THE POWER OF SMALL THINGS & BABY STEPS:

7 REASONS BITE-SIZE LEARNING WORKS TODAY!

BY TREION MULLER, CEO, THE MODERN LEARNING ARCHITECT

OPENING BITES

We share this planet with 7.6 Billion people, and 51 percent of the them have access to the internet[1]—a cornucopia of information unlike the world has ever known. Add to this fact the breathtaking pace of technological advancements and a growing "just-in-time," or "I want it now," mentality, and you can see why our attention spans are getting shorter and shorter.

In fact, the average person's attention span has declined to less than 10 minutes, according to a 2017 microlearning study from the Association for Talent Development.[2] Given the choice, learners will pick podcasts over books, do-it-yourself YouTube tutorials over lecture, and just-in-time mobile reinforcement over days-long training.

Even though technology and the internet have played significant roles in the perpetuation—and accessibility—of learning opportunities, our quest for knowledge is nothing new. It's been central to the human condition since the first man walked the earth. And based on what we know about brain science he has always wanted knowledge served up in small chunks, with time in between servings to absorb and apply it.

Microlearning, or bite-size learning, speaks to what science has long known about the brain's inner workings, and helps learners focus—despite their diminishing attention spans—by providing information in a manner aligned with their brain's wiring.

But what has this got to do with the Learning and Development (L&D) space? And what can those in L&D be doing differently because of what we know about microlearning? These are some of the questions I hope to evoke in this eBook.

WHAT IS BITE-SIZE LEARNING?

First, what is microlearning? There are dozens of definitions online that all basically say the same thing. Here are just a few:

The International Data Corporation (IDC) - "We define microlearning quite simply as the delivery of bite-sized content nuggets.[3]

Axonify - "Microlearning is an approach to training that delivers content in short, focused bites. To be effective, microlearning must fit naturally into the daily workflow, engage employees in voluntary participation, be based in brain science (how people actually learn), adapt continually to ingrain the knowledge employees need to be successful, and ultimately drive behaviors that impact specific business results."[4]

Anthonie Wurth, Mindmarker Founder and Author of Training Reinforcement: The 7 Principles to Create Measurable Behavior Change and Make Learning Stick provides perspective around learning journeys: "An adaptive learning journey for an individual learner is made up of different small programs composed of assessments, microlearning, and reinforcement that connects with each other based on learner performance, timing elements (guidance), and external influences or learner's initiatives."

Like some of these defintions imply, I too believe microlearning (aka bite-size learning) is more than just a collection of small things, it is also the time in-between, or baby steps, that is necessary to achieve proficiency in the desired new skill set or behavior.

The rest of this eBook will follow these two distinctions — Small Things and Baby Steps—as well as the argument for more actively utilizing these two distinctions in learning and development, because of what we learn from the 7 Reasons Bite-Size Learning Works Today!

POINTILLISM, PIXELS, AND OTHER SMALL THINGS

First, Small Things. This earth is covered with examples of how small things, when pieced together in the right order, can produce something extraordinary. To understand this principle, it is worth looking at two examples—one from art and one from technology.

In 1886, during the Impressionistic art period that included artists like Monet, Van Gogh, and Renoir, two other artists saw new potential in the singular thin brushstrokes that others did not. They not only recognized the obvious fact—that many small brushstrokes put together make up a beautiful canvas—they also saw an opportunity to try something new. So Georges Seurat and Paul Signac started painting with small, distinct dots of color, applied in patterns to form an image. While similar to Impressionism, it was different enough that art critics of the day mocked the artists by labeling the new art style, pointillism. The name and the new art form (also known as Neo-Impressionism) stuck. Today, in addition to paint, you'll find pencil and pen dots are masterfully grouped together to create a larger picture. A Series of small dots when placed together in specific patterns, can yield a beautiful, bigger picture.

In 1936 the word pixel was first published to describe the smallest components of video images. Today, pixels refer to any of a number of very small picture elements that make up an image, and have become the default standard in the movie, photography, technical, and graphic design industries(to name just a few).

Further examples of how small particulars strung together in a specific way yield something much grander and spectacular, can be found in notes to a song or words in a book. By themselves notes or words are practically insignificant and impotent. Only when pieced together in just the right way can the power of words and notes be felt and experienced.

Now consider how this Small Thing principle could apply to soft skills training like leadership. If you were to look at what makes an individual a great leader, would you attribute her success to the one or two-day event she attended ten years ago or all the small things she learned and applied over that entire time period? This may seem obvious, and yet necessary to call out. There is power in the small things we learn and apply, as well as the failed attempts along the way.

Bite-Size Insights

It may be interesting to learn that both Leo Tolstoy and Charles Dickens wrote and published some of their greatest works in chunks or serials. Tolstoy wrote Anna Karenina in serial installments between 1873 to 1877 and published them one at a time in the periodical The Russian Messenger. Dickens mostly published in monthly or weekly instalments, always ending each installment with cliffhangers so as to keep his readers in suspense and coming back for the next installment.[5]

BABY STEPS, BIG RESULTS

Second, Baby Steps. It takes time to learn a new skill, which is why it's common to break larger tasks into smaller milestones, or baby steps.

Through baby steps we build muscle at the gym. We focus on one muscle group at a time over many months. We don't expect one extreme workout to produce a muscular body for life.

