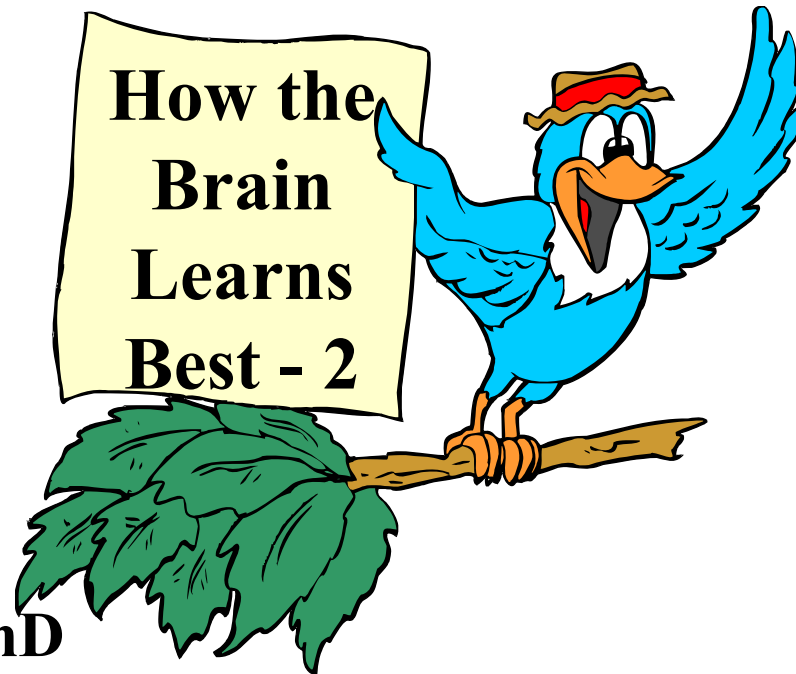




Presents



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Brain References

Brain Benders

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SOB LIMK	STEP ENIL
SHOTGUN GUN	STAR
1 2 3 7 9 8 5 4 6	R I Z C A O N I
FLYTHGIN	I THGIR I

Best – In a Brain- Compatible Environment

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1. **Plenty of pure water is available and is ingested daily**
 - **This may be 8-15 glasses per day depending on:**
 - **Learner size**
 - **Activity level**
 - **Environmental climate**



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2. Room temperature consistently falls within a comfortable range:

- **70-72 F or 22-23 C (give or take a couple degrees)**



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3. Humidity is between 35% - 50%

- Too low – dry skin, itchy eyes, increased susceptibility to colds and respiratory illnesses
- Too high – contributes to musty odors, forms a breeding ground for mold, mildew, and fungi that can increase serious health problems

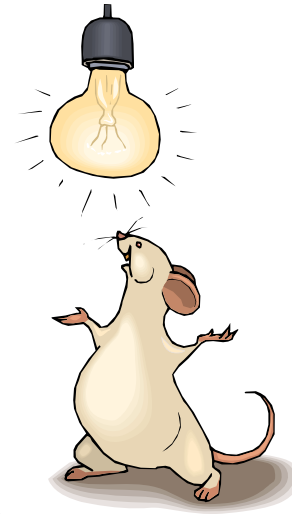


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4. Lighting is natural or “full spectrum” fixtures are used

- Increases student visual acuity and perception
- Decreases fatigue levels
- Decreases absenteeism (e.g., 65% fewer days absent)



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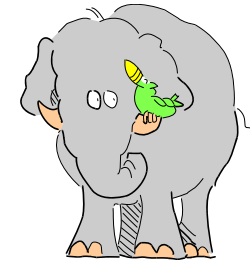
5. **There is a constant supply of fresh, uncontaminated, and highly oxygenated air**
 - **Learners in a closed class room typically exchange only 10%-15% of their lung capacity with each breath**



Oxygen...

