

Teaching With Learning in Mind

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The iY Generation: iphone, ipad, ipod

Dr. Timothy Elmore

2 Realities

1. Children are overexposed to information earlier than they are ready.
2. Children are underexposed to real life experiences far later than they are ready.

8 Fundamental Needs

1. Problem solving skills - persistence
2. Critical thinking skills
3. Emotional intelligence - self awareness, management, social awareness, relationships
4. Values and ethics
5. Resourceful and resilience
6. Creative processing
7. Executive function
8. Leadership perspective

Neurons that wire together; fire together. Donald Hebb

Memory is the key to learning.

**encode
store
retrieve
remember**

Memory scaffolding is built by conversation;
the more elaborate the scaffolding, the more knowledge the student has.

The key to language success is conversation.

Language develops with repetition and practice.

- talk; have conversations
- Word of the Day
- play word games
- read Reading reinforces how the brain organizes itself to think.
- retrieve memories by answering questions

Nonsense Test

Lynn O'Brien

Directions: Circle the letter of the correct answer to each question.

1. The purpose of the splug in tilping is to remove
 - a. splug-lansg
 - b. loughts
 - c. damalas
 - d. spigs

2. Blantorn is true when
 - a. trug vilts the soroct
 - b. the bilt clomps, if the bilt is brebbled or dibb
 - c. the ingus wolts
 - d. kilmans rint slowly

3. ***
 - a.
 - b.
 - c.
 - d.

4. The dangled fram will zunkle better with an
 - a. emul
 - b. miltop
 - c. roolp
 - d. korpat

5. Among the reasons for frabbed bross are
 - a. the reb mozled slowly
 - b. few wobbles are blet
 - c. the rabbs bipped and the durb spleened
 - d. most of the vlets were cobbed

6. Which of the following (is, are) always present when blurbs are being trunked?
 - a. longlei and schmooz
 - b. schmooz and drots
 - c. schmooz
 - d. grufs and schmooz

7. The frippering work of the emul is best done with
 - a. a tipl mazor
 - b. the dangled fram
 - c. a brush squire
 - d. some bish spigots

8. The frond often blebberizes the fleck because
 - a. all fronds are lennered
 - b. fronds are always flambed
 - c. no felks are klessed
 - d. the felk is usually androding

Making a Good Brain Great

Dr. Daniel Amen M.D.

Prefrontal Cortex: houses the ability to learn from mistakes, make plans, match our behavior over time to reach our goals; it is the part of the brain that as Jiminy Cricket says “is the still small voice that helps you decide between right and wrong”

Anterior Cingulate Gyrus: helps you feel settled, relaxed and flexible; the brain’s gear shifter; is responsible for cognitive flexibility; shifts attention; cooperation; implicated in “future oriented thinking” such as planning and goal-setting

Deep Limbic System: sets a person’s emotional tone; less active = positive, more hopeful state of mind; provides the filter through which you interpret the events of the day; stores highly charged emotional memories

Basal Ganglia: integrates feelings, thoughts, and movements; sets body’s idle or anxiety level; high basal ganglia is associated with conflict-avoidant behavior; anxiety and physical stress symptoms such as headaches, intestinal problems, and muscle tension

Temporal Lobes: involved with language, reading social cues, short-term memory, getting memories into long-term storage, processing music, tone of voice and mood stability; recognizing objects by sight and naming them; spiritual experience and insight

Cerebellum: involved with processing speed, thought coordination, how quickly cognitive and emotional adjustments are made; motor coordination, posture, poor handwriting, problems organizing, sensitive to light, noise, touch, clothing, being clumsy or accident prone

**The best sources of stimulation for the brain are:
physical exercise, mental exercise and social bonding.**

Repeated muscle activity is the single most important element of brain development.

The brain's in sync timing mechanism is the foundation of all thinking, movement, behavior, sensory responses, vital functions and digestion.

Balance is the core of functioning.

Three Most Important Exercises

The Cross Crawl 2x a day

Sit down. Do 28 puppet movements. (Puppet movements touch the elbow of the right arm to the right knee and the elbow of the left arm to the left knee.)

