

Picking Your Adult Brain

Put aside your nose for at least the next 10 minutes and start placing fingerprints all over your adult brain. Stick to it and you will be able to apply the right adult-learning strategies at the right time to improve your training and workplace performance.



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“I never teach my pupils; I only attempt to provide the conditions in which they can learn.”

-- Albert Einstein

The Adult-Learning Brain

Picking Your Adult Brain



There I stood...knife in hand, slicing up a human brain like it was a loaf of my mother's homemade bread, fresh out of the oven. It was my first autopsy and I was convinced the medical examiner gave me this assignment to see if I would crack under the pressure. He wanted to see me throw up! He failed to understand the levels of religious fervor I constantly put myself through to never throw up . . . in any circumstance. Not going to do it!! I watched him remove organ after organ from this recently found dead body, but every organ he removed made sense; both in their form and function. The heart with its four chambers for pumping blood, the lungs required to breath, and so forth . . . but this human brain?? Even upon close inspection as I sliced it up, it made absolutely no sense to me how this thing worked.

Even now as I currently stand before each of your skull-encapsulated brains...I am still unsure of how the actual brain works. However, I do know that if I want to be an effective and persuasive teacher, I need to assess how your adult brain thinks, filters information and learns. If I want you to remember, act on and use the skills I will be presenting, I need to understand how adults think and how adults learn. I need to pick your adult brain!

There is an old quote that says, "You can pick your nose, and you can pick your friends, but . . ." after this session you will not only be able to pick your brain, but pick your friends' brains too. Your brain is amazing! Why not pick it? I guarantee it is going to be a lot more entertaining to put aside your nose for the next 50 minutes and start putting your fingerprints all over your adult brain. You will assess the adult-learning brain and apply the right adult-learning strategies at the right time to achieve significant improvements to your training and workplace performance.

Brains Are Better in Bite Sized Chunks

The brain can process only a small amount of information at a time --- consciously, that is. The estimate is that you handle 40 billion pieces of information every second, but that only 40 of those pieces make it to your conscious brain.¹ A common mistake of many teachers is failing to “Chunk it.” We are not going to make this same mistake. Therefore, today’s presentation is broken into the following bite-sized chunks and will take no longer than . . .

