Action Based Learning
The benefits of Physical activity on academic performance

Presented by:
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eat well be active – Primary Schools Project
My Bonnie lies over the ocean

My Bonnie lies over the ocean,
My Bonnie lies over the sea,
My Bonnie lies over the ocean,
So bring back by Bonnie to me!
Bring back,
Bring back,
Oh bring back my Bonnie to me to me
Bring back,
Bring back
Oh bring back my Bonnie to me
Brain science strongly supports the link of movement to learning. The brain and body’s movement and learning systems are interdependent and interactive. For example, motor development provides the framework that the brain uses to sequence the patterns needed for academic concepts. The body’s vestibular system controls balance and spatial awareness and facilitates the students ability to place words and letters on a page. Proper development and remediation of these systems are critical to a child’s ability to learn.
John Ratey

Dr. John Ratey says…

• Exercise is the brain’s natural Ritalin and Zoloft

• BDNF is the brain’s Miracle Gro®

• Exercise is encoded in our genes

• Play is automatic in every species and helps develop the brain

• What makes us move is also what makes us think
On 3 levels

1. It optimises your mind set to improve alertness, attention, and motivation

2. It prepares and encourages nerve cells to bind to one another, which is the cellular basis for logging in new information and

3. It spurs the development of new nerve cells from stem cells in the hippocampus

SPARK! How exercise will improve the performance of your brain: Dr John Ratey & Eric Hagerman
The latest research proves....

When humans exercise for 30 minutes, positive changes happen in the brain and body that increase student performance. Less than 30 minutes of exercise doesn’t bring the same results as rapidly.
Average composite of 20 students brains taking the same test

BRAIN AFTER SITTING QUIETLY

BRAIN AFTER 20 MINUTE WALK

Dr Charles H Hillman University of Illinois
Movement, Physical Activity and Exercise

- Anchors learning when more of the senses are involved to increase the executive function of the frontal lobe

- Grows new brain cells (neurogenesis) in the learning and memory center (hippocampus) of the brain

- Gets the brain’s fuel, oxygen and glucose to the brain faster

- Moves the body in space (spatial awareness) to help the brain see letters and numbers on a page
Brain Energiser

Soul Man
Brain Energiser

Soul Man

We just ...

- activated 4 quadrants of the brain
- activated the Kinesiologieical part of the brain
- activated the mirror neurons
- moved body in space
- activated hand writing muscles
Movement, Physical Activity and Exercise

- Engages static and dynamic balance to put the brain and body into focus and attention

- Crosses the midlines of the brain and body to aid in coordination of movements

- Is practice in hearing a steady beat and keeping a steady beat (beat awareness and beat competency) to develop the language areas of the brain for receptive and expressive language and to develop the internal dialogue

- Reinforces the basic motor movements that lay the framework for learning: crawling/walking, jumping and rolling
Brain Energiser

Gotcha

• Crossing the midline of the brain and the body aids in coordination of movements.
Movement, Physical Activity and Exercise

- Activates BDNF, the Miracle Gro™ for the brain that nourishes and protects the neural pathways for learning
- Uses repetitive gross motor movement to aid the brain in putting patterns into a sequence
- Engages mirror neurons for imitation
- Promotes emotional safety through positive social feedback with partners and groups
Brain Energiser

Ball Toss Maths

We just...
- Focused on motor skill development
- Focused on visual tracking, near and far
- Moved our body in space
Movement, Physical Activity and Exercise

- Reduces stress naturally and acts as an anti-depressant.
- Regulates mood and behavior by naturally balancing neurotransmitters.
- Accelerates motivation, increases self esteem, and promotes cooperation and communication skills.
Brain Energiser

Rock paper scissors

We just ...

- Focused on motor skill development
- Crossed the midline of the brain
- Team work sparks positive thinkers
Sitting for learning?

The opposite of exercise, sitting in a chair, inhibits learning. When a human sits for longer than about 17 minutes, blood begins to pool in the hamstrings and calf muscles pulling needed oxygen and glucose from the brain. Melatonin kicks in because the brain thinks it’s at rest because no navigation has occurred lately.

The learner gets lethargic and sleepy and struggles to focus. Learning declines!
Sitting induces muscular inactivity

4 STEPS
GETTING OUT
OF A CHAIR

SITTING
STANDING

The Good NEWS
to tell your students for a Healthy Brain

N  u  trition
E  xercise
W  a  ter
S  leep
Brain Energiser

Inch Worm

Inch your hands out in front of you, then move your feet towards your hands, this helps you stretch your legs.
Promising strategies in schools include:

- An integrated curriculum where lessons are more physically active
- Brain energisers improve learning through activity
- Quality daily physical education sessions that are developmentally appropriate appear to provide the best way forward
Brain Energiser

Pretend Pencil

Pretend a part of your body is a pencil & write your name.
In summary........

Movement, Physical Activity and Exercise prepare the brain for learning and boosts brain function.

For a smarter, healthier, happier brain
Move, Move, Move!
Acknowledgments

- Jean Blaydes - Action Based Learning
  www.actionbasedlearning.com

- John Ratey MD – Author
  Spark: The Revolutionary New Science of Exercise and the Brain
ACHPER (SA)

ACHPER (SA) can offer this session to your School/Site. Contact ACHPER (SA) for more information
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