Through baby steps we nourish our bodies, three meals a day throughout our lifetime. We don't gorge ourselves on one extravagant banquet and expect that meal to sustain us throughout our lives.

Baby steps is how the average person learns to play the piano or guitar. They start by getting to know the basics of their instrument. For piano, it's scales. For the guitar, it's learning where to place your hands and identifying the notes of the fretboard.

Only when a person has developed confidence and competence in that first step can they move on. After learning a skill, they must stop learning and practice and apply what they've already learned. Why? Because if they receive too much information at the once, without sufficient time to practice, they'll be overwhelmed and unable to play anything on the guitar or piano at all. When it comes to growth and learning, baby steps yield big results.

Grovo, the microlearning company, says it best: "The principle of learning in small, repetitive chunks has long been acknowledged as an effective method of learning, say, a new language, or a musical instrument."[4]

We wouldn't expect an infant to master the mechanics of walking after one successful step, or a musician to master an instrument upon learning to play just one note, so why do we expect mastery of the skills needed to be a competent leader or salesperson to be any different? To avoid overwhelming a learner with too much information, it is important to break the training into bite-size chunks. That is why eating the proverbial elephant one bite at a time, and over time, is the only way for us mortals to learn a new skill, whether it be a soft skill, technical process, or complex system.

Josh Bersin, the dynamic global research analyst and Founder and Principal at Bersin by Deloitte, put it this way: "Neurological research has proved that we don't learn well through 'binge education' like a course. We learn by being exposed to new skills and ideas over time, with spacing and questioning in between. Studies have shown that students who cram for final exams lose much of their memory within a few weeks, yet students who learn slowly with continuous reinforcement can capture skills and knowledge for decades."[16]

So, knowing that the human condition requires baby steps to achieve big results, we must again ask the L&D industry why they think a two-day leadership training event by itself could possibly result in exceptional leadership?

7 REASONS BITE-SIZE LEARNING WORKS TODAY

Photo by Tyler Lastovich on Unsplash

Hello

How does the power of small things and baby steps apply to bite-size learning in the L&D space? In my research over the past several years I've identified 7 reasons bite-size learning works today, and why it wouldn't have worked as well even 10 years ago. You see, for the first time in history, microlearning has all the tools to support its potential. In other words, these 7 reasons are the catalysts that make microlearning work, and each exemplifies the value of small things and baby steps.

1. Our BRAINS are Wired for it

2. CONSUMER Behavior Reinforces it

3. The INTERNET Enables it

4. MOBILE Advances it

5. VIDEO Escalates it

6. The MODERN LEARNER Demands it

7. EBBINGHAUS Would Endorse it

1. OUR BRAINS ARE WIRED FOR IT

Almost ten years ago author Nicolas Carr reflected on how he felt Google was making us stupid:

"Over the past few years I've had an uncomfortable sense that someone, or something, has been tinkering with my brain, remapping the neural circuitry, reprogramming the memory. My mind isn't going—so far as I can tell—but it's changing. I'm not thinking the way I used to think. I can feel it most strongly when I'm reading. Immersing myself in a book or a lengthy article used to be easy. My mind would get caught up in the narrative or the turns of the argument, and I'd spend hours strolling through long stretches of prose. That's rarely the case anymore. Now my concentration often starts to drift after two or three pages. I get fidgety, lose the thread, and begin looking for something else to do. I feel as if I'm always dragging my wayward brain back to the text. The deep reading that used to come naturally has become a struggle."[6]

I don't know about you, but this is absolutely true for me today. Have you ever wondered why your mind starts to wander, even when you are committed to learning something new? Or why no matter how much you try, sometimes you just can't focus anymore? The good news is you're not alone, it just happens to be how our brains are wired.

In **1956**, American psychologist and Princeton professor **George Miller** published the groundbreaking paper **"The Magical Number Seven, Plus or Minus Two,"** which focused on the capacity of the working memory. Miller discovered that the ability to take in, process, and productively use information is limited. He also found that our working memory can hold a narrow, defined range of seven—plus or minus two—items.[7]

"A learner's attention span and short-term memory is limited to processing information in chunks. That's why adherents of such theory suggest splitting up content into small, manageable sections, rather than simply dump never- ending chains of text. This technique makes learning more manageable and easier to integrate into long-term memory. Once it's in long-term memory learners can remember it and transfer the knowledge to their daily tasks." **- George Miller**

In the years since Miller introduced us to his Information Process Theory, his assertions on working memory have been researched, tested and replicated hundreds of times.

For example, in **1976 Dr. A. H. Johnstone** studied the ebbs and flows of students' focus during a typical class period. He found that students need a three- to five-minute period of settling down, after which they can focus optimally for 10 to 18 minutes. But after that timeframe, no matter how good the teacher or how compelling the subject matter, there comes a total lapse of attention. "Attention would eventually return, but in ever briefer packets, falling to three- or four-minute [spurts],"[8] he writes.

These findings were further validated in a **1985 study by Ralph A. Burns** in which students were tested how well they recalled facts learned from a 20-minute presentation. Students overwhelmingly remembered more of what they had heard at the beginning of the lecture. They had strikingly lower recall of content presented after the 15-minute mark.[9] In summary, for learners to effectively assimilate and retain information, or see the bigger picture, they must receive bite-size pieces of information, which according to this study is 15-minutes or less, with the right amount of time in between to adequately process it.