10 Minutes!!

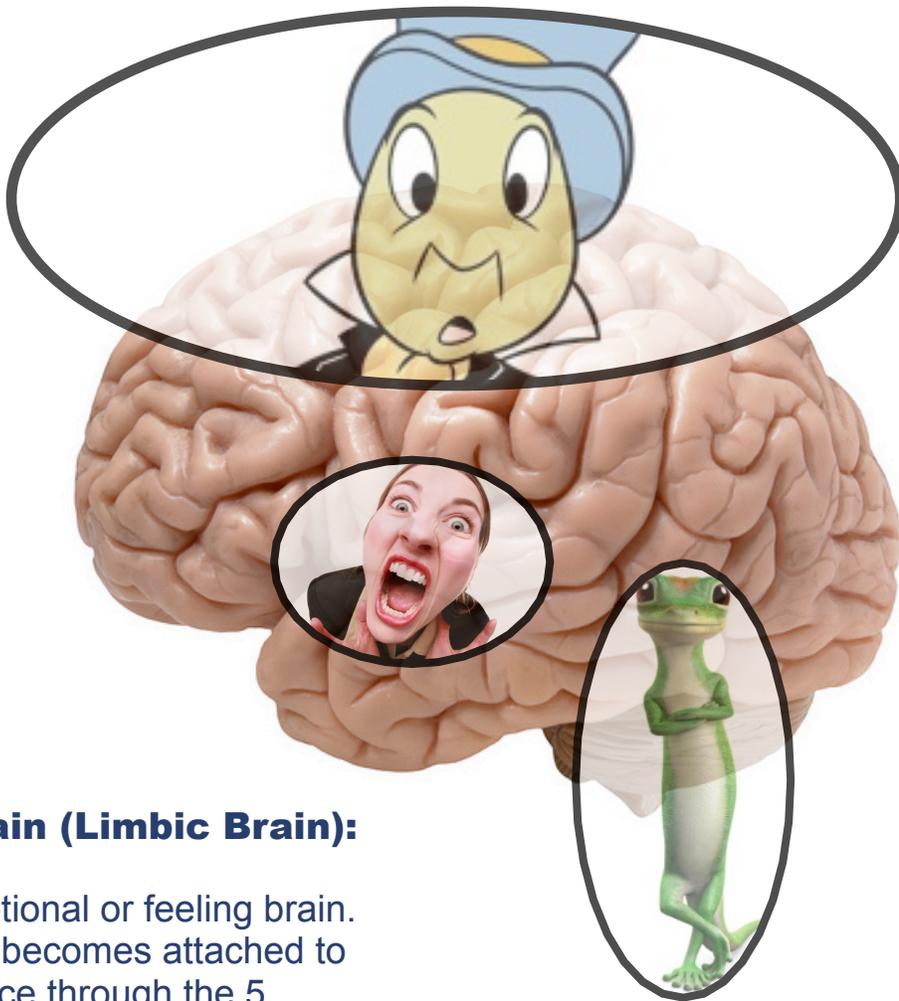


- 1. The Old Brain says . . .**
- 2. We Don't Pay Attention to Boring Things!**
- 3. Pete and Repete**
- 4. Scratch 'n Sniff**
- 5. The Power of Feedback**

My Three Brains

New Brain (Neocortex):

The conscious, reasoning, logical, rational or thinking brain.



Mid-Brain (Limbic Brain):

The emotional or feeling brain. Emotion becomes attached to experience through the 5 senses.

Old Brain (Reptilian):

Purely instinctual for survival; unconscious -- no thinking goes on here.

The Old Brain Says...



**“Can I _____ it? Can I have _____ with it?
Will it _____ me?”**

That is really all the old brain cares about. But this is important to recognize if you are going to be a successful teacher. Think about it! Without food, you will die; without sex, the species won't survive . . . (pause) and if you're killed . . . well, then you are not going to be around to eat or have sex . . . so the first two questions will no longer matter.

The brain is always scanning for these 3 critical things. What this means is you cannot resist noticing food, sex or danger, no matter how hard you try not to. It is the old reptilian brain at work.

Put on the brakes! Please understand -- we don't necessarily have to consciously act on these three old brain questions. This is part of the responsibility of our new brain. To not devour, flirt with, or run away from whatever walks into the room. My point is you will unconsciously notice these things whether you want to or not.

Ever sit in the back of a conference room near the doors? Pay attention to how many people turn their heads every time the door opens. They are unconsciously asking themselves, “Can I eat it? Can I have sex with it? Will it kill me?”

The old brain is easily distracted ---squirrel---- and it can hijack the attention of your other two brains. A good teacher will understand this unconscious directing of attention and will take steps to minimize these distractions.

Strategies To Minimize Old Brain Distractions:











Identify Old Brain Strategies Used Thus Far:











We Don't Pay Attention To Boring Things



May I Have Your Attention Please!?!

People do not pay attention to boring things! This is not likely a shocking revelation. There is a reason “Death by PowerPoint” is a common phrase in today’s vernacular. We have all experienced Death by PowerPoint. Causing death is murder. Murder is a felony. Anyone causing death by their presentation should be arrested and held accountable. Having been physically present at over 403 trainings in the last 7 years, I consider myself a very experienced eyewitness to the felonious killing of audiences all across these United States. Don’t be a Felon!

As an instructor, you have mere seconds to grab someone’s attention and only 10 minutes to keep it. Dr. John Medina, a developmental molecular biologist, and author of *Brain Rules* explains that at 9 minutes and 59 seconds, something must be done to regain attention and restart the clock.² This something must be emotional and relevant. Also, the brain simply needs a break.

