SAP Litmos

SAP Litmos White Paper
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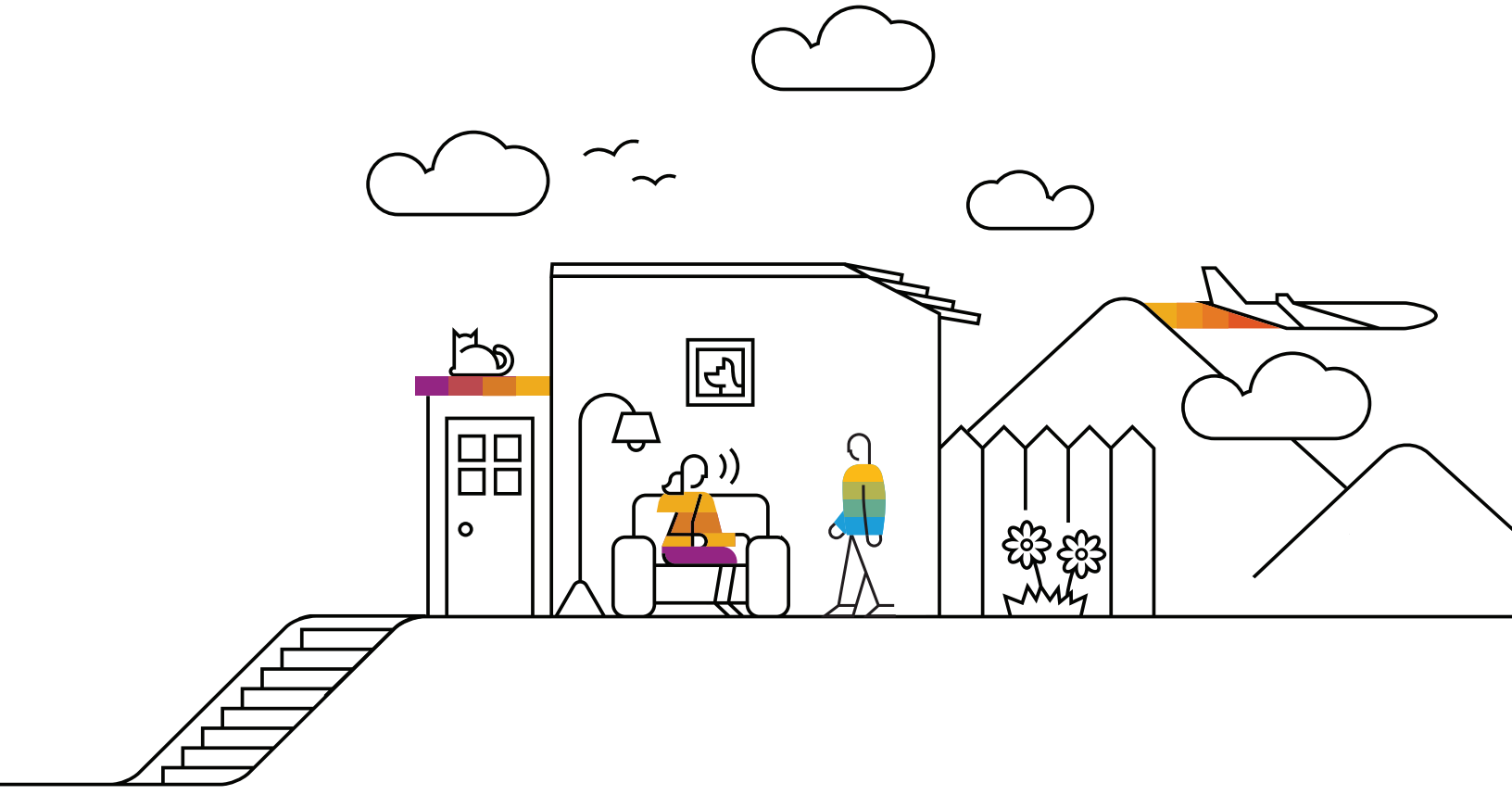
The Brain-Friendly Checklist:
How to Make Your LMS & Content Pleasing to the Human Mind

Modern developments in neuroscience give us exciting new insights into how our nervous systems work and why certain stimuli generate particular responses. One of the major areas of study within neuroscience is the vastly uncharted territory of the human brain and the physiology of neurons and neural circuits. You may now be wondering, "Did I download the wrong paper? I thought this was a guide about improving my LMS." It is.

Let's Start with an Exercise.

Step 1

Imagine for a minute that you are visiting friends out of town, but have some important, time-sensitive work to do. You ask if you could use their office for quiet and privacy.



Let's Start with an Exercise.

Step 2

They say yes and lead you to a room with a clean, white desk and a modern, but comfortable white leather chair. The room is beautifully decorated with a few potted plants, tasteful bookcases, and a window that looks out on the backyard. You think, "Yes! I can quickly get my work done inhere. It's so airy and peaceful."

How does that make you feel? As you take a deep breath and picture that lovey office, do you feel clear and ready to be productive?

Let's Start with an Exercise.

Step 3

Now, clear your mind of that room and being picturing the same scenario, except when your friend leads you to the office, it's a dark, cluttered, cramped space with a dusty desk, a metal folding chair, and a musky smell. There's no window and a few dead bugs lying on the papers on the desk.

How do you feel? Uneasy? Nervous?
Wondering where the nearest coffee shop is?
Reconsidering doing your work at all?

