

Jean Blaydes Madigan M Ed
866-234-0475
jean@actionbasedlearning.com

Action Based Learning™

www.actionbasedlearning.com
FAX: 972-424-2280

Action Based Learning: How Brain Research the link of Movement to Learning

The brain is only as healthy as the body that carries it. Healthy active students make better learners. How can teachers and parents give their students every advantage for learning so that they can work at peak performance? Now brain research findings are giving insight into the benefits of exercise and how it improves student performance.

Based on recent brain research, here are the benefits of exercise and how exercise can help in the learning process:

Improved Brain Function

- Twice as much learning power with the growth of an estimated 9000 thinking cells (neurons) daily
- More neurons in the learning and memory center of the brain called the hippocampus
- Protection of the brain functions for increased brain function and health
- Brain creates more connections among existing neural pathways
- Increased brain organization and integration

Enhanced Cognition

- Enhanced mental performance, memory, learning, attention, decision making, and multitasking
- The brain becomes more adaptive, more efficient, and able to reorganize its neural pathways based on new experiences
- Increased executive function to enhance higher level mental skills that inhibit, shift focus, control emotions, initiate, plan/organize and monitor
- Improved arousal and vigilance
- Improved perception
- Improved cellular learning
- Decreases distraction
- The process of putting thought into action is increased
- Putting patterns into a sequence (letters into words, words into sentences) is improved

Increased Memory

- Improved short term working memory and increased long term potentiality
- Memory is strengthened every 48 hours
- Decreases forgetfulness
- Wards off the effects of dementia longer

Balanced Mood/Behavior

- Improved attention, impulsivity, motivation, self-esteem, cooperation
- Learned Helplessness is overcome somewhat
- Improved resilience, self-confidence
- Better able to withstand stress and frustration
- Fewer behavior problems and therefore visits to the office
- Increased coping skills when presented with a new situation
- Boost in self discipline and self esteem
- Reduction or elimination of medications such as Ritalin, Adderall, Prozac
- Acts as a natural antidepressant
- Regulate mood by balancing neurotransmitters naturally
- Regulates sleep patterns for more alertness during school hours
- Reward, motivation, satisfaction becomes intrinsic
- Impulse control
- Promotes a joyful, blissful attitude
- State of happiness and life satisfaction rises

Reduced Stress

- Reduction of test anxiety
- Reduce stress and signs of depression in just 3 days
- Better adaptation to challenges in a changing environment
- Combats toxic effects of high levels of stress
- Reduces neuronal death caused by chronic stress

Better social skills and behavior

- Lower levels of drug use in teens
- Better family relationships
- Noticeable improvement in pupil's key personal, social, cooperative and communication skills
- Improved attention, impulsivity, motivation, self-esteem, cooperation

Improved academic performance

- Improve Reading and Math scores
- Improves reading comprehension and analysis
- Higher IQ scores
- Higher grade point average in adolescents
- Enhances creativity
- Intensify classroom concentration and focus
- Improved problem solving skills
- Reduce truancy and drop out rates

The Action Based Learning™ Lab has proven to raise test scores and improve student performance.

Schools across the nation are reporting amazing results from using Action Based Learning in the classroom and gymnasium. Schools have seen improvement in Dibels scores as much as 76%!

The **Action Based Learning™ Lab** is a motor development program based on the brain research that supports how movement improves brain function. The concepts in the ABL Lab meet the Physical Education National Standards and the **Action Academic Content Cards** used with the Learning Ladders meet the National Standards in reading and math. . Physical Education standards include spatial awareness, motor skill development, eye-hand and eye foot coordination, upper and lower body strength, cardiovascular strength and endurance, rhythm competency, and social interaction.

The **Action Based Learning™ Lab** is so unique that some of the equipment is patented. The **ABC Pathways Mat** comprises one of the Stations and is used to help encode the symbols of the alphabet, practice letter sounds, recognize numbers, identify colors, recognize shapes, and teach clockwise and counter-clockwise directions. The **Action Based Learning Ladder** and the **ABL First Steps Ladder** are also patented and both are made in Lancaster County, Pennsylvania assembled by an Amish family. With the exception of the **ABC Pathways Mat**, the **Action Based Learning™ Ladders** and the **Action Academic Content Cards**, the equipment used is common to most Physical Education programs. Substitutions for the PE equipment may be made as needed. Stations have common equipment found in most schools: bean bags, scooter boards, balls, hula hoops, juggling scarves, streamers, gym mats, monkey bars, and chin up bars.

Specific benefits of Action Based Learning™ Lab related to academic performance

Aid the brain in placing words on a page, reading words from left to right, and writing patterns in sequence.