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The brain takes 20% of the body's blood flow (although the brain is only 2% of the body's weight)



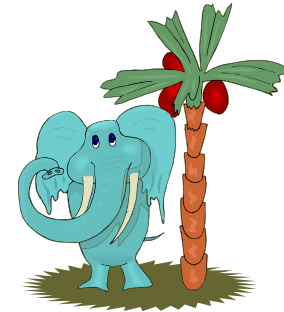
- **In resting states, the brain uses 20% of the oxygen supply and burns 20% of the body's supply of nutrient glucose**

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6. Live plants are utilized indoors on a regular basis

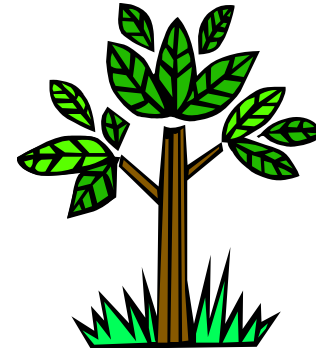
- Studies by the Federal Clean Air Council and by NASA showed that live indoor plants raised indoor oxygen levels and increased student productivity by 10%



Indoor Plants ...

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One live plant may impact up to 100 square feet of space—positively



- **Preferred plant species include rubber plants, bamboos, lady and areca palms, philodendrons, and yellow chrysanthemums**

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7. Classrooms are set up to promote ease of physical movement



- **Minimum 30” physical movement within classroom per school day**
- **Students stand frequently (some “standing desks” available)**
- **Minimum 5-10” break every 90”**

Physical Movement...

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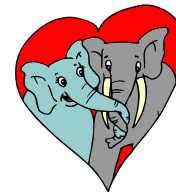
- **Cross-over movement is encouraged to help integrate hemisphere function and learning**
- **Activities are used to enhance learning (e.g., role play, pantomimes, charades, singing rhymes while jumping rope ...)**
- **Breathing techniques (e.g., thru left nostril for right-brained study and vice versa)**



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8. The presence of positive emotions facilitated neurotransmitter interactions

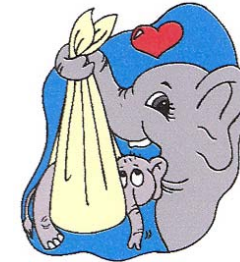


- **Emotional climate can increase or decrease the risk of downshifting**
- **Use relaxation and encouragement strategies (e.g., “Sooner or later this will become easier for you”)**

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9. Humor has been found to help students feel better, relax, and improve individual as well as group performance



- **The use of humor and laughter in the classroom and by the instructor can positively impact the learning process (e.g., decrease stress, improve both retention and recall, increase creativity, enhance hemispheric connections)**

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10. Colors used in classrooms are selected with care

- Yellow is the 1st color distinguished in the brain and often is recommended for use in classrooms

- Green has been identified as positive for enhancing long-term energy and productivity



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11. New information is presented during morning hours; while afternoon activities help integrate new information with prior learning and personal experience



- **Typically, teenagers tend to be more alert and ready to learn in the late morning and onward (not in early to mid-morning hours)**

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12. Performance is compared to the student's own previous performance rather than to that of other students' brains

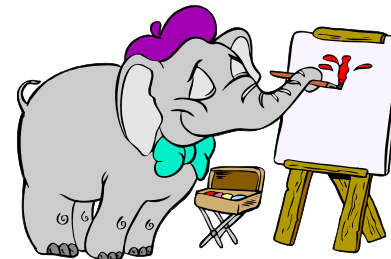


- **Current practices of student-to-student evaluations are not only erroneous but also may be one of the most irrelevant and damaging assessment strategies ever established**

Learning Styles

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The human brain tends to have more than one single learning style—although most brains appear to have a learning style preference