In **1988, John Sweller,** picking up where George Miller left off, published his paper on **Cognitive Load Theory** in the journal Cognitive Science. Cognitive load refers to the amount of information that working memory can store at one time. Sweller suggested that because working memory has a limited capacity, "instructional methods should avoid overloading it with additional activities that don't directly contribute to learning."[10]

This only scratches the surface of all that neuroscience can teach us about attention spans and how our brains acquire and process information. But it's clear that despite the magnificence of our brains, we are unable to focus for more than 10-15 minutes at a time when engaged in a learning activity. Hopefully you can see how bite-size information, when artfully pieced together, reduces cognitive load and allows the brain to more efficiently process and learn.

2. CONSUMER BEHAVIOR REINFORCES IT

In my recent eBook, **7 Consumer Realities That The Learning Industry Can No Longer Ignore** (2017),[11] I explain, "We are all active participants in the digital revolution going on around us— where we find answers to questions immediately, where we crowd source our problems, and where we listen to books in the seams of our day."

These consumer activities are part of our natural behavior in the market, and the industries that thrive in this market are those that allow us as consumers to not only subscribe to but also live the Small Things and Baby Steps principles. The seven consumer behaviors I present in the eBook, and that I believe support my Small Things and Baby Steps arguments, are:

1. I want it now!
2. I want it to the point!
3. It has to look good, and work well, or I'm dumping it!
4. I don't want all this other stuff!
5. I want to paint the picture!
6. I want to be entertained!
7. I want the same at work

Most consumers don't care for or understand why excess context and content is needed to address the challenges they seek answers for. They don't want a day's worth of training if an hour or less will do. That's how they have been conditioned, and they like it that way.

**Google** has also seen the same behavior and given it a name—**micro-moments:**

"Micro-moments are critical touch points within today's consumer journey, and when added together, they ultimately determine how that journey ends."[12]

We are all evolving into modern-day Goldilockses who want everything a specific way, customized to our unique tastes and eccentric needs. And the digital world we live in is not only encouraging this behavior but also enabling it.

As the seventh and last consumer behavior on the previous page indicates, we want the same at work. In other words, consumer activity is conditioning us to want our learning and development just right, which means at the right time, in micro-moments, and in bite-sizes. This can be classified as informal learning. In fact, according to a 2007 study, "studies of informal learning, especially those asking about adults' self-directed learning projects, reveal that upwards of 90 percent of adults are engaged in hundreds of hours of informal learning."[13] It has also been estimated that upwards of 70 percent of learning in the workplace is informal.[14]

Learning has become automatic. If we have a question, we Google it. We then read more about it, or more likely watch a video about it, and move on. Our consumer or personal behavior feeds into our informal learning behavior at work and continues to reinforce and perpetuate the behavior.

Photo: Micro – Google
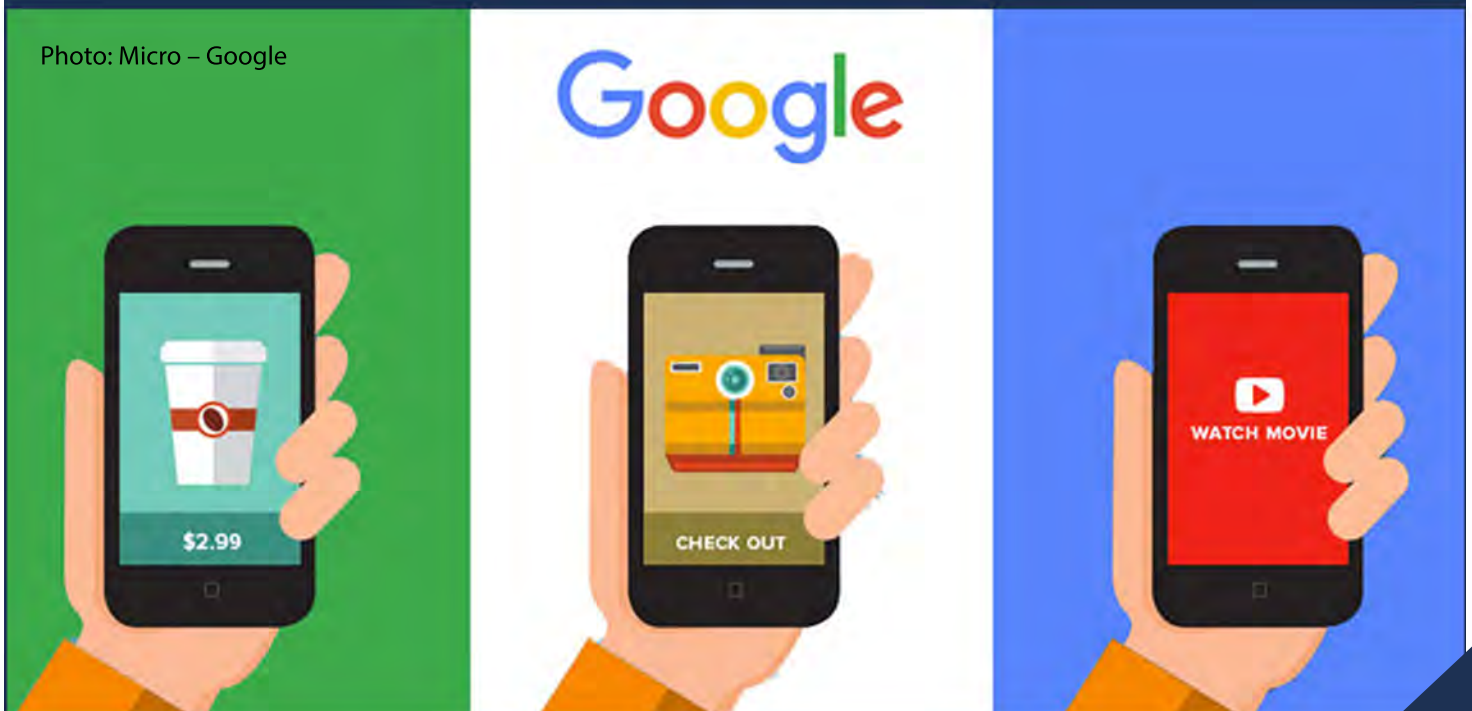
3. THE INTERNET ENABLES IT