Your first task as an instructor is to do as I have done and break your presentations into 10-minute bite-sized chunks. Ten minutes is the maximum. I mean it!



10 Minutes!!



May I Have Your Attention Please!?!

Dr. John Medina teaches 4 principles to help maximize adult learning in 10-minute chunks:³

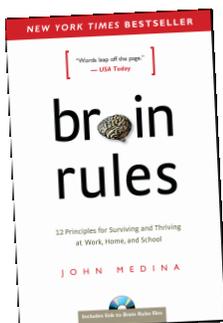
1. Emotions get our attention. A good teacher will develop emotionally arousing events in their instruction for it to be better remembered. The brain remembers the emotional components of an experience better than any other aspect. Therefore, in the first few seconds of your 10-minute chunk of instruction it is best if you “hook” the audience with something emotional.

2. Meaning before details. A good teacher will set the stage and provide the meaning before launching into the details. People need context. Basically, you want to spend the first 60 seconds “baiting the hook” with an emotionally compelling description of the core concept and the next 9 minutes providing the details. Then after 9 minutes and 59 seconds you have to bait the hook again. According to Dr. Medina, following this method will result in 40 percent improvement in understanding.

3. The Brain Cannot Multitask. Multitasking, when it comes to paying attention, is a myth. The brain naturally focuses on concepts sequentially, one at a time. Please note, I am not talking about the ability to walk and talk at the same time. Sure this is multitasking, but it is not what I am referring to. I am referring to the brain’s ability to pay attention. Businesses and schools praise multitasking, but research clearly shows it reduces productivity and increases mistakes. Eliminate multitasking!

In the context of instruction, if the student is going to learn, then we have to do our best to keep the audience focused on one thing at a time. It is a necessity for students to turn off their cell phones, texting, e-mails, iPads, Kindles, laptops, newspapers or whatever may be distracting their adult brains. Sometimes the presenter unwittingly creates the multitasking by their PowerPoint slides or handouts. Strategize ways to eliminate multitasking.

4. The Brain Needs a Break. Far too often, teachers forget that learners need some time to digest the information. They forget what it is like to be a novice. They forget the information may be brand new to the student. Adult-learners need built-in time during the instruction to digest the materials and be able to reflect on what they have just been exposed to. Good instruction provides this opportunity for self-reflection.



www.brainrules.net



Baiting the Hook . . . Don't Let the Brain Get Away



“9-1-1 is this an emergency?” . . .

This short story is an example of “Baiting the Hook.” I chose a personal story that is both emotional and relevant. I chose it specifically for this audience believing it would be relatable, it would help prevent multitasking, and would provide a brain break.

Frankly, this is my favorite part of teaching - - - creating ways to “Bait the Hook.” This is where teaching can truly become imaginative. In adult-learning it can be one of the most effective methods of teaching. Dr. Medina suggests 3 guiding principles of effective hooks.⁴

3 Guiding Principles of Effective Hooks

1. ***The Hook Has to Trigger an Emotion.*** Fear, laughter, happiness, misery, nostalgia --- basically the entire emotional palette is available. All work well. Personal narrative stories can be especially strong, if they are crisp and to the point.
2. ***The Hook Has to Be Relevant.*** The hook cannot be just any story or anecdote. It has to be relevant to the context and the details to follow. Many law enforcement trainers drive me absolutely batty by inserting YouTube videos as a mental break. The video may be funny, but it is usually not relevant to what they are teaching. I have found that if I make the hook very relevant to the provided content, the students move from feeling entertained to feeling engaged. They stay in the flow of the presentation, even though they are really taking a break.
3. ***The Hook Has to Go Between the 10-Minute Chunks.*** The hook needs to connect the chunks of information you are providing to make the entire presentation flow. Otherwise, the presentation is disjointed and the audience becomes confused. The hook can either be at the end of the 10 minutes summarizing the material. Or it can be placed at the beginning of the chunk, looking forward, introducing the new material.

