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SCORING BEST ON ALL LIFE'S TESTS

BY USING YOUR "WHOLE BRAIN"

*If stress is sand in the machinery of thought
then relaxation is the oil.*

Advice from the world's-highest IQ holder: repetition and relaxation (R & R)

Scoring best on tests — from one who has scored best on tests: In line with Dr. Richerson's tip to repeat what has to be learned, (see side story), Marilyn vos Savant, who possesses the highest-recorded IQ, echoes this advice, that repetition is the best way to learn. Repetition even helps improve understanding, just like seeing a movie more than once, helps us pick up more details and remember what happened better.

Relax: Test anxiety impairs test performance

Ms. Savant points to test anxiety as the culprit in why many don't do well on tests. Ms. Savant, who is on the advisory board of the National Association for Gifted Children, on February 18, 2001 answered this question: "Do you think that being good at testing (the kind needed to suc-

Bob was amazed as he casually looked at the books the thirty-three-year-old neurosurgeon had in his study. These foot-thick books had titles such as Gray's Brain Anatomy. Bob could hardly lift the books much less understand their contents. When Dr. Richerson came in from his yard to visit with Bob in his study, Bob asked, How on earth did you ever learn all this material? Keith smiled and shook his head, saying, Repetition. I just kept going over the material, over and over again, until I had it. That is the key to my success. Dr. Richerson was right, of course, having passed his Boards and every requalifying test since. But it took him years to memorize all this material.

As a neurosurgeon intern, he did not even have a car until he was 32 years-old, devoting all his life to memorizing and practicing his craft. After his first year of practice as a brain surgeon, however, he made one-million dollars, and his income has climbed ever since. The lesson to be learned Repetition is the way to master material.

ceed in school) is an inborn talent?” Ms. Savant, who truly does best on tests, responded: “Assuming you mean tests of learning, I don’t believe such a talent as ‘being good at taking tests’ exists. However, plenty of people receive inappropriately low scores (that is, they have the knowledge but don’t show it) on tests because they’re ‘bad at testing.’ The most common reason is anxiety, which often impairs intellectual functioning.”

Memory problems? Tips on having a razor sharp memory

Memory problems? Stress may be short-circuiting your short-term memory. Do you forget an important name or phone number at the worst times (when you are under pressure to remember, during tests, during important meetings)? It could be as simple as being distracted by something else, so you don’t remember where you put your keys, because you had your mind on something else. Under stress, our attention will be drawn away from what’s important to what seems important at the time. It’s impossible to remember what you don’t pay attention to.

Again, if you can’t remember information long enough to maintain a conversation or write it down, chances are you are stressed out! Your short-term memory is designed to help you remember up to seven bits of information (as long as a telephone number without the area code) and to keep up a conversation with someone. Have you ever been so overwhelmed with information that you came into a room and you could not remember what you came there for? Unfortunately, one of the most important intellectual functions to short circuit under stress is short-term memory. If you can’t remember something for even a few seconds, how are you going to retrieve it later? Not to worry, once you’ve learned to relax that information may come to you. And there are strategies to help “cement in” those short-term memories into long-term, almost unforgettable, memories. These strategies will be presented later in this chapter.

Go in for your 50,000-mile brain check-up. Having senior moments

According to Dr. Gayatri-Devi, a specialist in memory, the hormones estrogen and testosterone play a very significant role in memory or loss of it. The hippocampus, the “memory” center of the brain, is greatly affected by decreases in these hormones (estrogen in menopausal women, testosterone decrease in men as they age). Successful hormone-replacement therapy, with memory skill training, has successfully helped people sharpen their memories. Contact your local family practitioner: At a university hospital memory clinic you can even ask for an MMSE, a ten-minute test. Many people become depressed or even fearful when their memory starts going. So see your doctor, chances are it is not Alzheimer’s disease. Before we forget, let us look at some tips on how to have a razor sharp memory.

EIGHT GENERAL TIPS FOR HAVING A RAZOR SHARP MEMORY (Left brain)

A normal memory problem is when you can't remember where you put your car. A serious memory problem is when you can't recall how to drive home. In either case, you should go see your doctor. (See Chapter 22 for the only herbal remedy that is clinically-proven to improve memory.)

Simple memory boosters include:

1. *"The palest ink is better than the best memory," so put it in writing.*

Write notes to yourself. If you have to, use hyper notes (those small, yellow sticky notes that allow you to cover an entire desk top or refrigerator with reminders). Leave messages to yourself on your answering machine. Like location, location, location, remember, "repetition, repetition, repetition."

2. *Play with your brain, that is, keep your brain in tune by playing games.*

3. *Bridge the gap.*

(One of the brightest people this author knows plays bridge expertly and technically qualifies for AARP membership.) *Games* magazine is great, which emphasizes word play. Maybe the *New York Times* crossword puzzle is not your style, but any crossword puzzle will do. You can even get crossword puzzles that deal with a hobby interest of yours. Even playing checkers exercises your brain better than playing your TV remote.

4. *Remember the old saying, "A place (and time) for everything and everything in its place."*

It may be boring, but learn to routinely put your keys (wallet, etc.) in one place. That will be one less thing you have to remember. It takes about three weeks to a month for your brain to reroute to a new routine. So remind and reward yourself for the first month in retraining your brain.

5. *Tell jokes (to tested audiences, like your best friends).*

This requires timing and remembering the punch line. If you can't remember punch lines, write them down.

6. *Communicate.*

If you are not computer phobic, join a chat room (There are even chat rooms devoted exclusively to standard poodle lovers). Get on the Internet, or if nothing else, write a letter to your friends, using snail mail.

7. *Take up a course that has nothing to do with what you have to do, but something you want to do (painting, coin collecting).*

You probably don't need the extra credit but it will give you something to look forward to. Even your classmates can keep you young.

8. *Exercise by taking a brisk thirty-minute walk, three times weekly. (Always get your doctor's permission first.)*

Mental decline over age is blamed to a degree on decreased circulation to key

parts of the brain. Exercise supplies these deprived key areas with freshly oxygenated blood (Duke University study, 2001).

Without the ability to remember, most other test-taking skills will not help much. Having covered memory basics, let us turn to testing realities for tens of millions of our children.

The “front-page” news item read, “Pretest jitters will try to be soothed by schools”

The article continued: At 7:30 A.M. on Thursday, students will enter the classroom as usual. At about 8:00 A.M., the test booklets will be taken from the locked, secure room down the hall to this unusually quiet classroom. The 10- to 11-year-old students will then begin the nearly two-hour-long test. These test results will help decide whether these children will pass the fifth grade. The teacher of this class, interviewed by the newspaper stated, “I’ll be a nervous wreck. I’ll be eating antacids like candy.” Fortunately this teacher instituted pregame practice sessions with volunteers drilling students with flashcards “prepping” them for EOG (End of Grade) testing.

For many, test is a four-letter word. The threat of a test may well be like our fear of getting pulled over for going 70 in a 50 mph zone. Tests can lead to stress or success. The choice is yours.

Tests are not life or death. There is “life after tests.” Because of a terrorist anthrax scare of November 2001, a very large batch of college aptitude tests never arrived in New York for scoring. According to a November 18, 2001, news report, the considerably large group of just-taken aptitude tests probably got lost in “a post office in Jersey due to anthrax quarantine of mail.” The highly-reputable company giving the test indicated that all these thousands of students would have to retake this college admission test; one of the most important tests universities review as part of their admissions packages. Many students studied for months and spent hundreds of dollars preparing for this test – just to have to do it all over again. So getting stressed out over a particular test is not only unwise and unpleasant, but may be just a waste of time, because things can happen to even the best of test companies. Save some energy for your “life after tests” with your family and friends.

This chapter looks at the why’s and how-to’s of test-taking, which involves left brain (head) and right brain (heart) skills. A concise test-prep checklist is provided at the end of the chapter (section 8) for those interested in “just the facts.”