We are all familiar with how the internet has permeated our lives and given anyone with a network connection access to a world of possibilities and information. But what makes this fact even more amazing is that 90 percent of all the data on the internet today has only been created since 2016.[15] In other words, w**e have a front row seat to this Digital Revolution** that is just beginning its world takeover. So, while I will not beat the internet-is-so-big-and-awesome drum anymore, I will share how it enables bite-size learning.

Josh Bersin, in his paper "**The Disruption of Digital Learning**," put the connected world and bite-size learning into context: "Consider how quickly corporate learning has evolved. In only one generation we have gone from traditional corporate universities to e-learning, blended learning, talent-driven learning, and then continuous learning. Tools like Google, YouTube, Workplace by Facebook, Slack, and others have totally changed the learning landscape, so our job now is simply to "deliver learning to where people are."[16]

If we were to take a holistic and data-focused view of how we spend our time online what would it tell us about how we learn? I believe it would tell us 5 things:

1. We like to learn in bite-sizes. For starters, Google is the gateway to as many bite-size chunks we want, so it's no wonder that there are over 40,000 search queries per second, or 3.5 billion Google searches a day.[17] Each search dishes up millions of bite- size learning fragments for us to experience at our leisure.

2. We like to contribute. Humans often derive purpose and meaning from contributing to something, and the internet has made is possible for anyone to become a contributor—from being a mommy blogger to a business influencer or self-published expert. Because of the opportunities available there are over 1,209,600 new data-producing social media users each day,[18] and more than 4 million hours of content uploaded to YouTube every day.[19] Most of these are bite-sizes contributions.

3. We want to be heard. As we've learned from the President of the United States, tweeting is a great way to get your point of view out to the world. In his case, because he is so controversial, if he wants to be heard he just throws up his thoughts in a tweet and the world hears about it. But he's not the only one. There are over 656 million tweets per day,[19] from people who also want to be heard. There are also dozens of similar online formats and forums that facilitate the same behavior.

4. We want to share. Related to being heard and contributing, we also want to share—our successes, our failures, our funny moments, our new hairdos, our family pictures, our opinions, our complaints, our preferences, and pretty much anything else you can imagine. That's why there are 67,305,600 Instagram posts uploaded each day. And every 60 seconds on Facebook there are 510,000 comments posted, 293,000 statuses updated, and 136,000 photos uploaded.[20]

5. We like to be connected. Yes, we like to stay connected to the world around us. In fact, according to a Nielsen report, 51 percent of viewers report using a mobile app to stream local news, and 40 percent noted the importance of using social media to obtain local information.[21] And as we've already learned from Facebook, Instagram, etc.we also like to stay connected to our friends, family, associates, and favorite celebs. It's also why there are 22 billion texts sent every day, and why there 5.2 billion daily Google Searches in 2017, and an average of 269 billion emails sent a day in 2017.[22] That's billions of bite-size connections folks, all thanks to the wonderful World Wide Web.