Do 28 crossover movements. (Crossover movements touch the elbow of the right arm to the left knee and the elbow of the left arm to the right knee.)

Do 14 puppets

Do 14 crossovers

Do 10 puppets

Do 10 crossovers

The Wayne Cook Posture

Sit down. Fold hands. The thumb of the hand that is on top is the ankle to cross on top. Extend arms and cross the arm of the thumb on top over the other arm. Point thumbs down. Wave at the fingers. Fold hands. Draw hands to chest, like a pretzel. Take ten deep breathes with the tongue on the roof of the mouth to breathe in, down to breathe out. Uncross ankles, put fingertips together. Rest hands with finger tips touching on lap. Take ten more breathes.

Donna Eden, Energy Medicine, New York: Jeremy P. Tarcher/Putnam, 2010.

Thymus Thump

Rapidly, tap chest on both sides of the collar bone at the same time.

Resets the body's balance.

Water

Weight divided by 3 = # of ounces needed daily

of ounces divided by 8 = # of glasses of water needed daily

- Lack of water is the #1 trigger of daytime fatigue.
- Preliminary research indicated 8-10 glasses of water a day could significantly ease back and joint pain for up to 80% of sufferers; 5 glasses per day decreases risk of colon cancer by 45%, slashes risk of breast cancer by 79% and decrease bladder cancer by 50%
- A mere 2% drop in body water can trigger fuzzy short-term memory, trouble with basic math and difficulty focusing on the computer screen or on a printed page.
- Fruit juice, soft drinks, coffee and tea are all diuretics—they fail to provide neutral pH water because the sugars bind to the water and are treated as food by the brain.

Carla Hannaford, Ph.D. Smart Moves: Why Learning Is Not All In Your Head. Utah: Great River Books, 2005.

Human Bingo

Directions: Play **cover all**. Find someone who can do each of the following and write his/her name in the square. You may write one “free” wherever you choose.

Likes to read several books at a time	Sings	Likes to do one thing at a time	Journals
Remembers names	Watches the news Before going to sleep	Watches movies more than once	Likes to read only one book at a time
Remembers faces	Fidgets	Keeps piles on the desk	Plays video games
Does yoga	Gardens	Draws	Exercises regularly

PREFERRED LEARNING MODALITIES

EYE MOVEMENTS

VISUAL

up, right
up, left
straight
closed
straight, down

AUDITORY

level, right
level, left
down, left

KINESTHETIC

down, right

HAND GESTURES WHEN SPEAKING

Upwards

sideways

downwards

VERBAL CLUES

picture
clear
focus
perspective
see
glimpse
preview
discern
distinguish
illustrate
clarify
graphic
reveal
glance
depict
appear
observe
watch
draw

note
accent
shout
discuss
call
hear
scream
ask
amplify
harmonize
key
voice
compose
screech
tell
listen

touch
handle
throw
shock
stir
impress
move
tap
sharpen
tangible
irritate
tickle
grab
crash
flat
grasp
push
*feel
*sense

Teaching With Learning In Mind

Learning styles: consistent ways of responding to and using stimuli in the context of learning; media preferences

- 71 instruments

VARK Neil Fleming 1987 New Zealand <http://vark-learn.com/the-vark-questionnaire/>

Students do not learn based on their learning styles.

How do they learn?

1. Learning opportunities: ch_____, building on p_____
k_____, making c_____
and t_____ learning
2. Different kinds of instruction: a_____ l_____,
g_____ w_____,
i_____ teaching strategies.
3. Metacognition: r_____, activities to help students make
c_____, process c_____,
draw c_____.

Students learn best in social classroom environments, working together to articulate understanding, recognize misconceptions and hone communication.

What does work?

The most effective way to learn is based on the nature of the material being taught.
Teachers teach students to remember meaning, independent of seeing or hearing.

1. Sp_____ p_____. Review: 10 minutes after,
1 day after, 1 month after, 3 months after learning
2. Switch. I _____ among topics. What's similar? Link ideas
3. A_____, ex_____, c_____ to daily life . How? Why?
4. Use sp_____, c_____ e_____. Human
memory remembers concrete better than abstract information.