Pete and Repete



Repeat to _____ -- Remember to _____

Repetition is the gateway to learning and is important to both short-term and long-term memory. The goal as an instructor is to provide quality brain encoding. Quality encoding of the adult brain revolves around content, timing and environment.⁵

And the Envelope Please ...

To demonstrate quality encoding, everyone now open the envelope given to them and follow the instructions. You have 2 minutes to complete the exercise.



3 Brain Rules of Repetition to Remember

1

It seems counterintuitive, but the brain that engages in a more complicated analysis will remember more. The last exercise also demonstrates the effectiveness of using emotions and meaning to develop content to increase memory.

2

Repetition doled out in specifically timed intervals is best for adult-learning. A great deal of research shows thinking or talking about an event immediately after it occurred enhances memory. Re-visiting topics of instruction at specifically timed intervals increases retention.

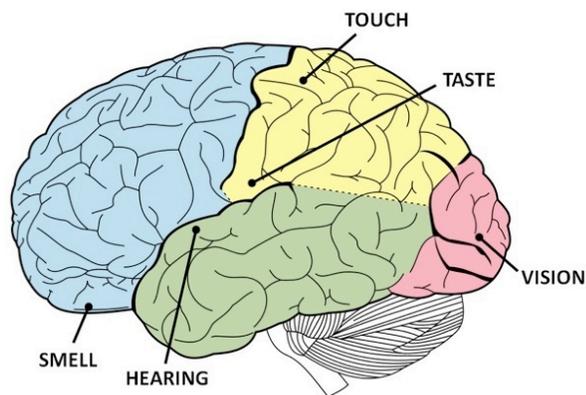
3

Memory is improved if you return to the “Scene of the Crime.” Retrieval of memory is improved by replicating the conditions surrounding the initial encoding. Return to the scene of the crime to improve learning.



“Our senses evolved to work together -- vision influencing hearing, for example -- which means that we learn best if we stimulate several senses at once.”

-- Dr. John Medina, *Brain Rules*



Use Your Senses ...

Once again, Mom was right when she told me, “You have got to use more sense.” For example, smells have an unusual power to bring back memories. When I was a toddler, my older evil twin sisters conned me into drinking some sweet smelling strawberry perfume. I don’t remember the Poison Control operator bawling out my Mom, but years later I almost ralphed all over the girl sitting in front of me in high school algebra. She happened to be wearing the same strawberry scent . . . and my brain instantly recalled it. Thankfully my aforementioned religious zeal saved the day . . . and the girl.

When it comes to using our senses, vision is king. Vision trumps all other senses. It is by far our most dominant sense, taking up half of our brain’s resources. We learn and remember best through pictures, not through written or spoken words.⁶ SOoo...



**“Let’s Get Visual...Visual...I Wanna Get Visual...
Let Me Hear Your Photos Talk...”**



The Power of Feedback

Would you be interested in improving your workplace performance by 26%? What if I could further improve your ability to learn by 31%? Are you interested?? Our brains learn best when we get the right feedback, at the right time, to point us in the right direction.

But Beware!

Not all feedback is created equal! A 1998 study by Kluger & DeNisi revealed that approximately 1/3 of all feedback strategies used in the workplace ends up making our performance worse! Another 1/3 of the feedback strategies have no impact at all. This leaves 1/3 of the feedback strategies that can actually make a difference.⁷

What is the key? In order to improve performance, the feedback needs to focus on giving people information that helps them see how well they are progressing towards a goal.

What Doesn't Work?

According to Richard Clark, the following things make performance worse or does not affect performance at all.⁸

- Saying "Good Job!" -- without explaining exactly what the person did that made their work good.
- Blaming the person for poor performance or a lack of performance.
- Hold the person responsible for goals that were not clear in the first place.

