

**Executive Function**

**and**

**Social Emotional Intelligence**

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# SO EACH MAY LEARN

DR. HARVEY SILVER

There isn't a strong correlation between ability and achievement.

Dr. Harvey Silver

## 4 A's

- 1.
- 2.
- 3.
- 4.

## Foundational Skills

enable higher order thinking and deeper insight. The more proficient you are at lower-order skills, the more proficient you become at higher order skills. .

Doug Lemov, Teach Like a Champion

### The Crossed Squat Breathing Technique

Stand with your feet about shoulder distance apart, toes pointing forward. Touch the tip of your tongue to the roof of your mouth and keep it there throughout the exercise. Cross your arms over your chest, right arm over left. Grasp each earlobe with its opposite hand. The thumbs should rest on the fronts of the earlobes. Inhale, bend your knees, squeeze earlobes lightly and lower your body as if sitting in a chair. Go as low as you comfortably can and then slowly raise yourself back to a standing position. Exhale through your nose and stand up straight. Repeat 15x

<http://www.livestrong.com/article/126025-superbrain-yoga-exercises/#ixzz28AtCsegN>

## Benefits

- Distributes energy levels and increases sense of calmness
- Stimulates thinking capacity
- Increases mental energy
- Improves focus, concentration and memory power
- Boosts decision-making skills
- Relieves stress

# Mind Power

Knowledge and skill are keys to the 21st century.

Jim Kwik

**Stop outsourcing your brain to technology.** If you don't use it, you lose it. If you live in a knowledge economy, you can't be mentally lazy. Numbers live in the digital world.

Jim Kwik

**Reason precedes results.**

**Learning is remembering.**

Socrates

**H<sup>3</sup>**

- H \_\_\_\_\_
- H \_\_\_\_\_
- H \_\_\_\_\_

**Memory is not retention, but \_\_\_\_\_.**

**Working memory is key to learning success.**

- **Play games like: Jeopardy, Concentration, Memory, Boggle**  
[www.wordspay.net](http://www.wordspay.net), **Scrabble, Set** (set daily puzzle [www.setgame.com](http://www.setgame.com))
- **Work puzzles, word searches, Sudoku**
- **Brain workshop a dual'n back game** [www.brainworkshop.sourceforge.net](http://www.brainworkshop.sourceforge.net)
- **Answer Questions** [www.freerice.com](http://www.freerice.com)
- **Do mental math.**
- **Memorize poems.**
- **Make ABC lists.**
- **Read aloud.**
- **Speed stack** cupstacking eye-hand program [www.speedstacks.com](http://www.speedstacks.com)
- **Exercise** Brain Gym, Infinity Walk, Bal-A-Vis-X, Learning Breakthrough

**#1 predictor of success: how much one practices**

Talent Is Overrated. What Really Separates World-Class Performers from Everybody Else. Geoff Colvin.

**Deliberate practice is hard, requires repetition and concentration**

## **BE SUAVE**

**B** b \_\_\_\_\_  
**E** e \_\_\_\_\_

effort makes a difference  
mental practice makes progress

**S** s \_\_\_\_\_  
**U** u \_\_\_\_\_  
**A** a \_\_\_\_\_  
**V** v \_\_\_\_\_  
**E** e \_\_\_\_\_

Questions are the answer.

## **Age and Brain Stage Milestones**

### **Birth to 3: The Innocent Years**

- The sensorimotor stage; mapping basic survival skills such as learning to crawl, to ask for what he/she needs and to successfully interact with parents; everything needs to be done gently, calmly and slowly; exposure to negative programming such as loud and nerve-grating music and TV and video game violence result in arrested growth and behavior later in life
  1. Mind mapping: no control of the brain-mapping process and will respond to the stimulus that is provided; neurons that fire together, wire together
  2. Social: the brain depends on positive social interactions with nurturers and caregivers; neurons are hardwired for the need to touch and be touched
  3. Attention: whatever grabs or holds attention can be quickly absorbed and stored within the new mind map; orienting response; key novelty; TV has unlimited potential for triggering orienting response; new information is being hardwired into child's mind map; high contrast visuals