5. D_____ c_____ auditory: how words describe; visual: how images represent information.
6. R_____ p_____. Recall what you know. Writing what you remember reinforces what you learned. Practice answering questions; take practice tests. Learning improves with practice.

<https://www.youtube.com/user/memorizeallelements>

6 Habits of Organized Students

Kyle Buchanan

1. Keep it simple.
2. Develop routines.
3. Place for everything, everything in it's place.
4. To do list, current and detailed; deadlines
5. Do what's important. Prioritize tasks
6. Toss things daily. Purge routinely

<https://ctl.yale.edu/LearningStylesMyth>

<https://ctl.yale.edu/FacultyResources/Student-Learning>

<https://www.scientificamerican.com/article/the-problem-with-learning-styles/>

<https://www.theatlantic.com/science/archive/2018/04/the-myth-of-learning-styles/557687/>

<https://www.theguardian.com/education/2017/mar/12/no-evidence-to-back-idea-of-learning-styles>

<http://vark-learn.com/the-vark-questionnaire/>

<https://www.youtube.com/user/memorizeallelements>

https://www.youtube.com/watch?v=o_SQrRa73U0&vl=en

https://www.youtube.com/watch?v=0nFkQ4cQhME&index=4&list=PLguLDsaCk2rN_wHawqzdf-bTyDdkmf0nP

https://www.youtube.com/watch?v=CPxSzxylRCI&list=PLguLDsaCk2rN_wHawqzdf-bTyDdkmf0nP

<https://www.wired.com/2015/01/need-know-learning-styles-myth-two-minutes/>

Memory is the key to learning.

The art of _____ is the art of thinking.

William James

As we build up our personal stores of _____, our minds become sharper.

Long term memory is the seat of _____. Long term memory stores facts and complex concepts or schemas by organizing scattered bits of information into _____ of knowledge.

Nicholas Carr The Shallows

Make It Stick

Mark McDaniel, Henry L. Roediger III and Peter Brown

Learning is deeper and more durable when it requires e_____.

Learners are susceptible to the “I _____ of K _____.” They _____ not _____ what they _____ not _____.

Learning requires f_____ k_____.

When k_____ is entrenched in l_____ memory, it supports the learner’s ability to make c_____.

Provide constructive f_____.

Incorporate f_____ t_____.

R_____ what you learned makes learning stronger.

Taking notes by _____ provides opportunity for _____.

Mark McDaniel, Henry L. Roediger III and Peter Brown. Make It Stick. 2014.

Healthy Posture for Students

Nature provides a blueprint for development that requires strict adherence to immutable natural laws. We become upright by discovering our center of gravity within our own body.

- Spines long and straight, allowing optimal communication between the brain and the body via the spinal cord
- Diaphragm moves without restriction promoting healthy oxygenation and a well-toned nervous system
- Joints flexible, muscles elastic, abdominal core is powerful
- Life-force energy powers a thriving nervous system

The foundation must be level. The pelvis serves as the foundation for the spine, rib cage, shoulders and skull and requires balanced, equal support from each leg.

Developmental Deficit Epidemic

- postural collapse
- poor muscle tone,
- difficulty with balance and coordination

Comorbid with autism, ADHD, anxiety disorders, learning disorders, antisocial behavior, oppositional defiant disorders and motor control dysfunction

Plagiocephaly or brachycephaly, (flattening on the back of the head): learning difficulties, vision problems, postural collapse, poor muscle tone, difficulty with balance and coordination

Prone: promotes skeletal integrity, postural control and sensorimotor organization

Supine: contributes to extremity misalignment and gross motor delay

1. Park your pelvis. Walk your sit bones back, one at a time.
2. Let your chest sink down in front. Feel the back of your waist grow wider and the top of your head move forward.
3. Imagine two strings attached to the back of your rib cage being drawn up behind you. Feel the lower back lengthen and the muscles around your middle activate.
4. Butt the wall
5. Give shape to healthier feet.
6. Lengthen your spine, release your back
7. Open your shoulders
8. Plank. Draw your elbows toward each other.
9. Align your bones and activate your core; rhythmic movements

Attention – Affirmation – Aspiration - Ask

Dr. Harvey Silver

What we think determines how we act.
How we act determines how we feel.
Thinking changes first, actions next and feelings follow.