Most teachers like to use praise as a reward or as motivation. Yet, caution is needed. Praise usually does more harm than good. Research has shown that incorporating praise with performance dilutes the feedback message, making it less effective. Richard Clark suggests it is more effective to focus praise on the person's ability, the amount of effort they are putting into the task, or their ability to persist at the task.⁹

Corrective feedback should focus on the strategy being used to carry out the task, not on the person that used the strategy. Make sense?

What Works?

John Hattie & Helen Timperley's research on feedback revealed 3 key questions that need to be asked when providing feedback.¹⁰

1. **Where am I going?** People need to know what the learning goal is.
2. **How am I going?** People need to know what their progress is in achieving the goal.
3. **Where to next?** People need to know what to do to make more progress toward the goal.

Four Levels of Feedback

Hattie suggests that feedback can be provided at four different levels.¹¹

1. **Task:** How well has the task been performed; is it correct or incorrect? For complex tasks, feedback needs to be given within 20 to 30 seconds of an incorrect performance of the task. The key is to provide the feedback so that it gets mixed into working memory and the task is correct before it becomes fixed in long-term memory.
2. **Process:** What are the strategies needed to perform the task; are there alternative strategies that can be used?
3. **Self-Regulation:** What is the conditional knowledge and understanding needed to know what you are doing? This information leads to self-monitoring and self-directing of the processes and tasks.
4. **Self:** Personal evaluation and affect about the learning. This often takes the form of praise, but it needs to be appropriate praise.

John Hattie's meta-analysis research on feedback at all levels of learning—from preschool through college—shows that when students receive appropriate feedback, their performance can be dramatically improved, with an average percentile gain of 26%. What's even more impressive is when teachers or trainers get feedback from the students on their teaching and then use that information to improve their instruction. When this occurs, student achievement increases by an average percentile gain of 31%!¹² Clearly, feedback is one of the most powerful ways to increase achievement in school and in the workplace. But it has to be the right feedback given at the right time.

Where to Next?

What Difficult Goals Do You Now Want to Set?











What Has The Teacher Taught or Not Taught Well?











Endnotes:

- ¹ Weinschenk, Susan M., Ph.D., *100 Things Every Presenter Needs to Know About People*. Berkeley, CA: New Riders, 2012, p. 2.
- ² Medina, John. *Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School*. Seattle; WA: Pear Press, 2008.
- ³ Id. at 81-90.
- ⁴ Id. at 92-93.
- ⁵ Id. at 107-110.
- ⁶ Id. at 193-200.
- ⁷ Kluger, A.N. & DeNisi, A. (1998) Feedback interventions: Towards the understanding of a double-edge sword. *Current Directions in Psychological Science*, 7, 67-72.
- ⁸ Clark, Richard. *Turning research into results: A guide to selecting the right performance solutions*, CEP Press, 2002.
- ⁹ Id.
- ¹⁰ Hattie, John & Timperley, Helen (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112.
- ¹¹ Id.
- ¹² Id.

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Brain Rule Images & Images of Dr. Medina are available from the ***Brain Rules media kit*** at www.brainrules.net/mediakit.

Jiminy Cricket, Disney

Auggie Doggie & Doggie Daddy, Hanna-Barbera

Martin the Gecko by GEICO Insurance

Suggested Books:

Brain Rules by John Medina.

100 Things Every Presenter Needs to Know About People by Susan Weinschenk.

Real Leaders Don't Do PowerPoint by Christopher Witt.

Boring to Bravo by Kristin Arnold.

Outliers: The Story of Success by Malcolm Gladwell.

Presentation Zen by Garr Reynolds.

Presenting to Win by Jerry Weissman.

The Hungry Lion by Steffi Fletcher.

The Monster at the End of This Book: Starring Lovable, Furry Old Grover by Jon Stone.

Other Notes:
