

elm



MICROLEARNING

Strategy, Examples, Applications, & More

This is Your Brain on Microlearning:

The Neuroscience Behind Bite-Sized Education

Think about where you get most of your facts and food for thought nowadays. More likely than not, it's not from a textbook or a long form article you've read, but something short and snappy you saw on your Facebook feed, Tumblr, or other social media channel. This is microlearning, and it means that the information you read on Twitter is, in fact, considered learning.

Microlearning is convenient and quick, but those are far from the only reasons it's so attractive. In fact, the biggest cheerleader of microlearning isn't your packed schedule or your demanding boss: It's your brain. Small bits of information cater to your brain's waning attention span, but still leave a big impact on your long-term memory.

Before you dismiss microlearning as something only applicable to gossip magazines and YouTube videos, it's important to uncover the neuroscience behind why microlearning can be effective for any subject matter, including corporate training.

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Why Microlearning is Important

To truly absorb the impact of microlearning, you'll need to understand more about the way the human mind works.

But first, the negative stuff: As humans, we're becoming less attentive. Thanks in part to the rise of social media, humans are less focused in general.



In fact, the average human attention span (the time for which a human can focus on non-changing stimulus) is only eight seconds. That's one full second less than goldfish.

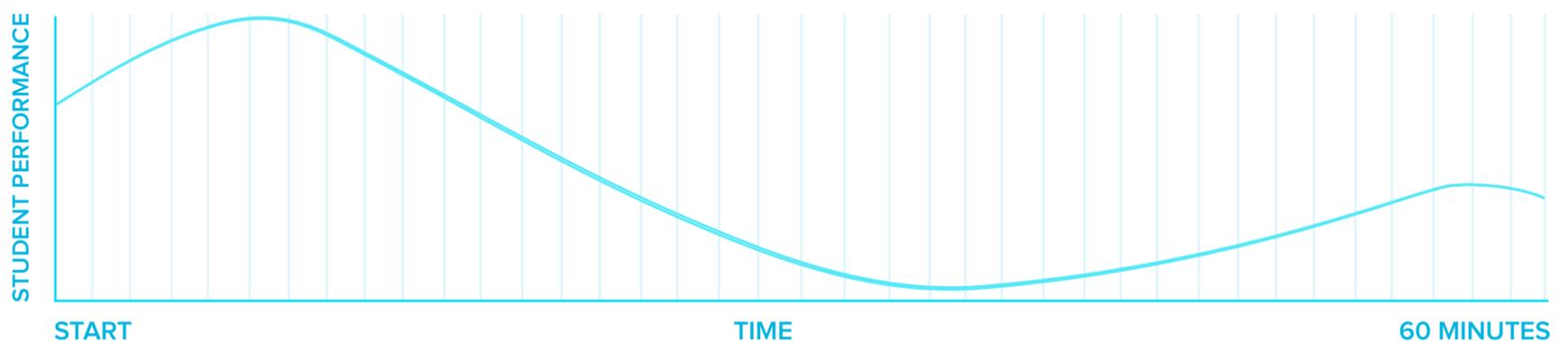
The average office worker checks their email 30 times every hour, and the average mobile phone user checks their iPhone 150 times per day.

Sound like a lot? It is. But humans are able to participate in those tasks literally hundreds of times every day because those interactions are quick: A precursory glance at a few updates is all that's required for the brain to process email alerts or a new like on Instagram.

Reading tweets, watching Vines, and hyper-absorbing media has made it so that humans are trained to look for the fastest path to the answers they need. While attention span has steadily declined over the years, the brain's capacity to consume and process information has actually increased. Therefore, if your information doesn't really merit paragraphs of text, or even long videos, microlearning can frame that info into the ways your learners are better suited to learn already trained and comfortable using. Anything longer, and you could get a goldfish-blank stare – what were you talking about again?

Shrinking Attention Spans

Researchers have found that the optimum time limit for attention to live instruction (changing stimulus) is around 10 to 15 minutes.



According to [this graph](#), most students will be interested for a little while, but attention wanes after the 18-minute mark and remains low until the end of class. With this principle in mind, it's possible to utilize traditionally lengthier methods of delivery, so long as they aren't too long – and there's plenty of time for breaks in between.

The same research has shown that when breaks are introduced into the training at 15-minute intervals, attention rebounds each time, even over the course of a 60-minute class. Microlearning in short spurts and with mental breaks in between (rest breaks or breaks where students are asked to complete a task or activity) effectively do away with wasted time during training.

