

ADHD

Long-term, Non-Med Intervention

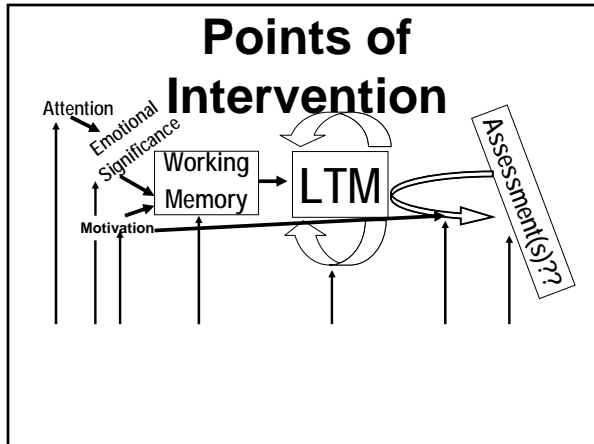
Dr. Jeb Schenck
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Shouldn't we teach the entire organism, since its the entire organism that learns?
Gessner Geyer 2001

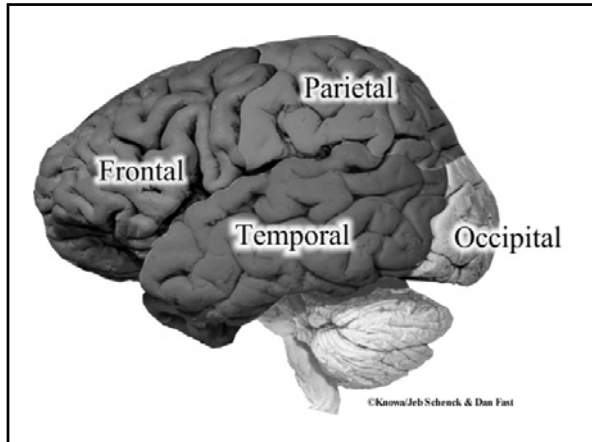
If educators & researchers don't consider & use information on how the brain functions, we have confined ourselves to an enduring ignorance

- Points of Effective Intervention**
- Attention
 - Emotional Significance
 - Motivation (which affects every level)
 - Working Memory
 - Long-Term Memory
 - Review or Rehearsal
 - Assessment Design



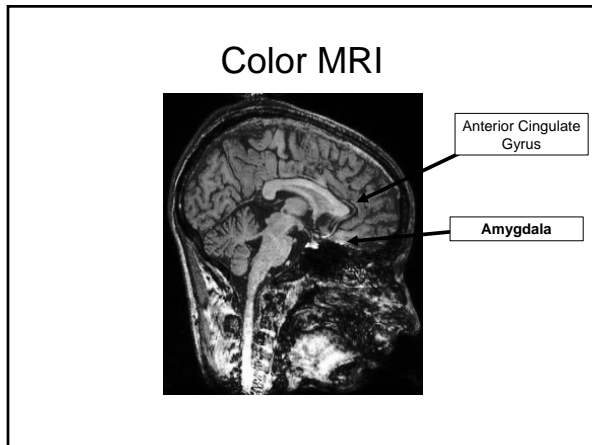
**“Just Say No”
 Just Doesn't Work**

We can't afford to ignore how the brain works



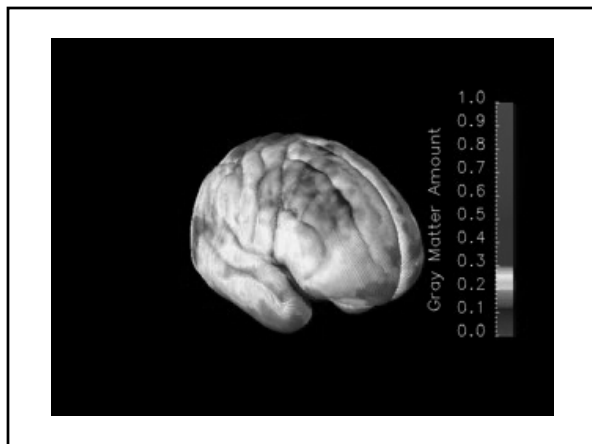
Attention System

- **Arousal** (level of vigilance)
- **Orient** (What & Where is it?)
- **Novelty Detection**
- **Execute---Reward** (The brain seeks to make stimulation--& tries to make sense of patterns)



Attention Systems

- Systems are limited
- You (or student) can't give full attention to multiple tasks = Divided attention
- Sometimes we ask the brain to do things it can't do very well
- ADHD attentions systems have problems in multiple areas