Each of these internet observations are indicative of our day, our time, our behavior, and our preferences. And While these realities are definitely not always productive or even helpful, they are still a reality in which bite-size learning and consumption is clearly playing a major role.
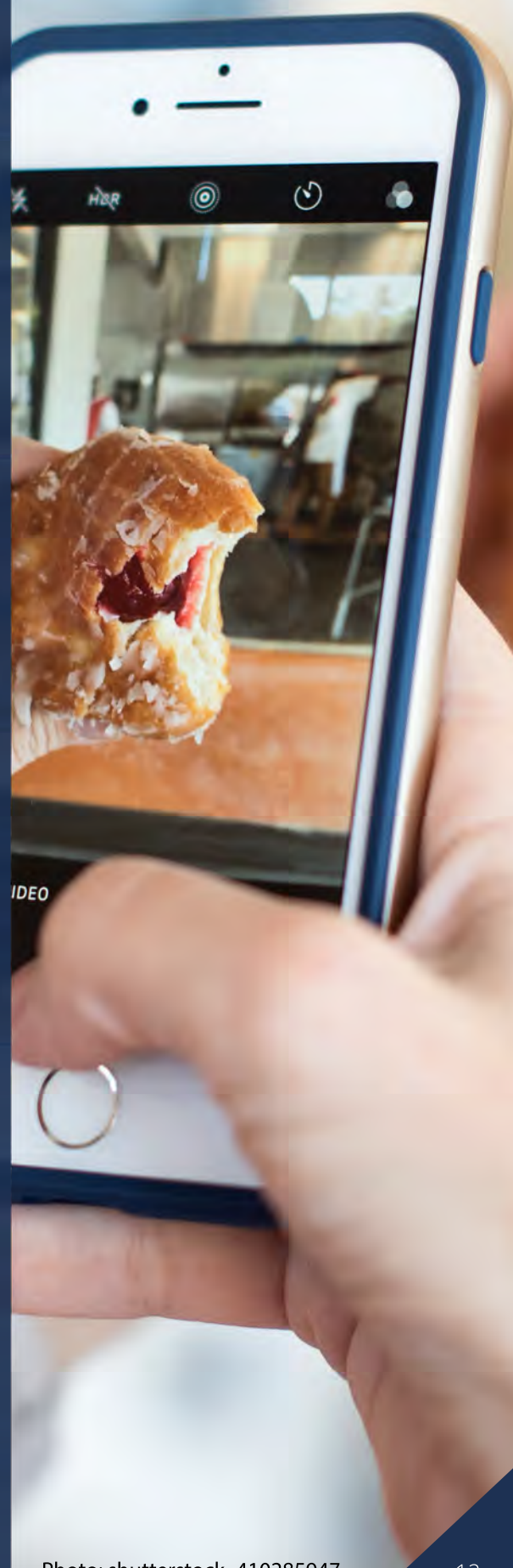
4.   MOBILE ADVANCES IT

I have always been an early adopter. A tech geek. But I'll never forget holding the iPhone 1 in my hands for the first time in the summer of 2007 and thinking, "Wow! This is amazing!" The phone was far better than anything else I had ever seen or could have imagined. That was less than eleven years ago, but it feels like I've had a smartphone in my pocket forever.

However, there are some who truly have never known a world without smartphones or tablets or the internet, and according to Zogby Analytics almost 90 percent of Millennials say their smartphone never leaves their side.[23]

Leveraging the mobile-first approach allows for the anytime, anywhere approach that learners desire. There's an abundance of tools that automatically adjust your content to multiple screen sizes, making creation of mobile-friendly content achievable. As you evaluate whether your training is accessible enough, ask yourself:

• How do my learners access our training now?
• How would they ideally like to access training and when?
• What can I change so thatthe answers to the first two questions are aligned?

Michael Rochelle, Chief Strategy Officer, at Brandon Hall Group has said: "In a world of learning and development where complexity is the enemy, [organizations need a] simple and nimble approach to delivering high-quality learning, anywhere, anytime." For me, that is where the computers in our pockets come into the picture. Forrester Research calls this the mobile moment: "the secret ingredient is the mobile moment—that moment where a customer gets anything she wants, immediately, and in context."[24]

This mobile moment is more than a moment and doesn't seem to be going away any time soon. In fact, the mobile device has practically become another appendage that we cannot stop looking at. A Deloitte study in 2016 found that people look at their phones 47 times a day on average; for young people, it's closer to 82 times a day.[25]

Shaul Olmet the CEO of Playbuzz takes a strong stand on the importance of mobile when it comes to learning: "Take, for instance, the mobile phone. It compels the user to be an active participant, interacting with the device countless times a day. All one does on this platform is have two-way dialogues with other people and apps, controlling their UX along the way. However, many brands and publishers still expect these same consumers to be passive recipients of content, resulting in low engagement..."[26]

One of the greatest advantages of using mobile for bite-size learning is that it encourages eLearning authors to simplify their training, bite-size it, and lead with interactive elements such as video. Mobile does not support long-form anything, so if you don't bite-size it you'll likely lose your audience. In short, thanks to mobile, we have unending access to limitless small things that can be consumed in baby steps.

5.   VIDEO ESCALATES IT

I recently read a story of a single mom who built a 3,500-square-foot home by watching DIY YouTube videos.[27] She did it one YouTube video and one bite-size project at a time over a period of nine months.

In the **1970s** the psychologist and author of Social Learning Theory, **Albert Bandura**, taught the value of observation when it comes to our learning development: "Most human behavior   is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action."[28] This speaks to why video is such an effective instrument in learning and development.

As we've become more immersed in the world of video, we've started to make some interesting observations. For example, recent studies have shown that "adding video can improve a person's ability to remember concepts and details — with effects that increase   over time. Presentations that include visuals like video along with slide text are 9 percent more effective than text alone when audience comprehension is tested right away, but become a staggering 83 percent more effective when those tests are delayed."[29]

In other words, when learners watch video along with text they are more likely to remember concepts over a longer period of time. Add to that the fact that 65 percent of people are visual learners[30] and you can see why video is such a powerful tool when it comes to bite-size learning.

Why short videos? As we have already established, our attention spans have always been short, and they are getting even shorter. "**Get in, observe, get out, and get doing**" could easily describe today's learning reality. We live in a highly personalized world, where the cheese and fluff of a bygone era is cast aside in favor of pointed answers to specific questions.