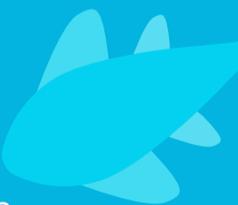
Information about Internet bounce rates can also shed light on the shrinking nature of attention span, especially when information is being displayed on a screen rather than experienced in a lecture. One study found that 32 percent of Internet users will abandon a slow site between one and five seconds, and just a one-second delay meant 11 percent fewer views overall. In short, learners want to find what they need quickly—and have no problem looking elsewhere if information transmission is taking too long. Microlearning is uniquely qualified to deliver information to a rising generation of hyper-efficient learners.

Naturally, the nature of the content dictates the best delivery system. Still, it's microlearning that has the largest capacity for changing the eLearning game. By respecting the neuroscience behind learning, information consumption, and attention span, it's possible to design an eLearning curriculum that takes various learning preferences into consideration.

DID YOU KNOW?

With attention spans shorter than those of goldfish, learners look for the quickest avenue to the information they need.

Microlearning makes space for some of those smaller, need-to-know bits of information, whether it's a quick product refresher or in-the-moment compliance training. Size matters: Delivering smaller bites of information allows the learner to experience, absorb, and move onto the next task before losing interest.





How Neurolearning Impacts Your Learners

The prefrontal cortex—the part of your brain responsible for everything from cognition to decision-making—is flanked by both the hippocampus and the amygdala. Both play integral roles in learning, but they react very specifically in terms of microlearning.

The hippocampus is your brain’s message center: It filters through information and makes quick judgements based upon how important that information actually is. The hippocampus is then responsible for sending the vital stuff to the long-term memory for storage and later retrieval.

DID YOU KNOW?

Here’s the thing, though: Information is only held within the working memory of the hippocampus for about **20 minutes**. If data is not converted to a long-term memory by then, it’s usually discarded by the brain and no longer available for recall or future manipulation.

What’s more, the hippocampus is only great at filtering one source of information at a time. Once you add in more sources of information or attempt to multitask, the hippocampus automatically begins only collecting the most vital information from either source, leaving large holes in the data that it collects and stores.

Unfortunately, typical training can be both long and boring. Not only does that tax the hippocampus’ ability to stay alert, but it practically begs learners to multitask while learning. Scrolling through a phone or checking email while an instructor is talking means the hippocampus leaves gaps in the knowledge that will be stored in long-term memory.

How Understanding Neurolearning Helps Build Strong Microlearning

Microlearning does the complete opposite: By breaking learning into smaller pieces, the hippocampus is able to stay alert and focused while receiving information. Short bursts of information are easy for the brain to receive, sort, and store, without losing focus or giving into the temptation to multitask while learning. The result is a condensed, effective version of training that can take half the time but have even more impact than traditional training methods.

For its part, the amygdala is responsible for processing emotion and creating the building blocks for sensory experiences. When working in tandem with the hippocampus, emotional responses processed by the amygdala can actually strengthen neural pathways to improve recall and memory. Think about it: When a learner has an emotional response to a material, it's nearly unforgettable. The brain moves the information from working memory to long-term memory for later recall. Take that same information taught in a vacuum, and it might be effectively discarded by the hippocampus as something that is unimportant.

The good news? Microlearning can be used to create that emotional response that lights up the brain's amygdala and tells the hippocampus to pay attention. Using tools like humor or animation, short stories are created to elicit a connection between the learner and the material. What's more, microlearning can create a positive reaction in learners, who are more than pleased to know that training doesn't require hours of time investment. A positive mood can also influence learning and information storage in the brain, further strengthening the link between short bursts of learning and better retention overall.

The span of time between lessons can also aid in converting information to long-term memory. Much like your muscles after a gym session, brains need time to recover in order to strengthen neural pathways and layer old knowledge with new information in your memory. Studies suggest that a gap of as little as 12 hours (as long as that gap includes a good night's sleep) can be enough to allow the brain to rest and generate memories.

A study published in a 2009 issue of Applied Cognitive Psychology found that 90 percent of participant's performance improved when they spaced out their study sessions when compared to participants who "crammed" the night before a test. Another study found that when students read texts in short spurts of a few minutes with filler tasks in between, they had better recall a full week later when compared to students who read entire texts start-to-finish.

DID YOU KNOW?

Attention, spacing, and even sleep can have a huge impact on the way brains absorb new information and convert it to long term memory. By chopping up information into digestible pieces, it doesn't just make learners sit up and pay attention, but actually become more efficient learners in the process.



