



White Paper

The Myth of 21st Century Learners

Abstract

There is much talk that learners, their needs, and their approaches to learning have changed in the new century, but much of this discussion both rests on weak foundations and confuses training with reference. Assumptions about changing learning styles are largely without any factual basis. And training and reference are both valuable, but are different things that serve different purposes.

THE MYTH OF THE NEW LEARNER

This morning, a Google search for the phrase 21st century learner yielded 257 million results. The results included articles such as:

*What Is 21st Century Learning? How Do We Get More?*¹

*How Do You Define 21st-Century Learning?*²

*Characteristics of 21st Century Learners*³

*What Do We Mean When We Talk About 21st Century Learning?*⁴

Clearly, people are convinced that there is some special group of human beings that fall into a new category called the 21st century learner, and that those learners have certain characteristics that are different and unique. The arguments, piled one on another, seem to make a valid case that educators, including and especially those dealing with modern, professional, technical education, are faced with a new set of challenges, and that we need new solutions with almost magical powers to deal with the recently evolved breed of humans.

These arguments are somewhat effective for selling odd and eccentric training solutions, but do not hold up under scrutiny. While training and education continue to evolve, the notion that an entirely new approach is called for (or effective) is mere marketing noise.

Let's consider the case that 21st century learners are different from their predecessors. The argument goes like this:

- The world is changing quickly. There are jobs and technologies now that did not exist ten years ago.
- More jobs than ever require analytical thinking skills.
- Workers:
 - are time-starved.
 - expect to go to the internet to find information.

- are used to using social and mobile applications for learning; indeed, they demand that "learning to be mobile-first so it fits into their life and work – wherever that may be."⁵
- "expect learning solutions to look and feel like consumer apps that allow us to collaborate with our peers."⁶
- "demand their corporate learning be ruthlessly relevant to their jobs, and a seamless aspect of their work life."⁷
- want learning to be easily searchable, accessible at the moment of need, and available in small chunks.
- expect well-designed online experiences.
- Because of shrinking attention spans and the shortage of available time, training must be organized into bite-sized chunks that are available anytime, anyplace, through any media.

The conclusion is that training must be:

- Delivered through smart phones and tablets
- Broken into minute chunks that are accessible anytime through any medium
 - Essentially, must be available as reference material
- Must include a social facet

Before we argue with the conclusions, we must examine the arguments. We've separated these into four groups:

- TRUE (valid)
- TRUISH (basically true, but misleading)
- BULLISH (weak or just wrong)
- CLOSE BUT NO CIGAR (a good point being used to lead to an incorrect conclusion)

TRUE

- It is true that the world is changing quickly, and that there are jobs and technologies now that did not exist ten years ago. However, the idea that such facts should change the nature of training is illogical. The teaching and learning of complex technical material cannot be taught more quickly than it could be taught in the past merely because we wish it could.
- It is true that more jobs than ever require analytical thinking skills. Such observations are often included as part of complicated arguments that lead to certain conclusions, but are seldom actually addressed by those who draw those conclusions. (To be clear: the logical conclusion is that more training is needed in critical thinking. For this reason, HOTT has developed a unique and comprehensive analytical thinking class for business professionals.)

TRUISH

The argument that these new learners are unlike other learners rests largely on observations about them that are intended to show that they are encountering challenges completely unlike those encountered by previous generations, and which make them unique. The fact is, there is very little about these folks that is new and unique.

- *Workers are time-starved.* True. But workers, particularly American workers, have always been under overwhelming pressure to produce much and quickly. The notion that this group is facing some unique challenge -- especially given the incredible tools they have at their disposal that were not available to previous generations -- is laughable.
- *Workers go to the internet to find information.* Also true, but many technology professionals have been going to the internet for solutions since long before some of these *new learners* were born. Technology companies have routinely shared internet feeds, which included *Newgroups* (discussion groups, much like today's *Quora* or *Stack Overflow*), since the late 1970s. This behavior is hardly new or unusual.
- *Workers are used to using social and mobile applications for learning.* It is true that, where possible, mobile-style learning provides additional and convenient options for training. The implication that therefore all training must be "mobile-first" and seamlessly fit into life and work -- that is, that training should require no special effort or set-aside of time -- is ludicrous.
- *Workers expect well-designed online experiences.* True. In other news: duh.