### **3-7: The Impressionable Years “The Fantasy Stage”**

- The brain has the ability to store the memories and the emotions at the time the memory was made; memory file contains the memory about the event and the feelings had at the time of the event; direct learning at this age is experience and emotions
  1. Bipolar: polarize or split information into black-and-white categories cannot integrate or process information that falls into the gray area

- of reasoning
2. Thinking/Feeling: brain's system for coding information is linked to emotions, thought and feeling; neurological bond; emotions associated with experience; will be accompanied by the unique set of thoughts a child is capable of
  3. Immersion: when overwhelmed with sensory and emotional stimuli downshifts, becomes immersed in the compelling emotional aspects of the stimuli that drive the attention default; downshifting is the process that occurs; immersion is the response to the process; emotions are being coded and stored in memory devoid of a reasoning or thinking component that can counter any negative or age-inappropriate images and messages

### **8-12: The Rule and Role Stage**

- Cognitive abilities such as comparison, sequencing and elementary logic are evolving; housecleaning occurs leaving the strongest neural connections and circuits; increased ability to deal with complexities and abstractions
  1. Needs/Identification: looks to outside world for models and validation.,
  2. Making Meaning: flood senses with information designed to capture attention and drive the orienting response; once elicited the child will create meaning from the information that he pays attention to; will make inner representations of his experience, interpret incoming information and add these meanings to his developing mind map
  3. Peripheral Perception: dual process of focused attention and peripheral perception is part of brain's makeup

### **13-15: Early Adolescence**

- Brain's development can be dramatically influenced by use; unused neural connections deteriorate and die; if spending time engaged in mindless and passive tasks, rather than tasks requiring the higher order thinking skills of analysis, synthesis, planning self-reflection, problem solving, critical thinking and abstract reasoning making those areas stronger; prefrontal lobe will lose ground because of housecleaning process
  1. Use It or Lose It: if teens do not use key areas of the brain, neurons may not make necessary connections; if not reading: reading sections of the brain including language comprehension, decoding, linguistic knowledge skills and reflective thinking can fail to develop
  2. Restricted Reasoning: ability to move beyond black-and-white thinking to higher level thinking skills restricted
  3. Desensitization: loss of sensitivity to an incoming stimulus or message, resulting from repeated exposure to that stimulus over time; begin to attend to higher and higher levels without the original fear

and disgust that was once was normal; a new norm or adaptation level is established in perception with a possibility for a change in norms and values

## 16-19: Late Adolescence

- The development of the brain's structure and capacities is largely completed by the end of adolescence; teens moving from parental control, have more influence; challenges: hypothalamus regulating a stable state of equilibrium; logical part of the brain often overwhelmed by the activity of the hypothalamus to seek immediate gratification and to live for the moment; oxytocin stimulated by the brain during romantic relationships; causes hypothalamus to dominate the rational or thinking brain
  1. Unconscious Learning: higher thinking processes (metacognition) depends on our ability to take charge of the brain's processing experience and become more alert to what and why things are actually occurring in our personal world; automatic reaction to imposing forces encourages teens to fit things into boxes and categories to gain a sense of control, safety and to construct a workable reality; develops a set of invisible or unconscious attitudes and beliefs
  2. Memory: for the developing brain, the information with the strongest attention-getting potential will have the highest probability to get noticed and processed from sensation and perception into the thinking feeling, and memory storage areas of the brain
  3. Observational Learning: observe the current cultural trends and learn directly from observation; learns from observations without being aware that learning is taking place in five stages: attention, identification, memory, acting out, motive

Daniel S. Acuff, Ph.D. and Robert H. Reiher, PhD.  
Kidnapped. How Irresponsible Marketers Are Stealing the Minds Of Your Children.