Other important points we will look at include:

- Why take tests? It’s the law. Landmark legislation was passed by the U.S. Senate, June 2001, mandating annual reading and math tests.

- Why do well on tests? Test-taking skill mastery can make a test-score gain of 15% on standardized tests (from high average to gifted performance), or at least one whole grade.
- Why reduce test anxiety? It is even “front-page” news; it causes student boycotts, sabotage and reduces parent panic.
- The \$64,000 question: Why should my child take recommended test-prep courses?
- Just spell SAT — \$AT. Colleges will pay to have high SAT scorers attend because it improves the colleges’ ranking.
- 27 tips: Thirteen tips on how to become “fact-smart,” and possibly scoring “gifted” (p. 206), eight tips on “test-smartness,” six activities to become stress-intelligent.
- Gifted performances: Earning top scores is no accident — a lesson from gifted test-takers (95% +).
- A concise test-prep checklist (p. 215).

1. Why take tests? It’s the law.

On June 14, 2001, in an effort to improve public schools nationally, President George W. Bush pressed for and was successful in passing a legislative bill requiring all third through eighth grade students to take reading and math tests. Poor-performing schools would get additional aid, but if enough progress was not shown after two years, low-income students could transfer to another school if they so wished. After three years of poor performance at a school, these same low-performing students could use federal funds for transportation or actual tutoring.

2. Why do well on tests?

Tests are here to stay

One-hundred-million standardized tests are administered for elementary and middle school children yearly, according to Dr. Peter Cookson, Director of the Center for Educational Outreach and Innovation. Doing well on tests is an area of increasing concern both for students and educators. Since tests (which are better than guessing what a person might know) are obviously here to stay, we might as well learn how to master them. Other important reasons to do well on tests follow.

Enjoying a successful 12-year career

Tests are “success benchmarks” during everyone’s 12-year academic career. Used correctly, tests actually serve as “success stepping-stones” rather than as stumbling blocks. Enjoying “test success” both satisfies basic self-concept/achievement needs and motivates a student to strive for personal excellence.

Triumphing over fear of failure

Fear of academic failure was the leading “most difficult problem” American teenagers faced, according to a 1994 Gallup Poll. Equipping students with proven “test-taking tools” results in real success experiences to triumph over imaginary fears. The confidence built from doing well on tests can then be carried into life’s arena with its many other challenges.

“Proving your knowledge” is power to succeed

The ladder of success is built with small but measurable steps. A famous scientist once said nothing is really that hard, there are just a lot of little parts. Tests can help measure readiness for the next step toward goals. Also, knowing someone has “proven her knowledge” through testing raises the level of trust in her. The days of self-proclaimed experts are gone. Who would trust a “self-proclaimed” surgeon?

3. Why reduce test anxiety? It is even “front-page” news; it causes student boycotts, sabotage, and parent panic.

Test Stress triggers boycott threat

As Delia was driving into school the morning before the big three-day-block of End of Grade (EOG) testing, to her amazement the radio blared, Parents threaten to boycott EOG testing. Delia, in disbelief, was hoping it was not her school where the boycott was threatened. Never in the 110 year history of this school district had the elementary and middle school parents even talked about any kind of boycott, much less refused to let their children take a battery of tests. However, the stakes of these tests were higher than ever to the fifth graders. The results of these tests were used to help decide whether they passed their grade level and whether they had to go to summer school. The EOG results for each school were made a matter of public record by the local newspaper, which further increased the pressure on school personnel and students. To add to the stress, test scores determined school evaluations and even teacher salary bonuses.

Delia had conducted all the legitimate test-taking preparations, had held a booster session for her classroom, and had told them that the test would

be the reward for their hard work. However, she was working against the tide of panic about these tests in the community. As a teacher she had taken and mastered numerous tests to be credentialed, and she knew many of her students would be successful. But in 2002, testing pressure started earlier and the consequences were greater. Delia had heard from counselors that children were becoming test anxious three weeks before the actual event. The counselors had told the children that you can't be scared and smart at the same time. Last year several students were even physically sick on test day, but still insisted on taking the tests.

Delia knew that the test pressure cooker of the classroom was merely a laboratory for what her students would be facing in the work world. Getting a grip on performance anxiety now would prepare them for success later in their jobs. Proving competency through performance was just a reality of the 21st century world-community. Fortune 500 corporations had begun applying a policy of automatically firing the bottom ten percent of performers in the company. Even though she knew that these children had to be toughened up, it still broke Delia's heart to see tears well-up in the eyes of her favorite, but perfectionistic, student. Delia's job was to create a great sense of desire in the students to do well, rather than to fear failure. She did her best to instill feelings of hope rather than despair.

Student sabotage

On the day of testing, two students, standing outside the classroom where End-of-Grade testing was to take place shortly, were planning to “do everything they could to put irregularities on the End of Grade tests they were just about to take.” Test anxiety had made them desperate to the point that rather than trying to do their best, they would engage in the self-defeating activity of losing by default. They would go through the motions of taking the test, and that was it. Again, they were reacting to the testing situation with despair rather than hope. Studies show that when people don't feel they have a chance to succeed, they sabotage their own efforts.

Parents catch test-anxiety panic; they give children offers they can't refuse and wait outside the classroom during testing

Delia was performing her car-rider student pickup duty at the school entrance when she couldn't believe her ears. The well-meaning parent shouted kindly to her daughter as she dropped her off at school on test day, Remember, dear, if you pass both these tests I will give you \$100.00. To a fourth grader, \$100.00 might as well have been a million. The child's face grimaced in determination as she entered the testing room. Delia had recommended as a reward for trying hard a trip to a popular hamburger place,

which had as its motto, Over twelve-billion hamburgers sold, feeding the entire world twice. This well-meaning parent didn't realize that the child would now expect ever-increasing rewards, since the bar had been set so high. The child will probably expect a car if she does well on the SAT in high school. Fortunately the child did well, and would have done just as well with going to McBurgers as a reward.

Delia was in the classroom on Thursday, the last day of EOG testing. A large sign on her classroom door prominently displayed, read, Testing, Please do not disturb. Delia heard a knock at the door as she was collecting the completed EOG test materials. As she opened the door, she saw the flushed face of one of her student's parents. Forcing a smile on his face he asked desperately, Did he pass? Delia assured the test-anxious parent that Richard had done his best. She assured him that as soon as she received the results she would share them with Dad, when she shared them with the other children's parents. The father pleaded, Isn't there any way you can estimate how Richard did? Trying to calm this very conscientious parent, Delia said, Richard worked hard, so he will do well! But how did you get to my room without getting a visitor pass at the front desk? He said, I told them at the office I wanted to see how Richard did, and I just took off toward your room. Sorry, but I have been so worried about my son's test results I didn't sleep a wink. This was a first for Delia, having a parent expecting test results immediately on conclusion of the day's testing. This was a panicked parent. And his child was only nine-years-old.

A 100-point SAT score increase: the bottom line for reducing test anxiety

According to a Columbia University study conducted by Dr. C. H. Faigel, a 100-point gain in taking the SAT (Scholastic Achievement Test) was realized by students whose test anxiety level was clinically reduced. Numerous other studies demonstrate score gains as test anxiety is reduced. As stated above, Ms. Savant lists anxiety as the leading cause of doing poorly on tests even when you have the knowledge.

As mentioned in the previous chapter, a great resource for keeping a calm and cool classroom climate is *Inspiring Tranquility: Stress Management and Learning Styles in the Inclusive Classroom*, by Rebecca Nunn and Janet Gallaher. The National Education Association, (NEA), the major clearinghouse for educational materials, endorses this book which can be ordered at <www.nea.org/books> or 1-800-229-4200.

4. The \$64,000 question: Why should my child take recommended test-prep course?

The answer to this question is simple: The students winning the \$64,000 scholarships take test-prep courses. Even if your child is very “fact-smart,” if he is not “test-smart” and “stress-smart,” he is at a disadvantage. So get professional help to even the playing field. No competent coach would ignore loosening, strengthening and stretching exercises before the “big game.” It is important to stretch (but not snap) a student’s skill areas weeks before a test.