Cycles of Brain Growth

- 3 Cycles during adolescence, NOT STAGES
- 10-12 Years (middle school)
- 14-16 Years (Frosh-Soph)
- 18-20 Years (Seniors +)
- Cycles have chaos-fractal patterns

(From K. Fischer, 2000)

There Are Sex Differences in Attention

- ✓ Girls are more attracted to **EMOTIVE** events
- ✓ Boys are more attracted to ACTION-MOVEMENT events

ADHD

An addiction to the present

John Ratey,
Harvard Medical School

ADHD Not A Character Flaw

- Not Lazy
- A neurological disorder either inherited (about 80%) or injury induced (15-20%)
- Attention systems are not working properly

ADHD

- Must be formerly diagnosed by a trained professional
- Self-regulation is poor
- Easily agitated
- Easily distracted, or over focused
- Poor sense of time
- Focus/priority on wrong tasks

ADHD problem areas

- Acting before thinking
- Misplacing papers, keys, books, wallet, etc.
- Forever late or past due---Sticking to timelines (poor tracking of time)
- Difficulty with:
 - staying focused---easily distracted
 - directing attention to tasks at hand
 - setting goals
 - keeping goals in mind
 - sequencing steps to achieve goals (PLANING)
 - blurting out feelings
 - interrupting others

We teach a PERSON's system to regulate what it selects and pays attention to!

Medication

- Treats the symptoms
- Often quick results
- Reversals when off meds happen just as quickly...commonly w/diastorous results
- Meds don't address changing the person's control
- Non-Med interventions address Long-Term self-regulation

What I hear I forget Limited Attention

What I see I remember Limited Attention

What I *do* I understand Focused Attention

Confucius

***“ I’m Not inattentive,-----
you’re just boring.”***

From Thom Hartmann

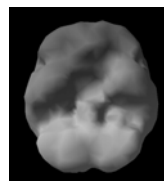
ATTENTION !!!

- Maintain attention by varying activities, & length
- Significant Physical movement about every 15 minutes
- Everything Counts

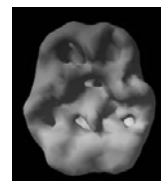
Movement & Attention

- What happens to *attention* when there is *no movement* for prolonged periods?
- What happens to the ADHD student?

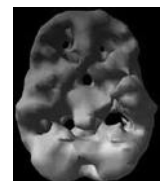
SPECT SCANS



NORMAL

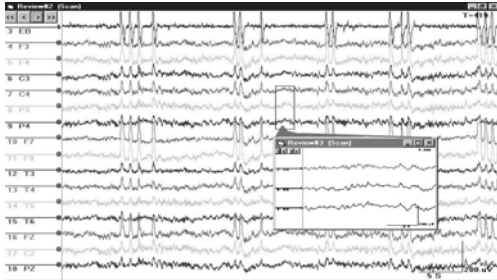


ADHD

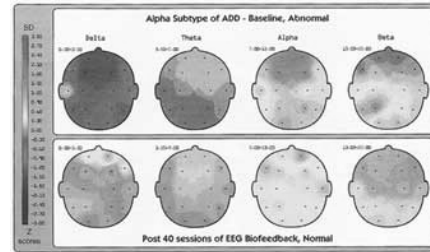


ON ALCOHOL

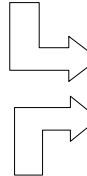
EEG: Electroencephalograph



QEEG



Attention

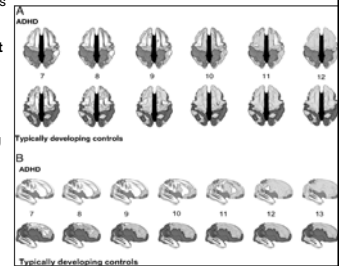


Working Memory → Long-Term Memory

Emotion

ADHD

- Approximately 5-10% of population has it (70-80% is inherited, 90% of height is heritable)
- **Girls appear to be similar %, but more difficult to diagnose**
- ADHD is a continuum of symptoms
- In youth w/ADHD brain matures about 5 years more slowly in many, following normal pattern
- **A significant number DO NOT outgrow ADHD (that was not mentioned). They become adult ADHD**



Shaw, Pappert & Evans, 2007. Brain matures a few years late in ADHD & follows normal pattern, NIMH, Nov. 2007

There Is More Than One Type of ADD

And other problems frequently occur with ADHD

6 Types of ADD (Amen,2001)

- Correlated to SPECT scans, not yet recognized by DSMV—but functionally distinctive in scans & response to therapy
- Classic
- Inattentive
- Overfocused
- Temporal Lobe
- Limbic
- “Ring of Fire”

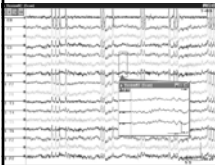
Brain Break # 2

- What was most important to you?
- List an “Ah Ha” or a question.