## Learning readiness depends on:

1. **confidence:** sense of control and mastery of one's body, behavior and world
2. **curiosity:** sense that finding out about things is positive and leads to pleasure
3. **intentionality:** the wish and capacity to have an impact and to act upon that with persistence
4. **self-control:** ability to modulate and control one's own actions in age-appropriate ways
5. **relatedness:** the ability to engage with others based on the sense of being understood by and understanding others
6. **capacity to communicate:** the wish and ability to verbally exchange ideas, feelings and concepts with others

7. **cooperativeness:** the ability to balance one's own needs with those of others in group activity.

Daniel Goleman. Emotional Intelligence.

## Teach Students to be Emotionally Intelligent

1. **Expect your students to do as you do, not as you say.** Show them how to regulate their feelings and express their anger appropriately by doing so yourself. When problem solving an issue of your own, think out loud so your students can hear you reflect, set goals, evaluate alternatives, plan and anticipate roadblocks. If you want your students to listen to you, listen to them. Listen's letters rearranged = silent
2. **Remind, remind, remind.**
3. **Use active listening.** Everyone wants to be heard and understood. Paraphrasing back to students what they are saying to you reinforces them for communicating to you. It allows you to gently rephrase their statements into more appropriate or accurate language.
4. **Ask open-ended questions.** Avoid making accusations such as "Why did you hit him?" Ask what happened, what was he doing, what did he want to have happen? Open-ended questions encourage the student to talk openly.
5. **Ask a question, ask another question.** It is important to stay in a questioning mode. If you follow-up a questions with another question, you will get more information, encourage the student to think more and avoid a lecture on your part.
6. **Sometimes appear to know less than you do.** Ask questions as if you do not understand. Instead of "Why did you fail that test?" ask, "I don't understand how you got this grade. What happened?" When the student says he studied, ask, "That doesn't seem fair...what could have happened so that the studying did not work?"
7. **Be Patient.** Learning the skills necessary to get along in all kinds of social situations and to manage strong feelings are not easy, especially if the skills don't appear to come naturally for your student. It can take a long time, both when teaching it and when students are learning it. Be patient with them and with yourself. Look for small improvements, starting in certain situations with certain people. Build on these improvements and you will find it easier than expecting miracles. Skills take time to learn but then last for a lifetime.
8. **Be flexible.**
9. **Know your students.** Only give as much independence as your students can take responsibility for.

Maurice J. Elias, Ph.D., Rutgers University; Steven E. Tobias, Psy.D., and Brian S. Friedlander, Ph.D.

# **Executive Functioning Skills**

## **6-12 months**

- Impulse control – ability to evaluate a situation and project how your behavior may affect it; to think before acting
- Working memory – ability to hold information in memory while performing a task; to apply learning from past experiences to current situation or project into the future
- Emotional control – ability to control emotions in order to complete a task, achieve a goal or understand another’s point of view
- Attention – ability to sustain focus in spite of distractions, boredom or fatigue

## **12-24 months**

- Planning – ability to assess a situation and create a purposeful course of action
- Prioritizing – ability to understand what is most important and make a plan to accomplish it

## **Preschool**

- Flexibility – ability to go with the flow; to revise plans based on new information, set backs, obstacles or mistakes
- Task initiation – ability to start tasks in a timely manner
- Organization – ability to create and maintain ways of keeping track of information, materials or belongings

## **Elementary**

- Time management – ability to estimate how much time a task will take, how to make best use of the time and how to finish within the deadline
- Goal setting – ability to identify an outcome and work to completion
- Metacognition – ability to think about thinking, to reflect on one’s actions, self-monitor and self-evaluate
- Empathy: ability to let go of own thoughts and feelings to understand another’s



# Sensory Clues for Learning Success

Deb Wilson

## Vestibular System - cocoon, butterfly, superman

- Moves or rocks while reading                      Seeks excessive movement activities
- Slow, labored writing                                      Difficulty copying movement patterns
- Reading rate is slow for age                              Very tired or appears lazy when reading
- Dislikes putting hands in glue or gooey substances
- Craves or avoids hugs and touch                              Can spin like crazy without getting dizzy