Kaplan, the company famous for preparing children for the SAT, is now looking at North Carolina’s fourth and fifth graders, who could possibly be held back a grade if they score too low on the state’s End of Grade tests. In North Carolina, EOG tests are partially used for entrance into gifted programs and grade promotion. Like an experienced athlete going out for the “varsity,” our intellectual athletes need warming and stretching mentally to give their best on tests. Gifted programs are designed to stretch and strengthen a child’s success and satisfaction in school, which prepares him or her for formal testing.

Kaplan, in cooperation with Simon and Schuster, has just published a 52-page *Parent’s Guide to N.C. Tests: 4th and 5th Grades*. This guide provides test-taking tips designed for End-of-Grade exams for fourth and fifth grades. This guidebook is being prepared for other states — Texas, Florida and New York. One of the guidebook’s tips is to start reading children’s magazines with your child. The guide suggests that students guess on questions they’re unsure of.

Another route to consider is one-on-one attention from private tutors available at businesses like Sylvan Learning Centers. As of 2001, Kaplan’s North Carolina guide offers only test-taking tips; it doesn’t provide sample tests on which students can practice at the elementary grades. However, as of February 2002, Kaplan provides actual practice tests for the GRE, LSAT, MCAT and GMAT at various locations. You may call 1-800-KAPTEST or go to the website, <www.kaptest.com/testdrive>. Most importantly, Kaplan, within a week of the practice tests, provides each student with a profile of his or her strengths and weaknesses to help them prepare for the actual tests.

Officials at *Princeton Review*, by contrast, will create End-of-Grade practice tests for 3rd through 8th grade, using the same language the North Carolina tests use. The *Princeton Review* materials precisely focus on those skills covered on the test, according to Stephen Kutno, vice-president of educational policy. The website is <Princetonhomeroom.com>. Your state department of public instruction provides a list of the skills and goals for which the exams test.

An excellent resource for parents is the 13-page booklet, *Studying for and*

Taking Tests, available from The Parent Institute, P.O. Box 7474, Fairfax Station, VA 22039-7474 (phone 1-800-756-5525). This booklet provides clear, practical tips on the why's and how-to's of doing well on tests for children. It talks about how to get rid of test stress, how to make memorizing easier, and how to study smart, not just hard. It gives pointers on what a child should do when they get to the actual test. Their website is <<http://www.parent-institute.com>>. A minimum order is for 25 at only 99 cents each, so it would be worthwhile for a PTA or test-prep group to order a quantity.

A 100-point SAT gain realized from SAT prep course

Matt Oeschli of Greensboro, North Carolina, is a national consultant who offers proven SAT preparation. In his book, *Mind Power for Students* by St. Martin's Paperbacks, he provides methods that can raise SAT scores by 100 points. The Matt Oeschli Institute can be contacted at (336) 273-6582.

An excellent online resource for specific SAT preparation is located at the website <www.collegeboard.com>. Once at this home page, click on The College Board — 100 years of connecting students. Then click on Prepare for SAT. Free preparation materials are provided in terms of an online SAT sampler, a diagnostic Mini-SAT and SAT preview software. Specific packets are provided to help you prepare in your area(s) of weakness on the SAT for a nominal fee (\$10/packet at this writing).

Go to the source: The SAT writers

An associate director of public affairs for the College Board (which directs the SAT) said familiarization with the SAT is critical. She also said that there are two main phases in readying for the SAT, long term and short term. Under long-term SAT preparation, she indicated it is important to build one's vocabulary, read widely, take as many college preparation courses (including math) as possible. The student should find what the colleges are looking for in terms of admission.

The short-term preparation, which could start as early as three months before the actual SAT, should include familiarization with the SAT by studying such books as "Ten Real SATs." This 2000 edition book includes a CD-ROM. See "For Further Reading" at the end of this chapter for ordering information. Short-term preparation is not a substitute for long-term preparation. The key to doing well on the SAT, from those who bring you the SAT, is familiarization with the tests through long-term studying over years and short-term advanced practice.

5. Just spell SAT – \$AT. Colleges will pay to have high SAT scorers attend because it improves the colleges' ranking.

The Princeton Review provides a detailed listing of the average SAT scores

for the country's best universities. Your child may want to do well on the SAT for bragging rights, but it does not hurt to spell SAT as \$AT, after they have received their SAT scores. Your child may win thousands of dollars in scholarships by doing well because high SAT students improve a university's standing. Don't tell your child ahead of time about the \$AT angle; it may create additional, unneeded pressure, which will actually decrease your child's score.

Aim high

In February of 2002, nationally only 587 students received a perfect 1600 on their SAT's. The average SAT score for Harvard is 1495 and MIT is 1454. An SAT Score of 1394 (693 verbal/710 math) may win a scholarship to Columbia University, the most expensive university in the nation, at \$29,057 per year just for tuition, ("College Rankings by Annual Tuition," *Providence Journal Research*, 2000). Columbia has been ranked the number one university in the country at least twice in the last decade ("America's Best Graduate Schools — Exclusive Rankings," *U.S. News & World Report*, March 18, 1996).

What is a parent to do? Relax!

Sixteen-year-old Andrew Shoffner obtained a perfect SAT score of 1600. He is also an avid musician. He said he takes classes that interest him and he is not particularly competitive academically. He joked about his perfect SAT performance by saying, "I must have had a good day." Ms. Ann Barr, a leading authority on gifted education, suggests pursuing the possibility of taking some early college courses while the young man still is attending high school.

6. How to do your best on tests: 27 tips.

Why does gold medallist test performance take triathlon training?

Gold medallist test performance (or a gifted performance) demands triathlon-like training. Imagine if you will, that an athlete competes for the gold in a triathlon, consisting of swimming, tennis and soccer. Being naive, he says to himself, I am strong in soccer, but really need to work on my tennis game. Swimming, so what! I was part of the tennis and swim club as a child, so I know swimming that mile will just come back to me even though it's been a decade. Unsurprisingly, on the last leg of the triathlon competition, his overall score sank faster than he did, in the final, and most important leg of the triathlon, swimming. No matter how smart you might be, gifted performance on tests requires a triathlon of training for three types of smartness.

You must be "fact-smart," "test-smart" and "stress-smart." In fact, if you are really "test-smart" and "stress-smart," you can do well on tests you know noth-

ing about. Don't try this at home, or do only under professional supervision, for fun. Details on triathlon training for testing follow.

Peak test performance requires today's students to be "smart" in three ways. "Fact-smartness" is mastering what you need to know, which is a left brain skill. "Test-smartness" is knowing how to use facts on tests. "Test-smartness" involves both left brain and right brain thinking skills. "Stress-smartness" is learning how to think calmly under test pressures, which calls into play the right brain's emotional/positive visualization skills.

Twenty-first century testing also measures the child's "whole-brain thinking" skills. "Whole-brain thinking" goes beyond traditional left brain (verbal, factual, logical) thinking, tapping also into the right brain (creative problem-solving abilities, visual, emotional) thinking. To train their whole brains, we look at left brain skills ("fact-smartness" — which in school receives the most emphasis), combined left/right brain skills ("test-smartness" plus creatively solving abstract questions to provide the correct answers), and right brain skills ("stress-smartness" — keeping your whole brain working smoothly by relaxing.)

THIRTEEN TIPS FOR HELPING STUDENTS AND ADULTS TO BECOME "FACT-SMART"

(Mastering what needs to be known, a left brain skill.)

1. *Get the "big picture."* Encourage students to read summaries, questions, headings and look at any graphs, drawings or pictures before reading the assignment. Have students call the "Homework Hotline" from home.