Researchers from the University of Rochester looked at the amount of time students spend watching videos of various lengths for online courses; they found that attention begins to wander, and learners began skipping ahead, when videos exceeded 9 to 12 minutes.[31] That's with captive students in online courses. Those same people in their personal lives want their videos to be shorter. In fact, out of the top 10 most popular YouTube videos the shortest was 42 seconds, and the longest was 9 minutes and 15 seconds.[32]

And in a 2016 article for the International Conference on Applied Science and Engineering Innovation, it was reported that 71 percent of learners felt that microlearning videos "expanded their horizon[s] and played a leading role in in-depth learning."[33]

One reason video is such a catalyst in the bite-size economy is **YouTube**. Though it only launched in 2005 as a way for people to upload, share and view videos, YouTube has completely changed how we learn today. It is also a major catalyst in the future of learning.
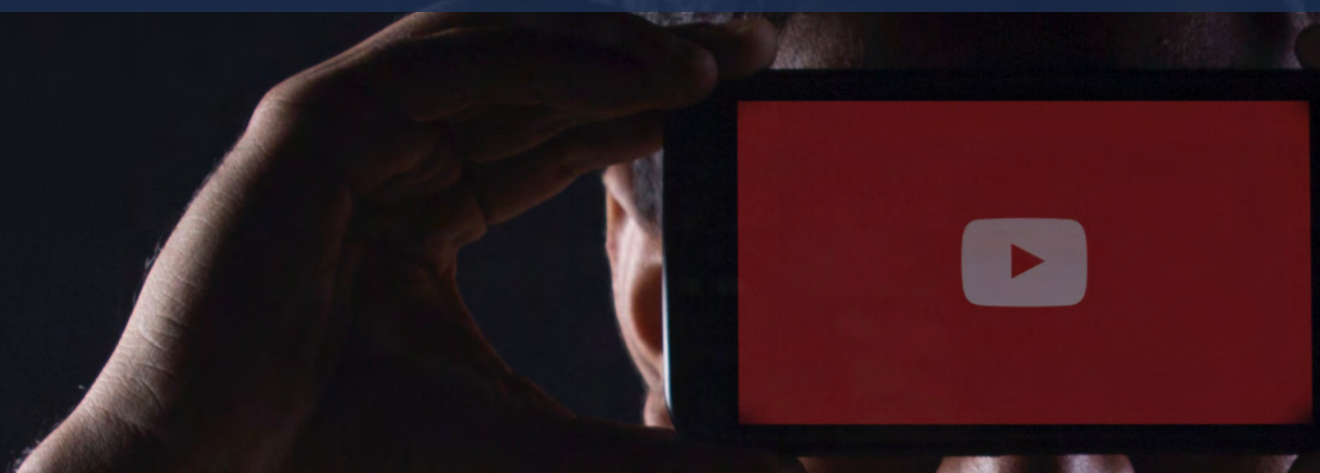
Because of YouTube, we have been conditioned to not only seek answers to our many questions in video form, but we have also been conditioned to accept videos of average or even subpar quality. While some in the training and development industry continue to spend millions on Hollywoodesque training videos, the average Joe has been pushing out YouTube- style videos that cover the same content without the exorbitant price tag. This is how YouTube has established a "show me" society, effectively replacing the old school "tell me" approach to learning.

I like the way Josh Bersin has framed this reality in companies today: "We know companies don't want to buy dozens of products to make their training departments work, so all this is now starting to come together. And the new paradigm has emerged: it looks, feels, and acts like digital TV, the consumerized approach to content."[34]

But with all good things in life, there are some shortcomings we should be aware of. According to a recent study, "Watching expert performances might make you feel that you could perform similar skills. But new evidence suggests that learning by observation may, at times, be illusory. Observers come away feeling confident that they're well prepared to try the task out themselves, but when they do, often they're not better than they were before."[35] The authors of this study share why there is this disconnect and what we can do about it: "What is it that causes people to be so overconfident? When people watch videos, they see the performer's technique, but they don't feel it themselves. It's one thing to memorize what steps to take, but another thing to experience how those steps feel upon taking them. People often miss subtleties while watching, and so people are prone to underestimate the complexity of the skill, and overestimate their own abilities, after watching experts." In other words, combining small things and baby steps makes the difference, as evidenced by the Mom who built her house by watching YouTube videos. She not only observed, but she then went and experienced homebuilding herself (probably through some trial and error, or baby steps, along the way).

Bite-Size Insights
Video has even conditioned us to process images in shorter time spans. In the 1960s movie industry it was common knowledge that an audience required something like 20 seconds to recognize an image while today that figure is less than 2-3 seconds.[36]

6. THE MODERN LEARNER DEMANDS IT

This reason alone requires our immediate attention. When you take into account demand, along with all the other reasons bite-size learning works today, you realize there is no turning back. This shouldn't surprise you. You have likely read the studies, articles, and headlines I've read on how digital natives function and learn. It's right there in black and white, paper after paper: Millennials do not like to be lectured or told there is only one way of doing things. They want to discover and experience and innovate while doing their day job, not watch PowerPoints at a hotel conference room away from their functioning reality. The truth of the matter is Gen Z and Millennials were born learning on the fly. And if you think these younger generations are not going to impact learning, think again. By 2025, Millennials will make up 75 percent of the workforce.[37]

Today they are 80 million strong and the largest demographic segment in the United States, "and they are seeking interactive relationships and authenticity from brands and products."[38]

A CEO explains why he hired a Millennial to help him keep a learning mindset: "Every minute counts, and not everyone on a sales staff (or in any function) wants to learn exactly the same things. Each individual has different strengths and weaknesses. People aren't looking to waste their time sitting through long explanations that don't necessarily apply to them. They're able to get just what they need from modular courses and video tutorials online, and they've come to expect the same from live instruction. I know my industry is moving away from multiday on-site training, and more into "just-in-time" learning, and Morgan (the Millennial intern) is going to be a big part of helping me stay on top of that trend."[39]

For the new generations, learning in bite-sizes is no longer an option, it's how they operate. The question is, how quickly can we adapt our traditional long-form training to meet their needs?

