Making Students Test Wise

“Students who are test wise can outperform students of equal ability but lacking test-wiseness.”

—Scruggs & Mastropieri, 1992

American students take more tests than any other industrialized nation in the world. This includes teacher-made tests, intelligence tests, reading-readiness tests, standardized tests, state tests, exit exams, and so forth. It’s vital that students master the content of tests they take, but it’s also important that students are knowledgeable and experienced in various test formats and the characteristics of the testing environment.

Years of research have revealed the positive effects of teaching students to be “test wise.” Millman (1969) defined test-wiseness as “a subject’s capacity to utilize the characteristics and formats of the test and/or the test-taking situation to receive a high score.”

There is an enormous difference between teaching test-taking strategies and “teaching to the test.” The latter involves teaching specific items that will appear on the test. Teaching test-taking strategies helps students understand the format and conventions of a specific type of test and makes them feel comfortable in a testing environment. Learning test-taking strategies actually improves the validity of a test by making scores reflect more accurately what students know (Scruggs & Mastropieri, 1992). A test-wise student will answer a question incorrectly only if he or she does not know the content, not because the test format is confusing or intimidating.

The goals of the Massachusetts English Language Arts and Mathematics Curriculum Framework are to

- thoroughly review and practice the Massachusetts English Language Arts and Mathematics Curriculum Framework
- prepare students for the MCAS

All of the reading and math skills on the Massachusetts English Language Arts and Mathematics Curriculum Framework are addressed in the student books. Test-taking strategies are embedded in each lesson so students become knowledgeable and confident test-takers.
A Taxonomy of Test-Taking Strategies

“Test-wiseness exists and can be measured, appears to comprise specific skills, and can be taught effectively.”

—Jongsma & Warshauer, 1975; Ligon & Jones, 1981

Millman and his colleagues developed a taxonomy of test-taking strategies that will make students test wise. These strategies are independent of content and are useful on all types of tests.

1. **Time-using strategies.** Working quickly and efficiently, solving the problems and answering items you know, and saving more difficult items for last.

2. **Error avoidance strategies.** Paying careful attention to directions, careful marking of answers, and checking answers.

3. **Guessing strategies.** Making effective use of guessing when it is likely to benefit the test-taker.

4. **Deductive reasoning strategies.** Applying a variety of strategies, including eliminating options known to be incorrect, or using content information from the stem (question) or other test information.

5. **Intent considerations.** Understanding the purpose of the test.

6. **Cue using strategies.** Use of known idiosyncrasies of the test maker, such as avoidance of options using words such as “always,” “all,” or “never” (specific determiners), when it is known that such options are rarely correct. Using content clues to determine answers.

**Tips for Taking Tests**

- **Time-use strategies:** Work as quickly as you can, but don’t rush. Solve easy problems first, and save difficult ones for last. If you get stuck, skip over the problem and come back to it later. If you have enough time, go back and solve the problem again.

- **Error avoidance strategies:** Check your answers carefully. Look for mistakes in your work. If you are not sure of your answer, guess. If you are sure, double-check your work.

- **Guessing strategies:** Use process of elimination. Eliminate obviously incorrect answers. If you are not sure of an answer, guess. If you are sure, be confident in your answer.

- **Deductive reasoning strategies:** Use logical reasoning to eliminate incorrect answers. Use process of elimination to narrow down your options. If you are not sure of an answer, use process of elimination to eliminate incorrect options.

- **Intent considerations:** Understand the purpose of the test. If you are not sure of an answer, use process of elimination to eliminate incorrect options.

- **Cue using strategies:** Use known idiosyncrasies of the test maker. If you are not sure of an answer, use process of elimination to eliminate incorrect options. Use content clues to find the correct answer.