2. *"Seeing is believing" for most students.* "Teach smart" by using graphic organizers such as Venn diagrams, flowcharts and mapping. Since elementary grade children are mostly visual learners, the best way to get the "visual basics" of any subject is to go the library and ask where the elementary grade section is. Then, look for the topic you want. If they don't have it in the elementary grade section, go to the secondary grade section and ask for the "visually-illustrated version" on the topic. The following table provides a mini-lesson plan on whole-brain teaching, entitled, "The Anti-Boredom 'Whole-Brain' Balanced Approach to Curriculum."

ANTI-BOREDOM WHOLE-BRAIN BALANCED APPROACH TO CURRICULUM 2003

' *Dr. Ron Rubenzer, Thinking Dynamics (1-336-282-4539)*

Content	left brain	Integrated	right brain
Arithmetic	Calculation drills.	Graph presentation of calculation results (pie graphs with different colors).*	Determine number of different shapes that can be made from limited number of cubes. Relax **
Science	Prepare experimental report write-ups.	Develop hunches--hypotheses. Generate methods of investigating hunches. Conduct actual experiment. (Relax students!)*	Build a model demonstrating procedures and dramatize results of experiment (science fair). Relax.
Language Arts	Write topical paper.	Conduct newspaper interview" with tape recorder and write human interest story with accompanying photographs.	Communicate pictorial messages in secret code relating important event(s). Relax.
Social Studies	Produce term paper on social structure of society X.	Create a weekly diary relating humorous, trying experiences living in the society. (Relax students!)	Develop artifacts of the society 50 years in the future. Relax.

2007

Dr. Ron Rubenzer

Originally from CEC best-seller, *Educating the Other Half Implications of Left-right brain Research*. Winter 1983, Vol. 15, No. 2. 44 pages Stock 264. The Council for Exceptional Children Sales, 1920 Association Dr., Reston, Va. 22091-1539, \$4.00. *Call BrainLink at 1-800-969-4996 for math, science, language arts units. **See HeartMath Products for Best of Relaxation Techniques and Materials. ' Rubenzer & Rubenzer, 2003

3. *Make meaningful memories by connecting to students' current interests (e.g., teach how percentages work for predicting rain/snow days).* Let them know why they are learning something. (Learning to take tests will help them pass their driver's license test.)

4. *Teach memory mechanics.* The basic rule is repetition, repetition. Teach students that understanding a fact is not the same as mastering a fact. (e.g., one can understand how to shoot baskets without being able to do it). If you want to remember someone's name, repeat it to yourself several times and then write it down.

5. *Play tricks on your mind with games.* Make liberal use of word games, crossword puzzles. If you have the time, take courses having nothing to do with your main course work or job.

6. *Require students to develop their own flashcards and stack the deck with only the memorized facts.* Have them submit flashcards as an assignment immediately before the test.

7. *Encourage note-taking while students are reading or listening, especially if the test requires written responses.* Teach them "The palest ink is better than the best memory." Use "post-its." Develop as many helpful routines as possible, and even leave yourself notes or voice-mail. Regarding routines, always put your car keys in the same place.

8. *Divide and conquer information overload by encouraging students to study several short sessions over several days/weeks rather than cramming the night before.* Suggest a study calendar and weekly "progress check points" for students. Provide positive feedback on study progress.

9. *If appropriate, provide a test-specific diagnostic survey to pinpoint strengths and weaknesses.* This will help the student spend the most time on the weakest areas while building on strengths.

10. *As a reward, have students play "not-so-trivial pursuit" by making up their own questions about material and quizzing a rival team.*

11. *Celebrate "sticking to their test-prep schedule" by giving periodic rewards matched to the size of the efforts.*

12. *Make these tips part of each student's study habits by introducing them at the beginning of the year/course.*

13. *Scoring gifted — "varsity" tryouts for scholars.*

Just like their athletically-gifted peers (otherwise known as the "varsity") are afforded all types of special classes, equipment, privileges, trips, awards and fellowships, the intellectually gifted can earn prizes by proving intellectual "varsity" level skills. But the gifted athlete was not just born that way. It took him or her thousands of hours devoted to develop the exact skills to be selected as the best. Likewise, there is no magic to being selected for the intellectual "varsity,"

if a child is so inclined. Sometimes, if a child shows a strong interest in reading or using words at a preschool level, he or she may have specialized talents. Your encouragement and providing opportunities may just be her ticket into joining the “varsity” for scholars (And isn’t that what school is also about?). Be careful however not to “burnout” your child with too much stimulation. An excellent book warning of the dangers of lopsided development is entitled, *Beneath the Wheel*, by Sidhartha. Only if your child hungers to climb the “intellectual mountain, just because it’s there”, should they be provided more work.

According to a major research study, strong verbal reasoning is the most important skill area for gifted students as measured by individual intelligence tests according to Kaufman (1990). Karnes and Brown also found that according to a study of 946 gifted students, the vocabulary area was the highest area of performance on an IQ test. Interestingly, these gifted students were weakest in a handwriting-symbol memorization related test (coding subtest). The message is if you want your child to show “what he/she knows,” play word games (scrabble, etc.) just as you would play basketball in the backyard with a child showing great athletic promise. Parents of a gifted child are blessed with the burden of feeding a hungry mind. Some useful vocabulary builders would be: *Study Skills: Strategies and Practice* (Curriculum Associates), *The Dictionary Skill Box* (Troll), *Intermediate Dictionary* (Houghton Mifflin), and *Using Dictionary Skills* (Instructional Fair). You may say, it’s only words, but our constitution and laws, are “only words.” The Library of Congress is only words. See your educational psychologist or counselor for sources of ideas and materials to build and stretch your child’s mental muscle. See *WISC-Compilation*, by Whitworth, under “For Further Reading” for professional-use materials.

EIGHT TIPS ON IMPROVING “TEST-SMARTNESS”

Facts are necessary but not enough for top performance. Approved practice on such tests as the SAT can improve performance by 500 points. This 500-point improvement was realized by a young man who took the SAT over nine times since the age of twelve, finally achieving a nearly perfect SAT score of 1530.

Developing “test-specific” skills improves test performance by drawing attention to small but important details. Multiple-choice tests all vary greatly on how learned facts and skills are to be used. If you are unsure about the design of tests to be given this year, see your test coordinator. Some general guidelines are:

1. *Answer the question.* Answer the core question, without being tripped up by “word traps” (irrelevant details) or generalizations (always, never, everywhere).

2. *Teach students to “pace not race” through test items.* Encourage students to answer those questions they feel they know, marking those difficult questions to return to later.

3. *Emphasize that multiple-choice tests are not multiple-guess tests.* Teach students to choose, not to guess on multiple choices. This requires mastering problem-solving skills. When offered multiple choices, anticipate the most correct answer before reading available choices. Then look for the best answer among those provided. If all the choices appear to be correct, select the most correct answer by eliminating wrong answers. Develop reasons why the other answers are wrong. Again, students should mark and return to these most difficult questions after answering the more obvious questions. Teachers might effectively demonstrate or model this technique using examples.

An excellent resource is the book dedicated to all aspects of test-taking entitled, *Teaching Test Taking Skills: Helping Students Show What They Know*, by Scruggs and Mastropieri.

4. *Be clerically correct.* Develop the habit of having students build in enough time to check for wrong answers simply due to marking the wrong answers or misreading the questions the first time through.

5. *Provide “test rehearsals” if appropriate.* All great performances start with rehearsal. Practice any and only those approved practice tests weeks before the actual test takes place. See your test coordinator for approved pre-test activities. As stated above Kaplan, Inc. now provides actual practice test sessions for the GRE and LSAT.

6. *Study groups.* There is some evidence that hard-working study groups actually work in helping high school students improve test scores. At the high-school level, conscientious study-group students will study harder to contribute to the group, and will be exposed to more questioning than they might have thought of on their own. Advanced Placement students have found study groups to be most helpful. Be sure, however, to avoid having students develop “test-banks” by not allowing previous examinees to provide questions they had memorized from actual exams.

7. *Money back guarantee that test scores will improve.*

Frank E. Ferguson, president of Curriculum Associates, assures that test scores will improve using the well-researched materials offered by Curriculum Associates®.

The Curriculum Associates Company® offers materials developed by teachers for teachers in the Test Ready series. Curriculum Associates offers diagnostic tests, to highlight strengths and weaknesses to help each child prepare for upcoming tests. This excellent test-prep series covers grades K-12, in critical subjects such as Reading, Vocabulary, Mathematics (including take-home tests)

Spanish, Algebra, Science and Social Studies. It is claimed that test scores can significantly improve with only fourteen days preparation. Testimonials from top administrative personnel and classroom teachers revealed up to seventeenth-percentile point gains on EOG testing using these materials. This before/after percentile score increase is in range of what top researchers predict. Call 1-800-225-0248 or order online at <www.curriculumassociates.com>.

Only a few days are needed between your ordering the materials and your receipt of materials. Also, upon request, an entire series of research and testimonials are provided supporting the test-score gains predicted by Curriculum Associates. Teacher preparation materials and actual student workbooks are, of course, provided. Finally, the use of these materials by Curriculum Associates is endorsed by school systems.

A resource, specifically designed to meet North Carolina's testing needs, is *Preparing for the North Carolina Competency Test in Reading*, by Stephen Feinstein and Rubi Borgia Pinger. These materials, published by Amsco School Publications, Inc. (1999), provide an actual sample state-competency test. Amsco School Publications, Inc. can be located at 315 Hudson Street, NY, NY 10013. Contact Amsco to find out if competency-testing guides are provided for your state.

8. *Get high school students used to taking tests on computers because computers will be testing them.*

Bob had studied for months for his nine-hour licensure exam to practice financial management. Being old-fashioned, he expected to have a paper/pencil exam. To his surprise, he was in the first wave of examinees to take the completely computer administered timed and scored tests. The proctor coolly sat him in front of the testing PC after Bob had given his testing entrance pass to the person outside the door. The only directions the human proctor gave were: This exam is broken up into 250 questions for the morning session and 350 questions after your lunch break. If you should need a break while the testing program is running, raise your hand and the proctor will stop your computer program and will start-up your computer program when you return. There is an automatic countdown clock in the lower right-hand corner of your monitor.

Any questions? The room was quiet except for the synchronized beeping of each computer's start-up programs being initiated. Bob swallowed hard. He knew the material but this computer administration was a wrinkle in his plan. He thought to himself, welcome to testing in the 21st century. No wonder our high school students have to pass computer literacy courses to graduate.

SIX TIPS TO BUILDING “STRESS-SMARTNESS”

(An emotional, right brain skill)

Relaxation is oil in the machinery of thought

Just like your car engine, your brain will soon “freeze-up” or “burnout” without the oil of relaxation. Strong emotions affect clear thinking. Calm, clear thinking is the key to “best test performance.” Over a half-century of test-anxiety research reveals that excessive stress impairs test performance. Relaxation is a “must” for test-score improvement according to a test-preparation corporation that guarantees results (up to seventeen-percentile point increase). This is the difference between high average performance and gifted performance.

Herbert Benson, M.D., Harvard researcher who coined the term, “relaxation response,” states that students inducing the “relaxation response” immediately before exams do better. He also found that professionals who relax immediately before brainstorming generate more solutions to problems than those who do not relax. As said before, scared students can’t be smart students.

Preparation for the “big day”

Also, allow children to wear their favorite school outfit to the test. Have them eat fruit right before the test (Sugar is food for thought). Have them drink a bit of water to speed up the breakdown of the fruit to fructose, which is food for thought. Honey is an excellent source of fructose. Have your child eat toast with honey before they leave for the test site. Caffeine is at best a double-edged sword. Only if you are already a “caffeinist” (Caffeine is the most popular drug in the U.S.) will caffeine help your mental performance. While it can sharpen your thinking (no more than two cups of coffee), you pay for it with caffeine jitters. If you don’t use caffeine, don’t start. Avoid having children drink sugary drinks or eat candy bars right before testing because of the unsteady flow of sugar provided by these foods.

The following suggestions may be useful to reduce excessive stress:

WEEKS BEFORE THE TEST

1. *Conduct a “reality checklist” of what the student can expect in the testing situation.* This will reduce stressful “surprise or shock reactions.” (Always follow pre-test restrictions on what can be shared with students prior to testing.)

2. *Prior to the testing situation, provide a “relaxed exposure” to these “test reality conditions” as much as possible.* That is, see your test coordinator on legitimate practice materials, and have students relax just before and during the “test warm-up” sessions.

3. *Accentuate the positive: Expect your best but respect the test.* Think of the test as a reward to show off your hard work and knowledge. It is important for the student to have a positive attitude but this attitude must be combined with positive action, (i.e., thorough study beforehand).

4. *Positive peer pressure: Use the power of peer pressure to develop a “pre-game” winning spirit toward an upcoming test.* Students could create posters on the rewards for doing well on tests. Have students bring in appropriate cartoons about test-taking.

5. *Good modeling by all adults: Students will catch adults’ anxiety about tests and this “secondary stress” can hamper their peak performance.* Even the tone of voice used in reading pre-test and test instructions will raise or lower test anxiety. Modeling “grace under pressure” in front of students will show it is possible to stay calm and succeed under stressful conditions.

6. *Relaxation training: See your mental-health professional on relaxation-training tips or methods to identify children at risk for excessive test anxiety.* It typically takes several weeks to learn how to relax under testing conditions.

The best way to learn relaxation is through biofeedback. Biofeedback works like training wheels to help you keep your balance when you are first starting. Biofeedback gives you live, scientific feedback on whether you are “centered” in terms of relaxation. HeartMath, in Boulder Creek, California, provides the best personnel, training and tools to teach and learn biofeedback. Other forms of relaxation training, such as progressive relaxation, breathing relaxation, autogenic training, systematic desensitization, visualization and other techniques are available from appropriately trained mental-health personnel. It usually takes several weeks for your muscle memory to learn to relax, so if a test is given in October, start teaching relaxation in September. Think of relaxation training as learning an athletic skill. Just because you understand the concept doesn’t mean you have mastered the skill.

7. Gifted performances: earning top scores is no accident — a lesson from gifted test-takers.

The top 95% scorers on the SAT work on staff to coach student on test-taking

The *Princeton Review* indicated that the average SAT I score gain was 140 points compared to prior best SAT score or prior PSAT/SAT. It is guaranteed in writing that the student will gain at least 110 points from his previous SAT score or the first diagnostic test if the student has not yet taken the SAT test. The *Princeton Review* offers *Inside the SAT*, which has won awards as a CD Rom program that is also interactive. It is highly recommended that any parent who wants his or her child to do best on tests contact the Princeton Review Program at <www.PrincetonReview.com>, <chaphill@review.com> or 1-800-2Review/(919) 967-7209, America Online: Keyword “Princeton.” Testimonials by students having taken the course revealed score gains of 190 to 300 points.

All Princeton Review teachers have scored at the 95th% or above on the SAT.

The classes are small to provide for more individualized attention. Even the conservative *Wall Street Journal* considers the *Princeton Review* most effective in any ETS exam. Students who were able to win entrance into Ivy League schools through their SAT scores are quoted.

The *Princeton Review* offers free SAT and College Admission Seminars at such top-tier universities as Duke, Wake Forest, and Chapel Hill. One Princeton Review office is located at 1525 East Franklin Street, Chapel Hill, NC 27514. Call 1-888-755-PREP for other national locations. The *Princeton Review* has a fifteen-year track record of improving SAT scores on the average of 140 points. As stated previously, this test-prep service even lists the average entrance SAT scores for three-hundred of the nation's top schools.*

*The *Princeton Review*, February-October, 2001, pp. 1-15.

For information on specific details on any standardized test, log on to <http://www.unl.edu/buros/>. This will link you to the best "test" review resource: Buros Institute's *Fourteenth Mental Measurement Yearbook* (MMY) published in 2001. They have been reviewing tests for over 60 years.