Emerging Non-Med Intervention: **Neurofeedback** & **ADHD Coaching**

Neurofeedback

**Specialized EEG where
student learns
SELF-REGULATE
their brain activity.**



Non-Medication Approach to ADD

For Diagnosis:

- SPECT & QEEG
- TOVA & Qik TEST
- Clinical Intake Interview (Using Amen's format)
- Teacher Observations

For Intervention:

- Neurofeedback, ADHD Coach, Teacher training, Family Counseling, Physician/Psychiatrist

Interventions

- *Most successful* = interventions are coordinated
Meds/physician + counseling+ parent & student+ teacher+
neurofeedback + ADHD Coaching
- *Least Effective* = Stand-alone, or single interventions
address only a small part of a larger problem =

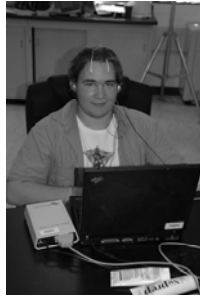
Neurofeedback

(training brain self regulation—a specialized biofeedback)

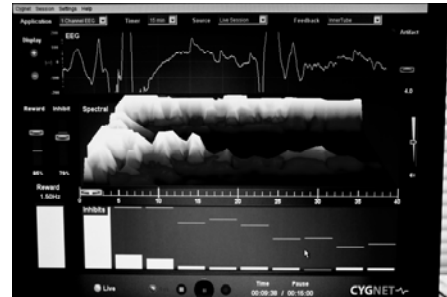
- **Detailed intake interview:** Looks at behavior in & out of school, historical background
- **TOVA or Qik Test** (QEEG even better)
- **Recommendation to go forward or not,** parents must be involved
- **Team approach** whenever possible

Neurofeedback: How Does It Work?

- Modified EEG reads & displays brain waves
- Gives audio or visual feedback w/video game.
- Facilitates self-regulation by activating the under-stimulated frontal lobes, but student remains calm & alert
- Does NOT cure (no intervention "cures" ADHD)
- Works with about 70% of ADHD people

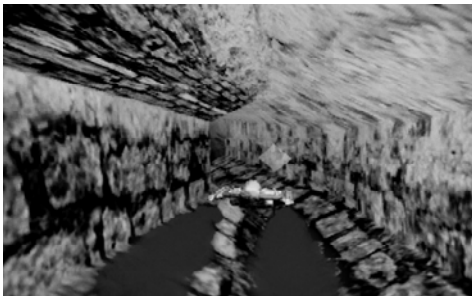


Neurofeedback (EEG) Therapist Screen



Cygnat on NeuroAMP from EEGINFO.com

Student View



Innertube on Cygnat

- Brain's connections to other areas creates a "ripple effect" from ADHD self-regulation training.
- Other problems may be positively trained & reduced:
 - seizures (the original use),
 - oppositional defiant (OD),
 - depression-anxiety, panic attacks
 - PMS
 - OCD
 - Autism, cerebral palsy, TBI

How Long Does it Take?

- Effects may last 10-15 years
- Training sessions 45 min (30 active)
- 20-30 hrs (1 semester)
- Requirements:
 - *dedicated computer
 - *EEG Amplifier+ Software (\$2500)
 - *quiet room
 - *consistent time 2-3 times/ wk

Results

- 17 students served from spring '05
- Reduced impulsivity 24/7 (observed by others & student)
- Increased attention, alertness, in some this is now constant
- Staying on reading tasks longer
- Reduced major fights from 1/week to 1 in 6 months (ring of fire)
- Greatly reduced oppositional defiant behavior (it hasn't come back at all)
- Reduced vocalizations (in Asperger's), more co-operative, more home work completed, starting to use sentences in writing answers.
- More positive attitude (observed by everybody)
- More restful sleep
- Greater noticeable self regulation both in and out of school in 13 of 17 students
- More success with younger students