Benefits of Microlearning

Learners love microlearning, period.

Not only does it save time and deliver information in the moment, but it's also highly autonomous. When compared to traditional training, learners are more apt to lead themselves through content when that content is broken into bits and delivered in a digestible way. Hey, your learners are big kids— they probably don't need constant supervision and guidance. Microlearning methods allow your learner to feel in charge, giving the opportunity to pick and choose applicable lessons while guiding themselves. What's more, the process respects your students' time. After all, a busy professional may only have a few minutes to **learn, process** and **apply new info**.

Two real-world examples of our society's newfound appreciation for microlearning can be seen in the popular Khan Academy and TED-Ed.

Both of which serve as instant educational tools to anyone requiring topical knowledge on the fly. Learners are able to click on the topics that interest them the most and are sudden students, all without the hand-holding that traditional eLearning entails.

Check out some of the other benefits of letting your learners take the wheel with microlearning:



Continuous Updates.

More traditional learning and training methods aren't conducive to constant changing and updating. By funneling your lessons into a more digestible medium, learners can score updates via social media, video and interactive content. Your learner gets the benefit of updated info and you save time in delivering that information.



Multitasking.

If your organization can't afford missed work and extra resources to allow learners to attend training, a microlearning strategy makes sense. It gives students focused training in a small time frame and even encourages learners to check in when they're away from their desks. The result is more time on the job whilst still encouraging and enabling continual learning.



Mobile Access.

What learner doesn't have a smartphone handy? Anything from watching a quick video while waiting in a doctor's office or reading a short email while relaxing on the couch means learners are in constant contact with the material they need.



Less Information.

There's a reason students have long scribbled their notes on an index card for more effective studying: It breaks up information into more digestible portion sizes so the brain can more effectively process the information. By condensing information down to about the size of an index card, learners take control of the way they view and interact with content. In fact, multimedia can help you sneak more info into your microlearning content.



Learner Interaction.

An interactive learning quiz, forum or even game allows your learners to try the concept for themselves in a shorter period of time. This can lead to a more efficient strategy where learners effectively teach themselves the new information and then put it to work. Allowing a high degree of autonomy in eLearning puts learners in charge of finding contextual, personal avenues for the information they need. This "path of least assistance" means learners who are able to toggle content delivery based on their level of understanding.

DID YOU KNOW?

Microlearning isn't about learning little lessons while sitting at tiny desks. Instead, it's a learning trend that enables learners to digest bite-sized pieces of information in a highly engaging and interactive way. With microlearning, less is more, but it's not lower quality. From short video clips to pop quizzes and even carefully composed tweets, microlearning enables you to get the most important information to the masses.



Tools for Microlearning

By breaking your subject matter into shareable, snackable pieces, you give your learners the autonomy and freedom to learn on the go, share their favorites and go beyond the usual realm of the classroom. In turn, this creates more motivated learners who are excited about the subject matter. But before you go about breaking up lessons and sharing on Facebook, load up your learning arsenal with four necessary tools to make microlearning work for you and your learners.



Social Media Accounts

From Facebook to Twitter and LinkedIn, social media has revolutionized the way that we not only receive information, but the amount of information we share. By connecting with your learners via social media, you nab them where you'll find them most frequently – perusing profiles. This means a chance to learn from a quick video or tip, but also an increased chance that the information is shared on the same platforms, extending your overall reach.



Video Options

It's no secret that the best teachers utilize visual cues to help learners understand new concepts. But the availability of quick, online videos that can be watched in a matter of minutes can turn casual learners into sponges for knowledge. Fast, entertaining and impactful videos can give your subject matter a better chance when compared to written material, especially when providing an entertaining, positive and shareable microlearning experience.



Content Keywords

Autonomous learners are efficient learners. They don't just rely on what is presented to them, but actively research and cultivate their own knowledge bases. With comprehensive keywords and effective meta tagging, one microlearning lesson can flow seamlessly into another to allow learners to become subject matter experts. A well-planned menu and autoplay features can also help ambitious learners stay on task and absorb more than just one 5-minute lesson.



Native Apps

Smartphones and tablets offer the ability for developers to think outside the box when it comes to microlearning delivery. Thanks to the availability of existing apps (Twitter, for example) instructors can push out bits of information without having to develop a custom app. Of course, when the time comes to create something more personalized, it's possible to create an app for flash cards, quizzes, daily quotes and even mini-lessons.

DID YOU KNOW?

Smartphones allow you to blend microlearning aspects seamlessly with your current strategy.