7. EBBINGHAUS WOULD ENDORSE IT

At a recent industry conference, I attended a fascinating session on learning retention, delivered by a Professor Art Kohn. While I enjoyed the information, there was one statement Professor Kohn made that got my attention because of the line of work I am in. He said, "The Learning and Development industry is conducting learner fraud." Professor Kohn was referring to the fact that most L&D follows the firehose delivery method. This method consists of sharing loads of new content, concepts, and principles with a group of participants over a one-, two-, or three-day period, then setting them loose with a paper action plan and expecting change to occur. He also shared a 140-year-old study—which might seem irrelevant if it didn't still ring true today.

The study was conducted by **Hermann Ebbinghaus**, the German psychologist, who ran a limited memory study on himself, which he published in 1885. The resulting theory became known as the Ebbinghaus Forgetting Curve.[40] In essence, Ebbinghaus hypothesized that how quickly people forget what they've learned is determined by several factors, including how difficult it was to learn what they did, and how meaningful it was to them. Although the rate of forgetting differed from one person to the next, forgetting always increased over time. What was his antidote for forgetting? Small things and baby steps, or what he referred to as mnemonic techniques and spaced repetition.

One study suggests that, due to this current approach to learning delivery, fewer than 15 percent of participants successfully apply what they learn.[41] Another study shows that within 30 days 80 percent of content is forgotten, a number that jumps to 90 percent after a year.[42]

So, if Hermann Ebbinghaus were alive today, I think he'd be both concerned and elated. Concerned that so many L&D sessions are being conducted without any legitimate follow-up or reinforcement, leading to almost everything being forgotten within a year or sooner, but elated that the other 6 reasons listed in this eBook exist and can act as a catalyst to reinforce content taught through bite-size learning fragments and baby steps.

Bite-Size Insights

Want to view a humorous video about "learner fraud" then search YouTube for: Father Guido Sarducci's Five Minute University

CLOSING BITES

In this eBook we have looked at two core principles—Small things and Baby Steps—and 7 research-based and common-sense reasons that show why we learn and process better today because of those two core principles.

Success for me means that you have started to look more closely at how you naturally process and learn and start to recognize the power of small things and baby steps in every aspect of your life.

I also hope that those in the L&D space will consider what they could do differently with their unique L&D needs, challenges, and learners.

Regardless of what some of the players in the microlearning space are saying, there is no one bite-size fits all. It all depends on what your ultimate objective is, what the gaps are, and who your learners are. Only once you understand these realities can you begin to craft a bite-size solution to address them.

One last thought. While the editor of this eBook is someone I have not used before, I will definitely use him again (if he'll edit for me again). Why make this seemingly unrelated callout? Because he asked me a very relevant question to the topic I have been researching and writing about, that I think many of you may also be asking: "why are you publishing a 7000- word eBook on the importance of bite-size learning? Shouldn't you make a 4-minute video?" And there you have it. The challenge us researchers, educators, writers, and training industry professionals have—we are just too set in our traditional learning and delivery ways. We've been conditioned by an established system that has been around for hundreds of years, but one that is in major transformation as I write this. So, for those few who have made it through the entire eBook, congratulations and thank you for embracing the irony. And thanks to Ryan (my aforementioned editor), enjoy the bite-size infographic that will soon follow this eBook.

SOURCES

1. UNESCO. (2017-2018). World Trends in Freedom of Expression and Media Development Global Report - https://en.unesco.org/world-media-trends-2017

2. ATD. (2017). Microlearning: Delivering Bite-Sized Knowledge https://www.td.org/Publications/Research-Reports/2017/Microlearning

3. International Data Corporation (IDC) - https://www.idc.com/

4. Axonify. Everything you need to know about micro learning. https://axonify.com/u/microlearning-guide-gsr-ty/

5. Grossman J. H. (2012). Charles Dickens's Networks: Public Transport and the Novel. Oxford: Oxford University Press. ISBN 978-0-19-964419-3.

6. Carr, N. (2008). Is Google Making us Stupid? The Atlantic.

7. Miller, G. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. Psychological Review, 63, 81-97.

8. Johnstone, A. H., & Percival, F. (1976). Attention Breaks in Lectures. Education in Chemistry, 13(2), 49-50.

9. Burns, R. A. (1985). Information Impact and Factors Affecting Recall. Annual National Conference on Teaching Excellence, (p. 19). Austin, TX.