The point of this exercise is that your physiological reaction to an environment directly affects your level of focus, motivation, and stress. The first office calmed your nervous system and prepared you to concentrate in peace. The second office agitated your system and put you in a mindset of stress. These reactions come from your brain, but cause very real reactions and sensations in your physical body.

Mind if we pick your brain?

You may not often sit around and picture the contents of your skull, but like our previous exercise, this is a worthy endeavor to understand what makes us tick. Using its 85 billion neurons, this three-pound super organ performs countless functions and is composed of three main regions: the cerebrum, cerebellum, and brainstem. It also contains important structures such as the Limbic System (which we'll look at below), which helps mediate learning.

Prefrontal Cortex (PFC)

The PFC is one of the most richly connected regions of the cerebrum and is often considered the most sophisticated part of the human brain, performing cognitive functions such as rational thought, problem-solving, appreciating other perspectives, and decision-making. It's where we do our best mental noodling, such as thinking critically and even thinking about thinking. Also, the PFC makes us uniquely human, as it was the last part of the brain to evolve and is responsible for executive functions such as determining good and bad, same and different, prediction of outcomes, and other social controls. Unfortunately, when it's scared or under stress, it can stop working at full capacity and even shut down.

Cerebrum

This is the largest part of the brain and is composed of right and left hemispheres. It performs higher functions like interpreting touch, vision and hearing, as well as speech, reasoning, emotions, learning, and fine control of movement. The cerebrum contains many sub- regions, one of the most important of which is the Prefrontal Cortex.

Cerebellum

Located under the cerebrum. Its function is to coordinate muscle movements, maintain posture, and balance.

Brain stem

Though small, this is an extremely important part of the brain, which acts as a relay center connecting the cerebrum and cerebellum to the spinal cord. It takes care of automatic body functions such as breathing, swallowing, heart rate, blood pressure, and sleep cycles. It's the brain's most primitive part, but has evolved into an amazing survival machine, automating many vital activities below our level of awareness. How smart!

The Limbic System

As learning professionals, we should also be aware of the role of the limbic system, which is not a brain region per se, but rather a convenient way of describing several functionally and anatomically interconnected structures. It's closely connected to the PFC and is responsible for our emotional lives but also many higher mental functions, such as learning, maintaining attention, and formation of memories. It also serves as the brain's alarm or early-warning system by being very sensitive to any form of threat or danger, and helping prepare the body for fight-or-flight reactions by increasing heart and breathing rate.

All Hail the PFC

We love the PFC. We need the PFC. But bluntly put, the PFC is a bit of a prima donna. It needs conditions to be just right to do its best work. It refuses to work under pressure. To deliver the most effective learning programs, we must honor the delicacy of the PFC and eliminate any stressors in the environment to quiet the alarm bells coming from the Limbic System. From a brain perspective, this is essential to learners being able to focus, think, and retain information in a conscious, deliberate way.

Remember our exercise from the beginning of this guide? It's your job to metaphorically present the clean, peaceful office if you want learners to be successful. You need to declutter, simplify, and remove anything that could be perceived as threatening or overwhelming. You need to create a lovely room for the PFC.

What Does Stress Do to Your Brain?

With our new understanding of brain function, we've also learned a great deal about how stress affects the brain and can be a hinderance (if not a complete blockade) to learning. When we're stressed out, overwhelmed, or alarmed, our PFC and high-level thinking become impaired. Our brains naturally default to the impulses from our Limbic System, where we switch into fight-or-flight mode. In other words, if the conditions of the environment aren't conducive to learning, it can create stress, which immediately pushes a person from the reflective state of the PFC to a reactive (or automatic) state, where deep thinking isn't possible.

Why the Crash Course in Neuroscience?

It's an exciting time to participate in the learning profession because we know more than ever about what parts of the brain fire under specific stimuli - and as such, what enables people to learn and retain information. With cool new technology, such as Functional Magnetic Resonance Imaging (FMRI), we can test to measure brain activity by detecting changes associated with blood flow. Yes, when a particular area of the brain is in use, blood flow to that region increases. Surely, your brain is buzzing at this very moment to process all of this info!

Your Checklists

These lists are just a starting place. You're encouraged to add to them and modify as needed for your business. The point is to look at both your LMS and its content from a new perspective, using your basic knowledge about brain function. You may also want to run your own experiments to determine how brain-friendly your program is and survey learners about their physiological reactions to the LMS and its courses. For example, you could ask if seeing course lists or other materials makes them feel anxious, nervous, or overwhelmed. You could ask if pages are laid out in a visually pleasing way or if the layouts create a sense of confusion. The goal, of course, is to evolve your program to be as brain-friendly as possible to support how we function as humans and to accommodate for the range of unconscious or automatic reactions we have to external stimuli.

Checklist for your Content

- ☐ Does it stimulate high-level thinking?
- ☐ Is it relevant and interesting to your audience?
- ☐ Is it up-to-date and cared for on a regular basis?
- ☐ Is it short and free of extraneous clutter?
- ☐ Does it reward the learner in small bits?
- ☐ Is it written in your audience's vernacular?
- ☐ Does it look visually pleasing and professional?
- ☐ Was it built using a multimodal approach?
- ☐ Would you want to take the course yourself?

Checklist for your LMS

- ☐ Is finding and taking courses simple for your learners
- ☐ Can learners navigate without setting off the Limbic alarm bells?
- ☐ Would you rate the LMS itself as very easy to use?
- ☐ Do learners share positive feedback about the LMS?
- ☐ Have you reduced the total number of clicks required to complete courses?
- ☐ Have you automated processes to ensure a peaceful (non-irritating) experience?

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