A brief note about stress and gifted performances

By most authorities, gifted performance is at the top 2 in 100. Children with IQ's of 130 or above could have stress-related social-emotional problems because they usually don't have a classmate to talk to or play with. Occasionally, have these like-minds interact, through clubs, playing with older children (if the younger children are accepted), etc. It is also extremely important to enroll gifted children in courses on common sense so they know how to relate to the rest of the 98 out of one-hundred people. It is even more important for brighter children to be blended with "birds of a feather" occasionally. Try to imagine having friends if your IQ is 145 (one out of a thousand), IQ of 152 or 2.3 out of 10,000, or an IQ of 167 (3 in 1,000,000). If your IQ is 190, you will have to search the world for the 5 other people you can relate to (IQ of 190 is 1 in 1,000,000,000). [A.J. Tannenbaum, 1983].

Stress tests: Relax to "show what you know." (By 15% better!)

For the well prepared and motivated, relaxation will help "show what you know" better on tests. Think of a teeter-totter relationship between stress and tests. As stress goes down, test performance goes up. William James, the father of American psychology in his 1899, Harvard lecture-series on teaching said, "The teacher who succeeds in getting herself loved by pupils will obtain results which one of a more forbidding temperament finds impossible to secure," (p. 45). To put modern numbers on this educational principle, Scruggs & Mastropieri of Purdue University in 1992, concluded that a fifteen-percentile point test-score increase, or a whole letter-grade improvement, results from

learning test-taking skills for students. This 15% point advantage can make the difference between a “gifted performance” or an above average performance.

8. Pre-test checklist.

GENERAL TIPS FOR HELPING STUDENTS TO BECOME “FACT-SMART”

- Make these tips part of each student’s study habits by introducing them at the beginning.
- Get the “big picture” (Overview first, read end of chapter questions first).
- “Seeing is believing” for most students. “Teach smart” (visually). See “Anti-Boredom ‘Whole-Brain’ Balanced Approach to Curriculum, (p. 207).
- Make meaningful memories.
- Teach memory mechanics. Repeat info at least seven times.
- Students develop flashcards. Submit flashcards as an assignment immediately before the test.
- Encourage note-taking while students are reading or listening.
- Divide and conquer information using more frequent, shorter, study periods spread over time.
- If appropriate, provide a test-specific diagnostic survey.
- As a reward, have students play “not-so-trivial pursuit” by making up their own questions about material.
- Celebrate “sticking to their test-prep schedule.”

TIPS FOR IMPROVING “TEST-SMARTNESS”

- Answer the questions (Multiple-choice tests are not multiple-guess tests, but use creative problem solving if needed).
- Be clerically correct.
- Provide practice sessions (with time limits) if appropriate.

BUILDING “STRESS-SMARTNESS”

Weeks before the test:

- Conduct a “reality checklist” of what the student can expect to avoid shock on test day.
- Prior to the testing situation, provide a “relaxed exposure” to these “test reality conditions.”

- Positive attitude: Expect the best but respect the test. The test is the reward to prove your knowledge. “Inch by inch anything’s a cinch.” “Yard by yard, life is hard.”
- Use positive peer pressure: Bring in cartoons about testing stress — I took an IQ test and the results were negative.*
- Good modeling by all adults.
- Relaxation training (See your mental-health professional. Clear this with administration first).
- Food for thought — natural sugars. Honey on toast will give your brain a natural boost. Any sweet fruit (peaches, oranges, melons) followed by a glass of water will provide your brain with a natural power boost.
- Caffeine is at best a double-edged sword. Only if you are already a “cafeinist” (caffeine is the most popular drug in the U.S.), will caffeine help your mental performance. While it can sharpen your thinking (no more than two cups of coffee), you pay for it with caffeine jitters. If you don’t use caffeine, don’t start.

*Used by permission, as seen in Interfax Daily, March 2, 2001, Vol. WZ1V795.

Call (336) 397-0000 for a Free-Daily humor fax.

SUMMARY

One-hundred-million tests are administered each year at the elementary and middle school levels. This figure does not even include high school, much less higher education. Tests are here to stay, so we have to learn to tackle them and use them as stepping-stones rather than stumbling blocks. Yale research reveals that children are smarter today (higher IQ’s), but not wiser. They are more likely to “burnout” because they are forced to learn more-faster-earlier compared to any other generation. Two stories reveal the secret to doing best on tests, repetition. Test-taking tips are provided from Marilyn vos Savant, who has the highest IQ on record. Using an R & R approach (repetition and relaxation) is what Savant recommends.

Direct resources for EOG preparation and the best SAT preparation are provided. Tips from the SAT test-makers are provided. Several reasons for mastering test-taking skills are discussed plus practical tips on what to do to become “fact-smart,” “test-smart” and stress-intelligent in the 21st century. Proven “foods for thought” (honey, fruits followed by drinking water) are provided, plus the “good news — bad news” about caffeine on performance. Scoring gifted is discussed for those having a potentially gifted child, trying to make the intellectual “varsity” (i.e., advanced learner or gifted program). The stress from isola-

tion of gifted performers is addressed. Children with an IQ of 130 are two out of a hundred, or one in every three regular classrooms. It's almost as if gifted children speak a language of their own, which seems foreign to others, and are subject to rejection and ridicule.

These tips take advantage of using the child's whole brain, not just the left brain emphasis of facts only. Perhaps equipping students with the right tools will enable them to enjoy their twelve-year careers. Specific references for parents are also provided to help them help their children. A national expert on gifted education, Ann Barr, provides advice on what to do when high school students get that perfect score of 1600 on their SAT. The potential use of study groups for mature high school students is explored. The wave of computers testing us is also discussed. A point-by-point checklist is provided to help organize test-taking skills in all three areas: "fact-smartness," "test-smartness" and "stress-smartness." The combined strength of all three types of smartness spells success.

FOR FURTHER READING

- America's best graduate schools - exclusive rankings. (1996, March 18). *U.S. News & World Report*. (Columbia ranked No. 1).
- Benson, Herbert, M.D., Harvard researcher who coined the term "Relaxation Response."
- Buchanan, Bruce, (2002, February 5). The perfect performance. Greensboro, NC. *News and Record*. B1. Perfect SAT score.
- College rankings by annual tuition, (2000). *Providence Journal Research*. Columbia University, Highest tuition.
- Columbia University (2000, Summer). *TC Today*, p. 20.
- Flynn, J.R. (1987). Massive IQ gains in 14 nations. *Psychological Bulletin*. 101, 171-191.
- Kaplan, S., et. al. *Parent's Guide to NC tests: 4th and 5th grades*. This guide provides test-taking tips designed for End-of-Grade exams for fourth and fifth grades.
- Matthews, J. (2001, May). Sharing knowledge: study groups may boost performance. *Washington Post* as cited in Greensboro, NC. *News & Record*. p. 1, Section D, p. D3.
- National Association for Gifted Children. February 18, 2001.
- Neisser, U., (Ed). (1998). *The Rising Curve*. Washington DC: American Psychological Association.
- The Princeton Review Program at <www.PrincetonReview.com>, <chaphill@review.com> or 1-800-2Review/, Phone (919) 967-7209, America Online: Keyword "Princeton."
- A Princeton Review office is located at 1525 East Franklin Street, Chapel Hill, NC, 27514. Phone 1-888-755-PREP for other locations.
- The Princeton Review*, (2001, February-October). pp. 1-15.

- SAT preparation is located at the Web site <www.collegeboard.com>. Once at this home page click on The College Board - 100 years of connecting students.
- Scruggs, T.E., & Mastropieri, M. (1992). *Teaching test taking skills: helping students show what they know*. Cambridge, MA: Brookline Books. Order at (617) 868-0360 or 1-800-666-2665 or <Amazon.com>.
- Sternberg, R. (2000, Fall). Wisdom as a Form of Giftedness. *Gifted Child Quarterly*, 44. (4), pp. 252-260.
- Studying for and Taking Tests* available from The Parent Institute, P.O. Box 7474, Fairfax Station, VA 22039-7474. Phone 1-800-756-5525.
- Tannenbaum, A.J. (1983). *Gifted children: psychological and educational perspectives*. New York: Macmillan. p. 69.
- Ten Real SATs*. (College Boards, NYC) 2000. Includes CD and actual questions from the SAT test designers (The College Board). For further information call (212) 713-8175.
- Whitworth, J.R., & Sutton, D.L., (1993). *WISC-III Compilation*. Novato, California: Academic Therapy Publications.

