

The Essentials: Top 10 Things Everyone With a Brain Needs to Know by Kim Bevill

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1. Meaning in School comes from integrating their interests and Hands On activity

- Projects intrinsically motivating and meaningful
- Essential for healthy brain function
- Stimulates executive thinking centers immediately
- May be key in counteracting depression and anxiety

Resources neuroscientists, Frank Wilson, Kelly Lambert, Stewart Brown

2. Controlled Stress Environment: allows for memory, healthy immune system, longevity

- Increased and chronic stress (cortisol, glucocorticoids, norepinephrine) stop the immune system
- Shorten our telomeres (and lifespan)
- Prevents the hippocampus from storing new memories (daily life, academics, etc)
- Sleep is ESSENTIAL to control stress or store a memory (apx 8 to 8 ½ hours)
- Strategies: mindful training, 8 oz of water, laughter for 15 minutes, R_____

Sources: Robert Sapolsky, Elizabeth Blackwell, Robert Wind, Daniel Siegel

3. Movement is key for health, longevity and ACADEMIC success

- 3 Types of Movement: Fitness, Games every 20 minutes, Specialized Movement
- Physical Activity (PA) correlates with high standardized tests (Greatest in Math, then Reading)
- One 20 minute walk allows for all students to perform on grade level on standardized test
- Physically fit students in Naperville scored 1st in Science and 6th in Math on International tests
- Movement fuels executive function: memory, moods, intelligence, academics, behavior
- Movement brings blood flow, oxygen, energy, relationships, attention
- Movement decreases bully-like behavior, boredom, and stress

Sources: John Ratey, Charles Hillman, Victoria Chomitz, Oppezzo & Schwartz

4. Sleep and Nutrition

- 8 ½ hours, children need more like 10-14
- Obesity increases without sleep, compromises IQ (up to 26 pts)
- Food increases neurotransmitters that increase performance

Additional Sources: Loren Cordain, David Dingess, Nora Volkow, Lawrence Epstein

5. Music

- Provides relief from pain, lowers stress, enhances energy and improves mood
- Provides for improved recall, cognitive organization for Parkinson's and Alzheimer's symptoms
- Longitudinal studies show correlation between playing an instrument and Standardized Tests
- Strategy: play an instrument, listen to music, use lyrics to instruct

Additional Sources: Oliver Sax, James Catterall, Jaakko Erkkila

6. Hands-On Projects

- More complex use of hands increases IQ and creativity
- Engages the brain naturally and is embedded with personal meaning
- Real life activities (field trips, speakers, projects) are best practice

7. Respect Gender

- Males and females respond to “directions” differently (tell them what to do)
- One year of respecting differences, males increased standardized tests by 24%, and females by 19% while special education students by 7.5%
- Differences in the brain suggest males respond to movement and action
- Responses in different areas of the brain suggest females respond to relationships
- Strategy: movement, making projects, select alternative reading, vary writing assignments, risk-taking, competition, use complex movement

Additional Sources: Shelley Taylor, Diane Halpern, Larry Cahill

8. Assessment that matters

- Evidence of homework impact is inconclusive
- Long-term projects are best practice
- Evidence supports in-class practice is “far superior”
- Fitness activities and reading for enjoyment improve performance over traditional
- Strategy: allow class time for projects, assign movement activities for homework, work to inspire students to read for enjoyment (make it a priority to share favorite books, for students to share favorite books, provide NOVEL reading materials in the environment)

Additional Sources: Sarah Bennet, Harris Cooper, Charles Hillman, Stephen Krashen

9. Relationships

- Quality of relationship between teacher and student dictates student achievement
- Students trained to create relationships (training in emotion recognition) in the classroom have increased achievement of up to 11-17%
- Number of relationships outside the home predict: relationships, immune system (illness) and length of life
- Strategy: allow time for sharing favorite things, interests, games every 20 minutes, talk about “self”

Additional Sources: Edward Hallowell, Nicholas Christakis, David Fowler

10. Compassion

- Happiness comes from attention to present
- Level of gratefulness dictates happiness
- Ability to forgive grudges is essential for happiness
- Self-forgiveness increases productivity and decreases procrastination
- Strategy: write 5 things DAILY you’re grateful, train that focus is on present moment

Additional Sources Rick Wilson, Robert Emmons, Michael Wohl, Gretchen Rubin