## Postural System - pointers, one leg balance

- Slouches in chair                                              Cannot sit still, changes position often
- Slow, labored writing                                      Legs wrap around chair while sitting
- Writing is very dark or very light                              Sits with legs bent backwards
- While writing at the board, balances one hand on the board
- Frequently leans against desk or other people rather than standing

## Bilateral Integration - cross crawl, 8's, hopping, skipping

- Writes without spacing in words                              Covers one eye at desk
- Writes to one side of the paper; poor use of space
- May decode well but does not comprehend                      Writes letters from the bottom up
- Letter reversals while reading                              Letter reversals while writing

## Auditory System - thinking caps, clap-tap game

- Difficulty paying attention                                      Difficulty with phonics
- When spoken to, has a delayed response or no response
- Says, "Huh?" often                                              Does not follow directions well
- Observes environment to see what others are doing

## Visual System - snap fingers, snowballs

- Eyes appear red, sore, itchy                                      Frequently loses place when reading
- Tilts head, closes or blocks off one eye while reading
- Avoids work requiring reading or writing                      Slow to copy from the board
- Doesn't recognize the same word in the next sentence
- Child has been labeled lazy, slow, behavior problem, hyperactive by teachers

## Brain Organization - toss & catch

- Can pass spelling test with practice but words remain misspelled in daily writing
- Performs well below intellectual potential                      Cannot read a list of words in isolation
- Slow copying from board and loses place frequently
- Cannot "sound out words" or rhyme well                      Difficulty telling time using a clock with hands

S'cool Moves Inc., [www.schoolmoves.com](http://www.schoolmoves.com)

# **Develop Students' Executive Functioning Skills**

**knowing** They take place in the prefrontal cortex, and are not fully developed until mid-to-late twenties.

## **Planning Skills**

- Time management
- Shifting from one activity to another
- Getting out supplies and putting them away
- Asking for help when needed
- Planning
- Strategizing
- Paying attention to and remembering details
- Being flexible
- Anticipate outcomes
- Balance
- Manage impulses and emotions

## **Homework**

**The development of executive function is the main purpose of homework.**

- **Meaningful**
- **Doable**
- **Reasonable length of time Elementary (10 minutes per grade level)**
- **Timely, individual feedback**

## **Students need to learn...**

deep personal connections; sense of purpose; time in nature

real life experiences; hands on tasks, memory skills; touch

creation stories, hero's journeys, parables, morality tales

Reading skills to develop imagination, induction, reflection, critical thinking, vocabulary.

**Teaching is about interactions between people through discussion and conversation.**

# Electronics and the Learning Brain

There is no research or evidence that actually show that video games can lead to increased learning. There is some evidence that video games can increase spatial awareness and pattern recognition.

The brain's not designed for visual hyperstimulation; radiant light from screen causes brain to go catatonic, there is a hypnotic power of immersive and interactive digital screens on young minds; is more dopamine activating than TV; tolerance and desensitization develop; hyperstimulated child needs ever increasing levels of visual stimulation to continue to stay engaged; stimulation becomes preferred to the real world

As of 2008 over 4x as many video games were played every week than in the 80's; 16 – 18 hrs. vs 4 hrs.

Technology based interventions tend to produce slightly lower levels of improvement when compared to teacher based interventions and approaches. 2012

Technology is too stimulating and coming too fast for the brain to adapt evolutionarily and handle sensory bombardment. Expansive and slow moving nature can't compare to the digital world's space time compression effect. It takes time to calm down a hyperaroused nervous system.

- 1980 – 2007 ADHD increased 800%



1. Quick analytic skills, hand-eye coordination, improved reflexes
2. Communication skills
3. Social bonding
4. Recognizes emotions of self and others, empathy
5. Self-control

**Students need to fully developed their brains (cognitive, attentional, linguistic, emotional, spatial, reality-testing mental faculties), before they can handle hyperarousing and reality-immersing screens.**

Nicholas Kardaras PhD., [Glow Kids How Screen Addiction Is Hijacking Our Kids and How to Break the Trance](#)

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