For the Reader's Convenience

**STRESS/TEST-PERFORMANCE HISTORICAL
BIBLIOGRAPHY DATING BACK TO 1899 WITH WILLIAM
JAMES (FATHER OF AMERICAN PSYCHOLOGY)**

- Anastasi, A. (1971). *Psychological testing*. New York: Macmillan.
- Anthony, E.J. (1970). Two contrasting types of adolescent depression and their treatment. *Journal of the American Psychological Association*, 18, pp. 841-859.
- Bovilsky, D. (1982). Up against the ivy wall. *Independent School*, 41(3), pp. 51-55.
- Brotman, P. (1980). *EMG instructional manual*. New York: Biofeedback Instrument Co.
- Brown, B. (1977). *Stress and the art of biofeedback*. New York: Harper and Row.
- Budzynski, T., & Stoyva, J. (1972). Biofeedback techniques in behavior therapy. In D. Shapira (Ed.) *Biofeedback and self-control*. Chicago: Aldine Press.
- Cacioppo, J.T., & Petty, R.F. (1981). Electromyograms as measures of extent and affectivity of information processing. *American Psychologist*, 36(5), pp. 441-445.
- Campbell, D.T., & Stanley, J.C. (1963). *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally College.
- Carlson, J. (1983). Levels of cognitive functioning as related to anxiety. *Journal of Experimental Education*, 37(4), pp. 17-20.
- Carter, J. (1983). Better writing reaps rewards. *National/State Leadership Training Institute on the Gifted and Talented Bulletin*, 10(3), p. 3.

- Carter, J., & Russell, H. (1980). Biofeedback and academic attainment of LD children. *Academic Therapy*, 15(4), pp. 483-486.
- Chaffee, E.E., & Lytle, I.M. (1980). *Basic physiology and anatomy*. Philadelphia: J.B. Lippincott.
- Chaney, D.S., & Andreasen, L. (1972). Relaxation and neuromuscular tension control and changes in mental performance under induced tension. *Perceptual and Motor Skills*, 34, pp. 677-678.
- Cohen, J. (1977). *Statistical power analysis for the behavior sciences*, (Rev. Ed), Chapter 7. New York: Academic Press.
- Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Counts, D.; Hollandsworth, J.; & Alcorn, J. (1978). Use of electromyographic biofeedback and cue-controlled relaxation in the treatment of test anxiety. *Journal of Consulting Clinical Psychology*, 46(5), pp. 990-996.
- Danskin, D.G., & Lowenstein, T.J. (1977). *Biofeedback application in Counseling and education*. New York: Biomonitoring Applications, Inc., Tape T114.
- Davis, R.C. (1957). Response patterns. *Transactions of the New York Academy of Sciences*, 19, pp. 731-739.
- Davitz, J.R., & Davitz, L.L. (1977). *Evaluating research proposals in the behavioral sciences*. New York: Teachers College Press.
- Deffenbacher, J.L., Mathis, H., & Michaels, A.C. (1979). Two self-control procedures in the reduction of targeted and nontargeted anxieties. *Journal of Counseling Psychology*, 26(2), pp. 120-127.
- Dentler, R.A., & Mackler, B. (1964). Originality: Some social and personal determinants. *Behavioral Sciences*, 9, pp. 1-7.
- Deslisle, J. (1982, September/October). Striking out: Suicide and the gifted adolescent. *G/C/T*, pp. 16-19.
- Dreger, R.M. (1978). The state-trait anxiety inventory. In O. K. (Ed.), *The eighth mental measurements yearbook*, Vol. 1. Highland Park, New Jersey: Gryphon Press.
- Elkind, D. (1981). *The hurried child: Growing up too fast too soon*. Reading, Mass.: Addison-Wesley.
- Endler, N.S. (1978). The state-trait anxiety inventory for children. In O. K. Buros (Ed.), *The eighth mental measures yearbook*, Vol. 1. Highland Park, New Jersey: Gryphon Press.
- Feldhusen, J.F.; Denny, T.; & Condon, C. (1965). Anxiety, divergent thinking and achievement. *Journal of Educational Psychology*, 56, pp. 40-45.
- Feldhusen, J.F., & Klausmeier, H.J. (1962). Anxiety, intelligence and achievement of low, average, and high intelligence. *Child Development*, 23, pp. 403-410.

- Ferner, K., & Heck, S. (1983). Causes and cures of damaging stress. *Gifted Children Newsletter*, 4(7), pp. 3-4.
- Frey, H. (1980, May). Improving the performance of poor readers through autogenic relaxation training. *The Reading Teacher*, pp. 928-932.
- Gallagher, J.J. (1975). *Teaching the gifted child*. Boston: Allyn and Bacon.
- Getzels, J.W., & Jackson, R.W. (1962). *Creativity and intelligence: Explorations with gifted students*. New York: Wiley.
- Gowan, J.C. (1964). *The education and guidance of the ablest*. Springfield, IL: Charles C. Thomas.
- Grollman, E.A. (1971). *Suicide*. Boston: Bacon Press.
- Guilford, J.P. (1967). *The nature of human intelligence*. New York: McGraw-Hill.
- Guilford, J.P., & Fruchter, B. (1973). *Fundamental statistics in psychology and education*. New York: McGraw-Hill.
- Hadley, D.J. (1965). Experimental relationships between creativity and anxiety. *Dissertation Abstracts International*, 26, p. 2586.
- Halitsky, S. (1976). *Cognitive style variables as related to compensated and uncompensated dyslexia in emotionally disturbed adolescents*. Unpublished doctoral dissertation, Teachers College, Columbia University.
- Hayes, D.G., & Levitt, M. (1982, September/October). Stress: An inventory for parents. *G/T/C*, pp. 8-12.
- Hinsie, L.E., & Campbell, R.J. (1960). *Psychiatric dictionary*. New York: Oxford University Press.
- Hudesman, J., & Wiesner, E. (1979). Desensitization of test-anxious urban community college students and resulting changes in grade point average. *Community/Junior College Research Quarterly*, 3(3), pp. 259-264.
- Hughes, H.; Jackson, K.; DuBois, K.E.; & Erwin, R. (1979). Treatment of handwriting problems utilizing EMG biofeedback training. *Perceptual and Motor Skills*, 48(2), pp. 603-606.
- Jacobson, E. (1938). *Progressive relaxation*. Chicago: University of Chicago Press.
- Jacobson, E. (1973). *Teaching and learning new methods for old arts*. Chicago: National Foundation for progressive Relaxation.
- James, William. (Copyright, 1899). *Talks To Teachers on Psychology: and To Students on Some of Life's Ideals*. Published 1915, New York, Henry Holt and Company.
- Kelly, E.L. (1959). The IPAT anxiety scale. In O. K. Buros (Ed.), *The fifth mental measurements yearbook*. High Park, New Jersey: Gryphon Press.
- Keys, N., & Whiteside, G.H. (1930). The relation of nervous-emotional stability to educational achievement. *Journal of Educational Psychology*, 21, pp. 429-441.