**Review, Practice, & Mastery of the Massachusetts English Language Arts and Mathematics Curriculum Framework**

All these strategies are important in order to improve test scores. Students learn to skip answers they’re unsure of and return to them if time permits. They’re taught how to read the questions before choosing their answer. They learn to scan the questions before reading the article, to use a separate answer sheet, to use content clues to find the correct answer, to analyze two or more reading selections to answer a synthesizing question, to return to the text to validate their answer, and many more strategies for taking reading tests.

Models, instruction, and practice are provided for constructing open-ended responses. Students learn how to use rubrics to evaluate their essays, just as test readers do. They practice responding to expository, persuasive, and narrative prompts.

The *Review, Practice, & Mastery of the Massachusetts English Language Arts and Mathematics Curriculum Framework* math workbooks teach students how to show their work, how to read charts and graphs to answer questions, how to do problem solving, and how to choose the best answer. Every lesson includes test-taking hints and strategies that will help students improve their test scores.

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Test-Wiseness Maximizes Performance

“Programs in training of test-wiseness produce, on average, significant improvements in students’ scores on achievement tests. Programs extending over a period of five weeks or more have a significantly greater impact.”

—Sampson, 1985

The vast amount of research on teaching test-taking strategies actually creates a template for instruction.

• Test “coaching” has been shown to raise a student’s score from the 50th to the 60th percentile, or by about 2.5 months on a grade-equivalent scale. (Bangert-Drowns et.al., 1983)

• There is a direct relationship between time spent teaching test-taking strategies and subsequent gains in achievement test scores. Berliner (1986) concluded that “for 2 hours of instruction, a student at the 50th percentile would end up at the 55th. With 3.2 hours training the gain would be about 8 percentile ranks; with five hours training—10 percentile ranks. Ten, 20, and 30 hours of instruction should yield, respectively, 14, 17, and 19 percentile gains.

<table>
<thead>
<tr>
<th>Hours of Training</th>
<th>Percentile Points</th>
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<tbody>
<tr>
<td>5</td>
<td>+10</td>
</tr>
<tr>
<td>10</td>
<td>+14</td>
</tr>
<tr>
<td>20</td>
<td>+17</td>
</tr>
<tr>
<td>30</td>
<td>+19</td>
</tr>
</tbody>
</table>

NOTE: Results begin to diminish after 30 hours of training.

• Low-income students and those not proficient in English may gain more from test preparation than their more academically proficient peers (Berliner, 1986). This includes students characterized as “special” or “remedial” or culturally diverse. (Dreisbach & Keogh, 1982; Kalechstein, Kaleschstein & Doctor, 1981; Scruggs & Mastropieri, 1987.)

• There is strong indication that poor readers benefit from learning test-taking strategies in a large group setting. This finding is important because “slow learners” often spend the majority of their school day in special education classes. In a study involving middle school students of varying abilities, lower-level readers improved in test-wiseness as did the average and above-average students.

• Research suggests that test-wiseness training might need annual repetition. Effects seem higher right after training and go down considerably two months later (Casanova, 1986).

Sample pages from Mathematics Grade 5
Teaching Test-Taking Strategies

“Generally, we have taught test-taking skills as classroom lessons, provided direct teaching of the skills…followed by guided and independent practice on a variety of practice tests with review, and evaluation and feedback of student progress.”

—Scruggs & Mastropieri, 1992

Ideally, students’ test-taking abilities should be assessed before instruction begins, and their improvement should be monitored as they progress. The Review, Practice, & Mastery of the Massachusetts English Language Arts and Mathematics Curriculum Framework program includes a pretest that covers all types of question formats on a specific test. Students chart their results to reveal the types of questions they answered incorrectly. This shows students where they need reinforcement and they can measure their progress throughout the book. Posttest scores are also charted to show exactly where growth has occurred.

The strategies students learn should be specific to the type of test they will take. To prepare for a test with multiple-choice items, students should have guided practice reading the items and choosing the correct answers. If a test includes open-ended or constructed response items, students should understand the characteristics of good written answers and how to produce them in a timed environment. Students are likely to be less anxious about test items that are familiar to them and performance will improve.