10. Sweller, J. (April, 1988). Cognitive Load During Problem Solving: Effects on Learning.

11. Muller, T. (2017). 7 Consumer Behaviors that L&D Can No Longer Ignore, (elearning Industry) – https://elearningindustry.com/free-ebooks/consumer-realities-learning- industry-no-longer-ignore

12. Google Report. (2015). Micro-Moments: Your Guide to Winning the Shift to Mobile

13. Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). Learning in adulthood: A comprehensive guide (3rd ed.). San Francisco: Jossey-Bass.

14. Kim, Collins, Hagedorn, Williamson, & Chapman, 2004.

15. IBM Marketing Cloud study (2017)

16. Bersin, J. (2017). The Disruption of Digital Learning: Ten Things We Have Learned - https://joshbersin.com/2017/03/the-disruption-of-digital-learning-ten-things-we-have- learned/

17. WorldOMeter - http://www.worldometers.info

18. TNW. (2017). The global state of the internet in April 2017

19. Domo. Data Never Sleeps 5.0. https://www.domo.com/learn/data-never-sleeps-5

20. Source: The Social Skinny

21. Nielsen, The Nielsen Local Watch Report, April

22. The Radicati Group, Inc. A Technology Market Research Firm, Email Statistics Report, 2017-2021

23. Kiplinger, L. (2014, September 27). Millennials LOVE thier smartphones: Deal with it.

24. Forrester Consulting. (2016) Empower Your Employees In Their Mobile Moments.

25. Deloitte, Global mobile consumer survey: US edition

26. Olmet, S. (2017). Content that speaks the audience's language - http://bit.ly/2gqSHUq

27. Today. (January, 2017). Single mom builds 3,500-square-foot home by watching YouTube tutorials (https://www.today.com/home/mom-builds-house-youtube-tutorials- t107077)

28. Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice Hall.

29. Panopto. (2017). Video Learning Facts You Can Use to Make the Case for A Video Platform.

30. Bradford, W. (2011) The Law teacher Vol. 11. Reaching the Visual Learner: Teaching Property Through Art. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=587201

31. Hazlett, C. (2013). EdX. Optimal Video Length for Student Engagement. https://blog.edx.org/optimal-video-length-student-engagement

32. The Best Video Length for Different Videos on YouTube - http://bit.ly/1GUwz5z

33. Chang, J., Liu, D. Deng, X. (ASEI 2016) International Conference on Applied Science. Research on Effective Teaching Strategies in Flipped Classroom

34. Bersin, J.- A New World of Corporate Learning Arrives: And It Looks Like TV - http://bit.ly/2sidfC6

35. Kardas, M. O'brien, E. (February 2018) Psychological Science. Easier Seen Than Done: Merely Watching Others Perform Can Foster an Illusion of Skill Acquisition

36. Hayles, N. Katherine. (2012). University of California, "Hyper and Deep Attention, The Generational Divide in Cognitive Modes"

37. Schawbel. D. (2013). Forbes. Why You Can't Ignore Millennials.

38. Sinha, J. Fung, T. (2018). MIT Sloan. The Right Way to Market to Millennials.

39. Barrows, J. (2017). Harvard Business Review. Why a Gen-X CEO Hired a Millennial to Help Him Keep a Learning Mindset - http://bit.ly/2zrNp2g

40. Ebbinghaus, H. Memory. A Contribution to Experimental Psychology German 1885: Thoemmes Press; English 1913: Teacher's College, Columbia University.

41. Brinkerhoff, R. O., Apking, A. M; "High impact learning: Strategies for leveraging business results from training" 2001

42. Learning Solutions. Trends of Blended Learning: evolution of learning design and technology.

AUTHOR
TREION MULLER

Outdated adult learning and training are failing to deliver desired behavior changes due to decreasing learner attention spans, the forgetting curve, and very low application after one-and-done events.

This is costing businesses millions of dollars every year and leaving them with a workforce still in need of training.

Multiple studies show technology has changed the way adults learn, retain and apply information. But a large pool of training companies and solution providers have not applied modern learning principles to instructional design and solutions. Businesses can longer afford to continue to provide training that isn't catered to the modern learner.

How can you identify and apply effective training solutions at a reduced cost to enhance company culture, increase retention, and continuously develop your workforce with measurable results?

My name is Treion Muller, founder of The Modern Learning Architect.

I've innovated and developed effective digital learning solutions and technologies over the past 17 years that has resulted in the dramatic increase of learner consumption, application, and behavior change.

I help companies reduce training costs up to 50% by architecting a training plan designed for the modern learner that achieves measurable results.

This is accomplished by applying my proven Modern Learning Architect Formula.

Step 1: ASSESS - We start with an assessment of your existing training plan, offerings, and technologies to identify training needs, objectives, and the learning-to-application-to-behavioral change gaps.

Step 2: ARCHITECT - I then craft a custom training plan designed to your specific training needs and objectives identified in step 1 along with selecting the right training solutions , technologies, and partners specifically aligned to the modern learner in order to achieve measurable results based on behavioral change.

Step 3: ACTIVATE - This is where we launch your modern learning training solutions, accountability processes, and success tracking system to assure your goals are achieved.

The Modern Learning Formula is proven to reduce annual training costs by up to 50% while significantly increasing skill application for measurable results that lead to employee retention and enhance company culture.

www.linkedin.com/in/treionmuller
TheModernLearningArchitect.com