The OTHER part: Coaching ADHD*

Coaching ADHD*

- Readiness is necessary, they know they need help & will devote the time
- Acknowledge & Acceptance of ADHD
- Narrow FOCUS: select one or two issues to work on
- Strategize... using their strengths to address issues.
- Work the plan
- Evaluate progress, what is working, what is not
- Repeat & Reinforce the Process to keep it going

Ratey's ANSWER

- * Adapted from Nancy Ratey, ADHD Coach, The Disorganized Mind, 2008

Narrowing Focus

- ID Major problem areas
- 1st Goal: address following symptoms & change following outcomes:
- ID what the person is good at:
- ID the cues they (you) respond to:
- Strategize, develop a specific WRITTEN Plan that uses what they are good at,
- Plan that works on the symptoms & cues

Working the Plan

- Actually taking action
- Actively following plan
- Actively having plan checked
- Remind self/ of past consequences
- Others (staff, parents, friends) who can assist/help your plan
- Willing to put the time into it

Coaching is A Process Not a quick Fix

EVALUATE

- Regularly evaluate plan
- Give enough time to allow changes
- Note successes
- Continually recommit

Repeat & Reinforce

- ADHD isn't going away
- Focus again on 1 or 2 issues
- Build new strategy & use strengths
- Ritualize changes, make routine
- No shortcuts
- Evaluate/ Chart again.
- Schedule the Evaluations/Coaching

Attention Strategies:

DO NOT ASK THEM TO CONCENTRATE! *That makes the brain LESS EFFECTIVE!*

Physical—manipulate objects, or move the whole body, such as hands-on, role play, draw, pantomime, build, model, standing a position, MUSIC (non-vocal) bean bag toss, Allow standing and being able to move around, use bean bag chairs, ball toss

Visual Imagery --imagine a picture or object
draw, sketch, build a model, design a poster,
create one power point slide for a group

Semantic—Reflect, summarize, describe, individually write, note-take, explain, tell, ***
EX. **NOTE THE DIFFERENCES** and then **SIMILIARITIES** Between _____ ***

Social --have them watch & then explain their partner's drawing, model, etc.

Sex Differences Girls are more attracted to activities where **EMOTION** can be expressed,
Boys more attracted to **ACTION, MOVEMENT**

*** Brain can recognize differences easily; similarities are difficult to tell apart

Maintain Attention

- By physically involving the learner
- By having them naturally focused (self-regulated...not forced concentration)
- By varying the activity
- By having movement (both large and small)
- Frequent natural success-- 70-80% works best
- By using different types of cognitive processes

Coaching Problem Areas

- Time Mismanagement
- Procrastination
- Impulsivity
- Distractibility

Never Give Up

Your Actions May Profoundly Alter
That Person's Life

Time Mismanagement

- Time Management:
 - Written plan (list times & START & STOP)
Schedule Breaks/ Heart & Respiratory Changes
 - Follow plan, evaluate time
 - Create rituals focused on time
- Evaluate at least WEEKLY (Review with ADHD Coach)

Procrastination

- WM may not be remembering...Forgets about deadlines
- Easily lose main goal
- Prioritize & Strategize
- Create Accountability (who and when will they check in?—it can be a couple of people, one at school (Your ADHD Coach) one at home, or even a call/text to)
- Identify Barriers (Coach helps here)
 - ID Task & set up
 - Establish & meet min. goals
 - Limit time for planning
 - Reward for using stress
 - Create false deadline Get it done early and then check it again.
 - Accountability...is there some one to check? Post it & check it!
 - Avoid productive procrastination (working on less important tasks first).
 - ID Peak performance time (mine is 7-1PM, worst is 2-5 PM) & use it!

Impulsivity

- Plan ahead, write the schedule for THIS EVENING
- Write the schedule for tomorrow
- Have a mentor/a person to check in with ea. Morning (ex. Your Coach)
- Learn to self-observe/Create a tracking chart and check it when you catch yourself off task
- Organize and plan again when you'll organize again
- Small things count, In a PDA, phone, record key dates, events
- Get Feedback
- Check in with your Coach!

Distractibility

- ID Watch distracts student/you
- ID the pattern
- Brain needs to increase activity of frontal cortex, it doesn't stay motivated long enough. Raise the heart & respiratory rate
- Use activities that require complex body movement, intense focus, and personal judgment

Resources

- Dr. Jeb Schenck, Know@directairnet.com
307 864 3982
- Nancy Ratey: www.nancyratey.com
- The Disorganized Mind, Nancy Ratey, 2008
- John Ratey: Johnratey.com
- EEGinfo.com
- ADD Coach Academy, 518 582 3458
addca.com