It's called "second screen learning". Traditional lectures, conferences and classes are complemented by using smartphones and tablets to answer questions. The second screen allows continual learning and accesses your learners' understanding of the material. While you may end a demonstration at 5 p.m., smartphones allow you to keep up with your students long after they leave to extend your reach using something they already have in their back pockets.

Case Study: Annalect

Call it a trial by fire: When Julie Veloz, Annalect's new Global Head of Learning and Development, was given the challenge to ramp up a corporate university to drive the future of workforce learning, she was also given a tight timeline – just three months.

Like any good leader, when faced with a serious to-do list and a tight turnaround, Veloz made the decision to get to know her workers and their motivation. When educating a group of 67 percent Gen Y'ers, Veloz gained some vital insight into the way they watch, search and learn.

We're talking about the Google generation: point and click, tap and share. They're socially aware, connected and above all: competitive. By harnessing both the Gen Y collective tech savvy and short attention spans, Veloz knew that the traditional click-through, monolithic computer course wasn't going to cut it – at least, not if she wanted significant results.

Therefore, a strategy relying heavily on microlearning only made sense. And, to help make sense of that strategy, Veloz called on Jack Makhoulf, Chief Learning Architect and neurolearning expert for ELM, for help.

Together, Veloz and Makhoulf laid out a strategy that encompassed three components:

Design, Develop and Deploy.

Design

Julie knew that too much information would overload her learners. Therefore, one of the most important directives would be to cull and pare down the info to the most concise and cohesive content. By creating a comprehensive curriculum, Julie was able to give her learner's a syllabus for a head's up on the content and the covered topics. Finally, she broke each topic into bite-sized lessons of five minutes or less for the easiest information digestion.

Develop

Proving that she truly understands her audience, Veloz moved forward with Makhoulouf's help, developing interactive content that would drive user engagement – and ultimately, motivation. Creating interactive quizzes and activities not only woke her sleepy learners, but offered an opportunity to measure comprehension. A conversational tone gave the content a decidedly casual, blog-like vibe, while voice-overs done by 20- to 30-somethings makes her Gen Y'ers feel more comfortable. Finally, employee-captured videos and multimedia additions shown on a branded media player drew her learners in and added personality.

Deploy

Finally, it was time to deliver the goods: Veloz's next task was to select and deploy a social/mobile-friendly SaaS-based LMS to host and deploy microlearning to the organization. By utilizing meta-tagging, users would be able to cross-reference topics as well as complete their own searches to aid in learning. She then encouraged autonomous learning by implementing eLearning roadmaps and blended learning paths.

Employees responded enthusiastically to the vibrant, bite-sized modules and are actually asking for more extensive educational opportunities, a complete shift from their former resistance to training. "We didn't anticipate this," Veloz admits. "The quick, fun lessons seem to have neutralized the resistance to training. It's as if microlearning has teased them into seeing the value of further learning."

It was a tall order, but a Veloz's forward-thinking mind – paired with Makhoulouf's industry expertise—made for a multi-generational solution that captured millennial minds while still driving.

DID YOU KNOW?

Annalect is a perfect example of why microlearning works. Not only does it appeal to fast-moving millennial employees, but it actually encouraged learners to experience modules on their own time. When learning is less formal and highly mobile, it becomes an organic solution for independent learners.

Wrap Up

Brains love microlearning, and for good reason: Breaking content down based on relevancy, time constraints, and learner autonomy tap into learners' neuro pathways. Small nuggets of information may seem inconsequential, especially when measuring up to content-heavy training strategies, but for the brain, bigger isn't always better.

Instead, meet your new information highway: the Internet. As you surf the Web, read reports and check in with sites, you'll undoubtedly happen upon articles, videos and information pertinent to your colleagues. Twitter offers you a way to quickly share new information and ideas between employees in the moment, so there's no more lost ideas and forgotten media. As you share with your learners, you're able to make the most of others' ideas and concepts with the instant gratification of using social media.

As learners experience microlearning, the brain finds the shortcuts that it loves to absorb new information. Neurolearning is a higher order of education, utilizing learners' natural instincts and inclinations to help them become learning machines. Microlearning might be the smallest tool in your training arsenal, but it might also be one of the most effective.

About ELM:

We are an interactive design consulting firm that uses neurolearning approach to help corporations develop innovative learning experiences.

We do this by leveraging modern brain science and intuitively stunning design to help companies communicate to clients, educate staff and develop leadership. ELM is based in NY with a full in-house design team in San Diego.

<http://elearningmind.com/>