. *The Reading Teacher*, 68(6), 459-463.
- Turner, S. L. (2009). Ethical and appropriate high-stakes test preparation in middle school: Five methods that matter. *Middle School Journal*, 41(1), 36-45.
- Welsh, M. E., Eastwood, M., & D'Agostino, J. V. (2014). Conceptualizing teaching to the test under standards-based reform. *Applied Measurement in Education*, 27(2), 98-114.
- Whitehurst, G. J. (2004, April). *Making education evidence-based: Premises, principles, pragmatics, and politics*. Evanston, IL: Northwestern University Institute for Policy Research, Distinguished Public Policy Lecture Series. Retrieved from: <http://www.northwestern.edu/ipr/events/lectures/DPPL-Whitehurst.pdf>



Appendix C: Research Alignment

Citation	Brief Summary of Strategy	Sample Size	Impact/Evidence of Effectiveness	Implementation
<p>Brigman, G., & Campbell, C. (2003). Helping students improve academic achievement and school success behavior. <i>Professional School Counseling, 7</i>, 91-98.</p>	<p>This study evaluated a school counselor-led intervention in student academic achievement and school success behavior. A group counseling and classroom guidance model called student success skills (SSS) was the primary intervention.</p> <p>The focus of the SSS model was on three sets of skills: cognitive (memory strategies, goal setting, and progress monitoring), social (conflict resolution, problem solving and team work) and self-management skills (anger management, motivation, and career</p>	<p>30 students in grades six and eight from one middle school.</p>	<p>The combined results for all three levels elementary, middle, and high school showed approximately seven out of every ten treatment students improved behavior between pretest in September and post-test in April. The average amount of improvement was 22 percentile points.</p> <p>It was assumed that the school counselor-led intervention would be effective in improving behavior, related to cognitive, social and self-management skills. The assumed connection between these critical areas and improved</p>	<p>The group counseling intervention consisted of 8 weekly sessions of approximately 45 minutes each, followed by four booster sessions. The booster sessions were each spaced a month apart.</p>

Citation	Brief Summary of Strategy	Sample Size	Impact/Evidence of Effectiveness	Implementation
	<p>awareness).</p> <p>Students for the intervention were selected randomly from those scoring between the 25th and 50th percentile on the Norm Reference Test (NRT) Florida Comprehensive Assessment Test (FCAT) in reading.</p> <p>Comparison students were selected the same way but from non-treatment schools that were matched with treatment schools.</p>		<p>achievement scores was supported by:</p> <ul style="list-style-type: none"> - 82% of improved behavior students showed improvement in math. - 61% of improved behavior students showed improvement in reading. <p>An ANCOVA indicated a significant difference ($p = .003$) between treatment and comparison students in FCAT reading scores and a significant difference ($p = .000$) in FCAT math scores.</p>	
<p>Hong, E., Sas, M., & Sas, J. C. (2006). Test-taking strategies of high and low mathematics achievers. <i>The Journal of</i></p>	<p>This study examined test-preparation and test-taking strategies that high school students used in</p>	<p>61 students participated in interviews, and of those interviewed, 26 represented those who</p>	<p>Differences in High achievement/interest and Low achievement/interest students:</p>	<p>Data was collected in two phases. In the initial phase, the investigators administered the AAI: Math questionnaire to</p>



Citation	Brief Summary of Strategy	Sample Size	Impact/Evidence of Effectiveness	Implementation
<p><i>Educational Research</i>, 99(3), 144-155.</p>	<p>algebra tests. Students were identified as high achievers/high interest and low achievers/low interest in math.</p> <p>Achievement was defined by courses taken and their results on standardized test.</p> <p>Test preparation strategies used by students, by category</p> <ul style="list-style-type: none"> - Cognitive strategies: reviewing, outlining, solving, repeating, checking, memorizing, understanding, reasoning, note taking, externalizing. - Environmental and structural management strategies: managing work environment, 	<p>were high achieving as well as highly interested in mathematics (n = 15) vs. those who were low achieving and showed a low level of interest in mathematics (n = 11).</p>	<ul style="list-style-type: none"> - High used cognitive strategies in general more frequently than did the low (47 vs. 26 counts). - High achievers managed their study environment more often than did low (24 vs. 4 counts). - Frequencies in the motivational awareness category were low in both groups, and the differences between the two groups did not exceed two counts. - In general, high achievers were more aware of test preparation in cognitive areas than were low achievers (29 vs. 13 students). - Three students in the low group reported 	<p>students who volunteered for the study. Immediately after the first-phase data collection, the data was analyzed. One week after the first phase of data collection, interviews were conducted with individual students.</p>

Citation	Brief Summary of Strategy	Sample Size	Impact/Evidence of Effectiveness	Implementation
	<p>seeking assistance, conditional management.</p> <ul style="list-style-type: none"> - Motivational awareness: confident – no effort, no effort, need for effort. 		<p>getting nervous or feeling panicky about math tests, whereas 1 student from the high group reported this.</p> <ul style="list-style-type: none"> - There were no group differences in any of the constructs in motivational awareness. - Students in the high group were concerned about structural organization in solving test problems more than low group students. - High reported using more cognitive strategies overall than did low (19 vs. 10). - Low tended to be more passive regarding the use of their test-taking 	



Citation	Brief Summary of Strategy	Sample Size	Impact/Evidence of Effectiveness	Implementation
			strategies. - No difference was found for expenditure of effort between the two groups.	

Best/Promising Practices

Promising Practice	Source(s)	Comments/ Limitations
Lesson planning, test-taking strategies, test formats, and parent involvement	Klein, A. M., Zevenbergen, A. A., & Brown, N. (2006). Managing standardized testing in today's schools. <i>Journal of Educational Thought, 40</i> (2), 145-157.	Explores how teachers manage standardized testing in schools to help students. Teachers: <ul style="list-style-type: none"> - Try to create lesson plans that address the standards. - Do activities that mirror the test format. - Explain the layout of the exams. - Try to familiarize students with the test and questioning forms. - Send notices home advising parents of testing.
Lesson planning, differentiated instruction, time management skills	Miyasaka, J.R. (2000, April). <i>A framework for evaluating the validity of test preparation practices.</i>	In a meta-analytic study of test preparation practices, there were five types of test preparation practices that helped students more fully demonstrate their knowledge and skills on high-stakes tests: <ol style="list-style-type: none"> 1. Teaching the content domain



Promising Practice	Source(s)	Comments/ Limitations
	Paper presented at the annual meeting of the American Educational Research Association, New Orleans.	<ol style="list-style-type: none"> 2. Using a variety of assessment approaches and formats 3. Teaching time management skills 4. Foster student motivation 5. Reduce test anxiety