Aid the brain in following the flow of words, sequencing patterns in math and reading, solving problems, and sorting information.

Aid the brain in putting numbers or letters in sequence, discriminating different sounds, and writing letters in proper proportion.

Aid the brain in encoding the stroke of each symbol of letters and numbers, recognizing letters and numbers, writing letters and numbers, following words from left to right, focusing on reading for longer periods, discriminating sounds, and organizing information.

Aid the brain in processing thought, organizing thoughts in sequence, discriminating likenesses and differences, discriminating sounds, and advancing to higher level thinking.

Aid the brain in anchoring information and improved memory retrieval, preparing the brain to take a test, and combining many skills for higher level thinking.

Sample data from Action Based Learning Schools

Indianapolis Public Schools

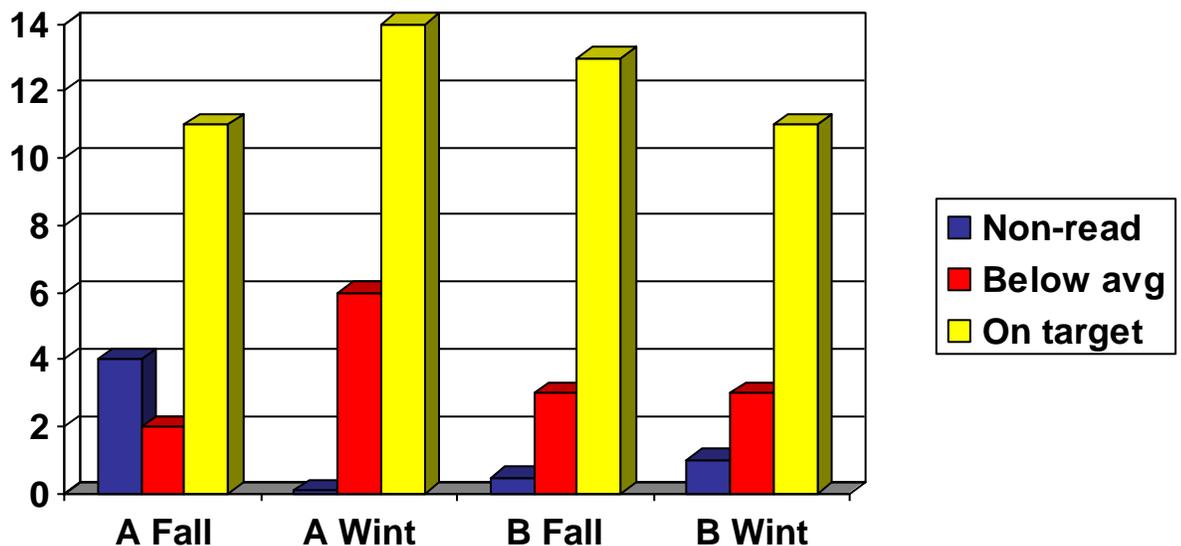
Improving Reading Scores through Action Based Learning

Kim Ward-K-6 PE teacher, ABL Specialist for IPS, wardk@ips.k12.in.us

Jennifer Botts-principal Lew Wallace Elementary

Audrey Satterblom, Wellness Supervisor for IPS satterba@ips.k12.in.us

Teacher A: ABL 2-3X wk + classroom Teacher B: no ABL



Research Findings

Gage, Fred, (1999), Exercise Makes Mice Smarter, Salk Scientists Demonstrate. News Release available at www.salk.edu

Etnier, J. (1997). The influence of physical fitness and exercise upon cognitive functioning: A meta-analysis. *Journal of Sport and Exercise Psychology*. 19, 249-277.

Dwyer T., Sallis JF, Blizzard L, Lazarus R, Dean K. Relation of academic performance to physical activity in children. *Pediatric Exercise Science* 2001; 13:225-237

Recommended Readings

Ratey, John (2008) SPARK: The Revolutionary New Science of Exercise and the Brain, Little Brown and Company, NY, ISBN-10: 0-316-11350-6 www.johnratey.com

Medina, John (2008) Brain Rules Pear Press, WA ISBN# 13:978-0-9797777-0-7

Jensen, Eric (1998) Teaching with the Brain in Mind, Second Edition: Chapter 4, ISBN 0-87120-299-9

Madigan, Jean Blaydes, Thinking on your Feet (2000), The Action Based Learning Lab Manual, 2006, Advocacy: A Case for Daily Quality Physical Education *Journal of Teaching Elementary Physical Education*, May 2001. www.actionbasedlearning.com