Conclusion

Based on research, here are some suggested classroom practices for preparing students to take a high-stakes test.

1. Spend 10 to 30 hours directly teaching test-taking strategies over a 5- to 10-week period immediately before a test. Instruction can be interspersed with other skill lessons as students review for a test. Instruction should be completed as close as possible to the testing date. Note: results begin to diminish after 30 hours of training.

2. Include students of all ability levels in the instruction of test-taking strategies. Students should practice on grade-level materials to match the difficulty level of the test they will take.

3. Review test-taking strategies every year.

The goal of test-preparation is to align test scores with abilities. It is not a replacement for teaching the skills and content assessed on a test. By incorporating test preparation with skill lessons, teachers can feel confident that students will be able to perform to the best of their abilities.

References


Perfection Learning®
CORPORATION

Phone: (800) 831-4190  Fax: (800) 543-2745  Web: perfectionlearning.com
The teachers at Edward White have chosen the Better Test Scores for TAKS program to help students prepare for the test every year since 2005. The Better Test Scores for TAKS Reading and Math student books have been used in grades 3, 4, and 5 in the regular classroom and with ESL students.

“The teachers appreciate the emphasis on practicing in the TAKS format and found it to be a valuable preparation tool for test success.”
–Heather Burden, Title I Coordinator

School Profile
Edward White Elementary School
Houston, TX
Enrollment: 761
Grades: Pre K–5

Demographics
Free or reduced lunch: 88%
English as a second language: 16%
Title I: 100%
At-Risk: 70%

Race/Ethnicity
- Hispanic: 71%
- Asian: 16%
- African American: 9%
- White: 4%

TAKS Scores from Better Test Scores Classrooms
Edward White Elementary School, 5th Grade

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<tr>
<th>School Year</th>
<th>TAKS Schoolwide – English – % 5th Graders Passing Reading</th>
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<tbody>
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<td>2004-2005</td>
<td>89%</td>
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<td>2005-2006</td>
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<td>2007-2008</td>
<td>96%</td>
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</table>

(began using Better Test Scores)
Test Success with Perfection Learning

CASE STUDY

School Profile
Prairieview Elementary School
Downers Grove, IL
Enrollment: 402
Grades: 3–5

Race/Ethnicity
- White: 74.6%
- Asian/Pacific Islander: 12.7%
- Hispanic: 6.7%
- African American: 2.5%
- Other: 3.5%

Demographics
- Low Income Students: 3.7%
- Limited English-Proficient Rate: 3.2%

ISAT Scores from Review, Practice, & Mastery Classrooms
Prairieview Elementary School

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<th>School Year</th>
<th>Grade 3 Reading</th>
<th>Grade 3 Math</th>
<th>Grade 5 Math</th>
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<td>2006-2007</td>
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(began using Review, Practice, & Mastery)

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CASE STUDY

District Profile

Valle Lindo District
South El Monte, CA
Total Enrollment: 1274
New Temple Elementary, Grades K–3
Dean L. Shively Middle School, Grades 4–8

Race/Ethnicity

- Hispanic: 92%
- Asian: 6%
- White: 1%
- Other: 1%

CST Scores Valle Lindo District

GRADE 3 ENGLISH LANGUAGE ARTS

% Advanced or Proficient

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<tr>
<td>2006</td>
<td>36%</td>
</tr>
<tr>
<td>2007</td>
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(began using Better Test Scores)

GRADE 4 AND 5 MATHEMATICS

% Advanced

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<tr>
<th>School Year</th>
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(began using Review, Practice, & Mastery)

GRADE 5 SCIENCE

% Advanced

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<tr>
<td>2006</td>
<td>1%</td>
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<tr>
<td>2007</td>
<td>6%</td>
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(began using Review, Practice, & Mastery)