How the Brain Learns to Read

Scientific Learning Customer Conference
Wyndham Resort Hotel
Orlando, Florida
April 21-22, 2005

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About the Presenter

Dr. David A. Sousa

Dr. David A. Sousa is an international educational consultant and author of five books, all published by Corwin Press, that suggest ways that educators and parents can translate current brain research into strategies for improving learning. He has conducted workshops in hundreds of school districts on brain research, instructional skills, and science education at the Pre-K to 12 and university levels. He has made presentations at national conventions of educational organizations and has served as a consultant to regional and local school districts across the U.S., Canada, Europe, and Asia.

Dr. Sousa has a bachelor’s degree in chemistry from Massachusetts State College at Bridgewater, a Master of Arts in Teaching degree in science from Harvard University, and a doctorate from Rutgers University. His teaching experience covers all levels. He has taught junior and senior high school science, served as a K-12 director of science, and as Supervisor of Instruction for the West Orange, NJ, schools. He then became superintendent of the New Providence, NJ, public schools. He has been an adjunct professor of education at Seton Hall University and a visiting lecturer at Rutgers University.

Prior to his career in New Jersey, Dr. Sousa taught at the American School of Paris, France, and served for five years as a Foreign Service Officer and science advisor at the USA diplomatic missions in Geneva and Vienna.

Dr. Sousa has edited science books and published dozens of articles in leading journals on staff development, science education, and educational research. His popular books for educators – How the Brain Learns, now in its second edition, How the Special Needs Brain Learns, and How the Gifted Brain Learns, explain the latest research on learning and translate it into practical and effective classroom strategies. The Leadership Brain, suggests ways for educators to lead today’s schools more effectively. His newest book, How the Brain Learns to Read, explores what scientists have uncovered about reading and provides many suggestions for achieving reading success in the K-12 classroom.

In 1992, Dr. Sousa was president of the National Staff Development Council. He has received numerous awards from professional associations, school districts, and educational foundations for his commitment to research, staff development, and science education. He recently received the Distinguished Alumni Award and an honorary doctorate in education from Bridgewater (Mass.) State College.

Dr. Sousa has been interviewed by Matt Lauer on the NBC Today Show and by National Public Radio about his work with schools using brain research.

Note: Additional explanations and activities pertaining to much of the material presented in these sessions can be found in David A. Sousa’s books: How the Brain Learns, 2nd Edition (2001), How the Special Needs Brain Learns (2001), How the Gifted Brain Learns (2003), The Leadership Brain (2003), and How the Brain Learns to Read (2005), all published by Corwin Press of Thousand Oaks, CA.
1. How do we acquire speech and language?

Gender Differences in Learning Spoken Language

- **Boys**: Most young boys develop visual, spatial, and temporal skills faster and easier than most young girls.

- **Girls**: Most young girls develop spoken language skills faster and easier than most young boys.

Note: Much of the material in this handout is in David A. Sousa’s new book, *How the Brain Learns to Read*, from Corwin Press, 2005.
2. How do we learn to read?

Learning to read successfully is strongly linked to: spoken vocabulary

Notes:
What Can Go Wrong?

Visual problems prevent seeing the letters clearly

Auditory problems prevent hearing the phonemes correctly

Auditory and visual processing times are not synchronized

Meaning of the word is not known

Working memory does not hold phonemes and words long enough to establish sense
Three reasons why there are so many more boys in remedial and special education programs than girls.

(1) Boys are over-identified

(2) Girls are under-identified

(3) Some learning problems caused by X-chromosome defects
3. Can we rewire the dyslexic brain?

Implications: Students displaying dyslexic characteristics can become good readers after intensive training and practice.