The Neurology of Learning
Your Brain on Agile Games
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How to Suck the Life out of a Room
Traditional training is Waterfall
Wernicke’s Area
Auditory Cortex
$252M/day
Game-based training is Agile
Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

- **Individuals and interactions** over processes and tools
- **Working software** over comprehensive documentation
- **Customer collaboration** over contract negotiation
- **Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on the left more.
Session Framework

Brain Tour

Playing with our Students’ Brains

• Getting Attention
• Making It Stick
• Brain Breaks

Putting the Brains into your Training
Brain Tour

- Limbic System
- TO-DO
- Useless trivia
- Reptilian Brain
- Neo Cortex
Triune Brain

- NeoCortex
- Mammalian Brain Limbic System
- Reptilian Brain

- Higher Order Thinking
- Emotions
- Instinct & Survival

- Instinct & Survival
- Emotions
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- NeoCortex
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Demo the Triune Brain
#1: True or False?

We learn best when we can link new information to what we have already learned.

True
#2: True or False?

Silence is good for your brain. The hippocampus (associated with memory, emotion, and learning) grows new cells within 2 hours of silence.

True
Casual play or games have been shown to have no measurable influence on learning.

#3: True or False?

False
To improve your memory, you can either get moving or take a nap!

#4: True or False?

True
It’s important to set students up to fail. The brain remembers the errors and changes behavior. We learn much more from our mistakes.

#5: True or False?

True
Adults are equally good at learning to gain rewards and avoid punishment. Adolescents - though - are much better at learning to avoid punishment only.

#6: True or False? False
#7: True or False?

When we learn, we remember images - metaphors, stories, analogies, graphics, videos, etc. better than words alone.

True
#8: True or False?

Habituation describes the brain’s ability to ignore anything that its “auto pilot” decides is repetitive, routine or boring.

True
#9: True or False?

Television has conditioned us to get our information in small “chunks” meaning short segments of time.

True
#10: True or False?

To increase learner retention, changes in the learning environment need to occur about every 30 minutes.

False
#11: True or False?

Brain growth stops at birth and is followed by a lifetime of brain cell death.

False
#12: True or False?

Use it or lose it. Brain pathways that are used regularly are maintained & hard wired. Others are eliminated or “pruned.”

True
Session Framework

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Playing with our Students’ Brains
• Getting Attention
• Making It Stick
• Brain Breaks
Putting the Brains into your Training
Reticular Activating System

New stimuli - 
Pay Attention? or Ignore?
HOW?
Survey Says... Top 10 Attention Getters

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10.
And at least one...

one technique to keep the learning environment “safe”
Session Framework

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Putting the Brains into your Training
Making it Stick

Memory: “Process of retaining information over time”

~ Margaret W. Matlin, Cognitive Psychologist
Types of Memory

- Sensory
- Short Term
- Working
- Long Term

7 +/- 2 chunks

Repetition
Association

Implicit
Explicit
Memory Process

- **Encoding**: Perceive & register
- **Storage**: Keep in good shape until needed
- **Retrieval**: Recovery on Demand

*Short term: Sequential
Long term: Association*
Improv...
How to make your training stick?

I need 9 brilliant, bold volunteers
9 Ways to Make The Learning Stick!
Session Framework

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Putting the Brains into your Training
Brain Breaks

Our Brains Need Rest Too.
Syn-naps ... Synapses

Replenish neurotransmitters
Process new information
Important for...

Memory retention
Prevent circuit overload
Maintain positive states
Timing is Critical

Meltdown: 15 minutes of lecture
STRESS:
Good News & Bad News
Even Worse...
Plan stress relief
2 Kinds of Vision

Fovial

Maximum acuity & focus
2 Kinds of Vision

Peripheral

Connect with the big picture
Hakalau
Haka - to focus in
Lau - to spread out
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Putting the Brains into your Training
Putting the Brains into Your Training

Mindset
Skills
Books
Courses
Events
Actions
Resources

★ Sharon Bowman: Training from the Back of the Room
★ Association for Talent Development (ATD)
★ www.Thiagi.com
★ www.TastyCupcakes.org
★ www.Conteneo.co (Innovation Games)
★ LEGO® SERIOUS PLAY®
★ Conferences:
  • Agile Games (Boston)
  • Play for Agile, Play for Agile North America
  • Agile Games West
★ Story Telling
★ Applied Improv
★ Training in workshop design, debriefing
★ Visuals - big images, visual facilitation
★ Bug Your Kids & Friends - Play games & “leverage” concepts
October 5, 2016
Berkeley, CA

Call for proposals - Open
www.AgileGamesWest.com
Thank You!
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