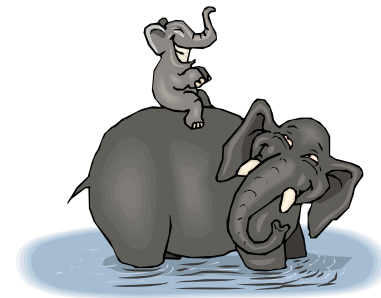


- **The learning style can change daily and even from hour to hour depending on what is happening in the learner's life and current environment**

Learning Styles, Cont'd

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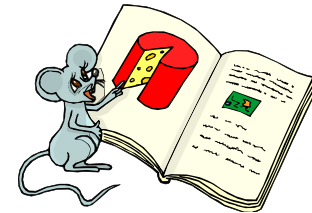
- **Learning style likely is unrelated to intelligence although it may be linked with sensory preference, EAI, and brain bent**
- **It appears to reflect qualitative rather than quantitative differences between individuals in terms of their brains' own unique thinking processes**



Learning Styles, Cont'd

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**Dunn & Dunn Learning Style
Model Study 1980-1990:**



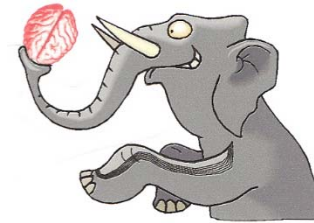
**Students whose preferred learning
style is accommodated would be
expected to achieve 75% of a standard
deviation HIGHER than students who
have not had their learning styles
accommodated**

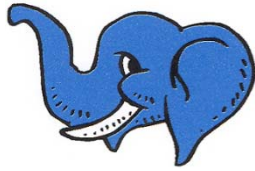
Whole Brain Learning

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Whole brain learning is the goal

- **Learning activities need to include strengths of both hemispheres; a strategy that is more likely to accommodate multiple learning style preferences**

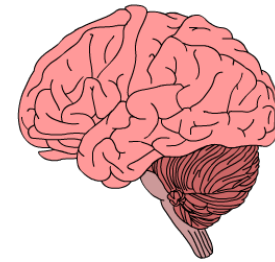




Learning Happens

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The brain is designed to learn,
so it will learn—unfortunately
what many brains learn may not
have been the desired outcome

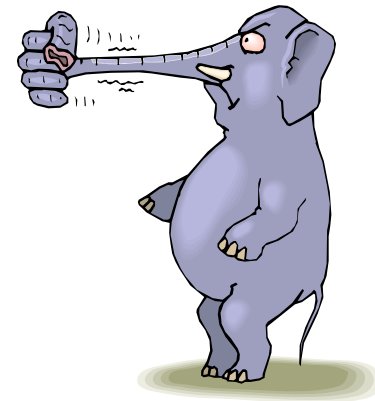


- Much of learning occurs outside of conscious awareness (e.g., estimates are that as much as 99% of cognitive activity may be subconscious)

Many Brains Learn to

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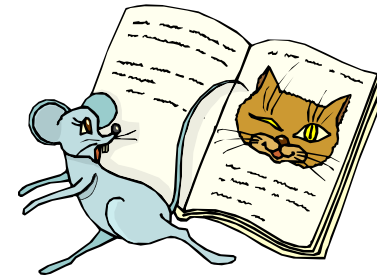
- Hate school
- Dread learning,
- Avoid specific instructors
- Get into trouble
- Give up and / or drop out
- Underachieve
- Develop addictive behaviors
- Perceive themselves as less-than-bright



The Bottom Line

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It has been known for some time and at some level that traditional styles of education do not work for many brains—most are actually brain-antagonistic

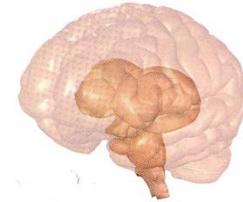


- **Studies have revealed much more about how the human brain naturally learns best**



The BIG Question

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In this 21st Century, society is capable of providing learners with brain-compatible environments and with curricula that support the way in which the brain naturally learns best

- **The question is: Will it?**

For the sake of millions of brains on this planet, the answer needs to be “yes!”