- Kinsman, R.A.; O'Banion, K.; Robinson, S.; & Staudenmayer, H. (1975). Continuous biofeedback and discrete posttrial verbal feedback in frontalis muscle relaxation training. *Psychophysiology*, 12, pp. 30-35.
- Kirk, R.E. (1968). *Experimental design: Procedures for the behavioral sciences*. Belmont, CA: Brooks/Cole Publishing Co., Inc.
- Kisker, G.W. (1964). *The disorganized personality*. New York: McGraw-Hill.
- Lanyon, R.E. (1978). The IPAT anxiety scale questionnaire. In O. K. Buros (Ed.), *The eighth mental measurements yearbook*, Vol. 1. Highland Park, New Jersey: Gryphon Press.
- LaVallee, Y.J.; Lamontagne, Y.; Pinard, G.; Annable, L.; & Tetreault, L. (1977). Effects on EMG feedback, diazepam, and their combination on chronic anxiety. *Journal of Psychosomatic Research*, 21, pp. 65-71.
- Malmo, R. (1966). Studies of anxiety. In C. D. Spielberger (Ed.), *Anxiety and behavior*. New York: Academic Press.
- Mancini, P. (1977, November 14). School for whiz kids. *New York*, p. 76.
- Mandler, G., & Sarason, S. (1952). A study of anxiety and learning. *Journal of Abnormal and Social Psychology*, 47, pp. 166-173.
- Marland, S.P. (1971). *Education of the gifted and talented*, (2 Vols.). Washington, DC: U.S. Government Printing Office.
- Matthews, D.B. (1981, November 18-20). *Biofeedback: Its uses in education*. Denver: Ninth Annual Association for Individually Guided Education Conference. (ERIC Document Reproduction Service, No. ED 217 338).
- McReynolds, P. (1978). The IPAT anxiety questionnaire. In O. K. Buros (Ed.), *The eighth mental measures yearbook*, Vol. 1. Highland Park, New Jersey: Gryphon Press.
- Meeker, M.N. (1969). *The structure of intellect: Its interpretation and uses*. Columbus, Ohio: Charles E. Merrill.
- Meeker, M.N. (1980, May). Personal communication.
- Meeker, M.N. (1982). *The structure of intellect (SOI) screening form for the gifted*. El Segundo, CA.
- Nunberg, H. (1955). *Principles of psychoanalysis*. New York: International Universities Press.
- Omizo, M.M., & Michael, W.B. (1982). Biofeedback-induced relaxation training and impulsivity, attention to task, and locus of control among hyperactive boys. *Journal of Learning Disabilities*, 15(7), pp. 414-416.
- Patten, M.D. (1983). Relationships between self-esteem, anxiety, and achievement in young learning disabled students. *Journal of Learning Disabilities*, 28, pp. 43-45.
- Raskin, M.; Johnson, G.; & Rondestvedt, J. W. (1973). Chronic anxiety treated by feedback-induced muscle relaxation. *Archives of General Psychiatry*, 28, pp. 263-267.

- Reinking, R.H., & Kohl, M.L. (1975). Effects of various forms of relaxation training on physiological and self-report measures of relaxation. *Journal of Consulting and Clinical Psychology*, 43(5), pp. 595-600.
- Richardson, E.R.; Beall, S.; & Jessup, G.T. (1983, January/February). The efficacy of a three week stress management unit for high school students. *Health Education*, pp. 12-15.
- Ringlaben, R.P. (1981, October). *Relaxation exercises for exceptional children*. Paper presented at the meeting of the Idaho State Council for Exceptional Children. Boise, Idaho.
- Roeper, A. (1982). How gifted children cope with their emotions. *Roeper Review*, 5, pp. 21-24.
- Rothman, H.S. (1979). Electromyographic biofeedback relaxation training versus progressive muscle relaxation training in the treatment of test anxiety. (Doctoral dissertation, Washington State University). *Dissertation Abstracts International*, 40.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 801, Whole No. 609).
- Sabourin, M., & Riouz, S. (1979). Effects of active and passive EMG biofeedback training on performance of motor and cognitive tasks. *Perceptual and Motor Skills*, 49, pp. 831-835.
- Sarason, I. (1956). Effect of anxiety, motivational instructions, and failure on serial learning. *Journal of Experimental Psychology*, 51(4), pp. 253-260.
- Sarason, S.B.; Davidson, K.S.; Lighthall, F.F.; & Waite, R.R. (1958). Classroom observations of high and low anxious children. *Child Development*, 29, pp. 287-295.
- Sarason, S.; Hill, K.; & Zimbardo, J. (1964). A longitudinal study of the relation of test anxiety to performance on intelligence and achievement tests. *Monographs of the Society for Research in Child Development*, 29 (7, Whole No. 98).
- Sassenrath, J.M. (1958). Anxiety, aptitude and achievement. *Psychology in the Schools*, 5(6), pp. 472-477.
- Schuchman, M.C. (1977). A comparison of three techniques for reducing scholastic aptitude test anxiety. *Dissertation Abstracts International*, 38(4-1), p. 2010.
- Schultz, J., & Luthe, W. (1959). *Autogenic training: A psychophysiological approach to psychotherapy*. New York: Grune & Stratton.
- Sheldon, C. (1969). The effects of positive and negative reinforcement and test anxiety on the reading performance of male elementary school children. *Genetic Psychology Monographs*, 80 (1), pp. 29-50.
- Sieber, J.E. (1969). A paradigm for experiment modification of the effects of test anxiety on cognitive processes. *American Educational Research Journal*, 6(1), pp. 46-61.
- Smith, R.C. (1974). Response bias in the state-trait anxiety inventory detecting the exaggeration of stress. *Journal of Psychology*, 86(2), pp. 241-246.

- Spielberger, C.D.; Gorsuch, R.L.; & Lushene, R. (1970). *State-trait anxiety inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.
- Standish, R.R., & Champion, R.A. (1960). Task difficulty and drive in verbal learning. *Journal of Experimental Psychology*, 59, pp. 561-565.
- Stanford-Binet Intelligence Scale*. (1960). New York: Houghton Mifflin.
- Straughan, J.H., & Dufort, W.H. (1969). Task difficulty, relaxation, and anxiety level during verbal learning and recall. *Journal of Abnormal Psychology*, 74(5), pp. 621-624.
- Tannenbaum, A.J. (1983). *Gifted Children: Psychological and educational perspectives*. New York: Macmillan.
- Thought Technology, Ltd. (1980). 2193 Clifton Avenue, Montreal, Canada H4A2N5.
- Tobias, S. (1980). *Overcoming math anxiety*. New York: Houghton Mifflin.
- Townsend, R.E.; House, J.F.; & Addario, D. (1975). A comparison of biofeedback-mediated relaxation and group therapy in the treatment of chronic anxiety. *American Journal of Psychiatry*, 132(6), pp. 598-601.
- Treffinger, D.; Pyryt, M.; Hawk, M.; & Houseman, E. (1979). Education of the gifted and talented: Implications for school psychology. *School Psychology*, 30, pp. 191-231.
- Tuckman, B.W. (1972). *Conducting educational research*. New York: Harcourt Brace Jovanovich.
- Tuttle, K.C. (1977). EMG biofeedback training: Its impact on test anxiety and locus of control. (Doctoral dissertation, University of Michigan). *Dissertation Abstracts International* (University Microfilms, No. 78-4918).
- Wechsler, D. (1955). *Wechsler adult intelligence scale (WAIS)*. New York: Psychological Corporation.
- Wechsler, D. (1975). *Wechsler intelligence scale for children (WISC-R)*. New York: Psychological Corporation.
- White, K. (1968). Anxiety, introversion-extroversion and divergent thinking ability. *Journal of Creative Behavior*, 2, pp. 119-127.
- Whitmore, J.R. (1980). *Giftedness, conflict and underachievement*. Boston: Allyn and Bacon.
- Wolfe, R.M. (1979). *Evaluation in education: Foundations of competency assessment and program review*. New York: Praeger.
- Wolpe, J., & Lazarus, A.A. (1966). *Behavior therapy techniques*. New York: Pergamon Press.
- Yadusky-Holahan, M., & Holahan, W. (1983). The effect of academic stress upon the anxiety and depression levels of gifted high school students. *Gifted Child Quarterly*, 27(1), pp. 42-46.
- Yates, A.J. (1980). *Biofeedback and the modification of behavior*. New York: Plenum Press.