You can't feel your way into an action, but you can act your way into a feeling.

Say, "Thank-you." often.
Appreciation returns a gift to the giver.

An expectation is a resentment waiting to happen.

Jon Carroll

It is hard to appreciate what is, when we hold certain expectations of what should be. Expectations are stories we tell ourselves about what we want and how we would like the other person to behave. Let go of what is expected and be open to what is being offered.

Be kind. Everyone you meet is fighting a hard battle.
Philo of Alexandria

Beware of the barrenness of a busy life.
Socrates

Simplify your life so you can focus on what matters.

You are what matters.

- **Exercise** Aerobic exercise decreases the amyloid beta.
- **Relax** Take time for you, it is essential.
- **Sleep** Sleep enough to cleanse the brain.
- **Eat** Eat for health.
- **Start your day with prayer or meditation**
- **Drink water.**
- **Connect with others.**
- **Tell your story.**

Nutritionally Speaking

The average American consumes:

- 170 pounds of sugar per year

Refined sugar triggers sodium and water retention by decreasing potassium

The influence of a high sugar diet on brain chemistry: **hyperactivity, depression, fatigue, inability to focus and concentrate. B complex vitamins are needed to metabolize the quantities of sugar we are eating.**

Diet provides the fuel for the brain to work.

Breakfast

Carbohydrates are broken down to glucose in the liver. A drop in brain glucose due to insufficient carb intake will result in slow reflexes and reduced concentration. A gnawing hunger, dizziness, lethargy, and irritability may be experienced.

Protein in-take in the first half hour upon arising evens out the blood sugar for the day. Protein boosts the production of dopamine and norepinephrine, which increases alertness and concentration.

Superfoods

Mushrooms, Garlic, Berries, Turmeric, Cabbage and Cruciferous Vegetables, Leafy Dark Green Vegetables, Legumes, Red Grapes, Walnuts, Celery

Sleep

Trouble falling asleep, tossing and turning, waking and falling back asleep, getting up two, three or four times a night, being startled awake by some minor noise and other sleep problems could be indicative of a nutritional deficiency that allows susceptibility to the things that commonly wake you up or keep you awake at night. It is often a mineral deficiency.

Dr. Bruce West. D.C. The Encyclopedia of Pragmatic Medicine. CA: Health Alert. 2009.

Salt is vital for sleep regulation. It is a natural hypnotic. Drink a full glass of water, then put **a few grains of Celtic, Himalayan, or Sea Salt** on the tongue. Routine intake of water and the addition of some salt to the diet will regulate the sleep pattern.

- (Celtic, Himalayan and) Sea Salt has 84 minerals to table salt's 2.
F. Batmanghelidj, M.D. [You're Not Sick, You're Thirsty](#). VA.: Global Health Solutions, Inc. 2008.

Delta Sleep

The retina of the eyes need to be in total darkness to allow the body to go to the delta sleep state.

What's the big deal about sleep?

Synapses release neurotransmitters and peptides, signals are transmitted, and communication takes place. If too much amyloid beta is released and not enough is cleared by the microglial cells, the amyloid beta binds to itself forming sticky aggregates called, amyloid plaques.

In slow-wave deep sleep, the glial cells rinse cerebral spinal fluid throughout the brain, clearing away metabolic waste that accumulated in the synapses while you were awake. Deep sleep is a power cleanse for the brain.

What happens if you shortchange yourself on sleep? A single night of sleep deprivation leads to an increase in amyloid beta. Amyloid accumulation has been shown to disrupt sleep, which in turn causes more amyloid to accumulate, creating a positive feedback loop, accelerating the possible diagnosis of Alzheimer's.

- **Sleep**
- **Aerobic exercise decreases the amyloid beta.**
- **Build cognitive reserve:**
 - **Meet new friends**
 - **Read**
 - **Learn new things**
 - **learn another language**

https://www.ted.com/talks/lisa_genova_what_you_can_do_to_prevent_alzheimer_s?language=en 2017.

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