BULLISH

Other arguments start with statements that initially sound reasonable, but which on closer examination do not lead to the implied conclusions.

- *Workers expect learning solutions to look and feel like consumer apps that allow us to collaborate with our peers*⁸. Here there is some truth and some chicanery. Most learners, past and present, want to be able to collaborate. People like being able to team. The "consumer apps" part, which implies the use of applications that run on smart phones, is a red herring. Smart phones are ill suited for technical training (or other complex training). How long do we expect a learner to hold a phone in their hand? How many lines of code can actually be displayed and studied on a 5 inch screen?
- *Workers demand their corporate learning be ruthlessly relevant to their jobs, and a seamless aspect of their worklife.*⁹ This could not be less true. Workers want professional mobility, and the very worst thing for such workers is learning that is relevant only to their jobs. They want learning that is relevant to their careers and to their current situations.

CLOSE BUT NO CIGAR

One of loudest arguments is that *because of shrinking attention spans and the shortage of available time, training must be organized into bite-sized chunks that are available anytime, anyplace, through any media*. This argument rests on the claim that attention spans are shrinking, and the fact is, as we have known for some time, they are not.¹⁰ Individuals have become more decisive about what they view, but our ability to maintain our focus on content is actually improving over time as we become more selective about the content to which we choose to devote our attention.¹¹ The *shrinking attention span* argument is a myth.

The second part of that argument, that *training must be organized into bite-sized chunks that are available anytime, anyplace, through any media*, is fallacious for several reasons.

- As we stated, attention spans are not shrinking, so that claim offers no support for the notion of tiny training.
- The use of many more but much smaller training events ("micro-training") is far less effective and far more expensive than conventional, facilitated training.
- It conflates training and reference.

Micro-Training

Ultimately, the use of bite-size training mechanisms -- "micro-training," if you will -- for complex technical training is dramatically more expensive and less effective than conventional, facilitated training. There is a certain amount of mental overhead and expenditure of time associated with any learning experience. Therefore, for any training activity, no matter how lengthy or brief, the learner has to stop, shift gears, define the problem, consider methods of solving it, perform research or engage in a learning activity, and then, one hopes, apply the lesson, lest the learning be short-lived or illusory. In the case of micro-lessons, there is not only much more overhead and wasted time as learners repeatedly start and stop, but a great risk that without facilitation, time invested may be largely wasted time.

This circumstance comprises a terrible hidden cost. Enterprises are far better served by removing such workers from production tasks for three to five days at a time so that they can get real, facilitated, measurably effective training, than by lobbing in soon-forgotten micro-lessons that do little more than provide the appearance of training.

Training vs. Reference

Training is the process of making an individual or group proficient in some art, profession, or task, by instruction and practice. Training is characterized by the clear delineation of behavioral objectives (goals), the (preferably interactive) presentation of materials, practice, and evaluation.

Reference materials are sources of information. A reference may take the form of a formal citation to a specific book or article, or to a discussion on a web or social media site where individuals may ask, provide answers to, and find answers to questions.

Learning is the act or process of acquiring knowledge or skill. Learning often takes place through the process of education or training, but is not the same thing.

The purpose of both training and reference is learning, but they address different needs. In the context of technical learning, the reference sources that are available on the WWW are spectacular and useful, and often help technical professionals solve all sorts of problems. Sites like Quora, Stack Overflow, and various technical communities are good places to get specific answers to specific questions, and even to help debug programs. But they do not offer training. The nice people who answer questions online may help a professional determine that they have left out a semi-colon or used the wrong family of programming functions, but they do not provide the training that delivers architectural understanding and expert guidance in the application domain.

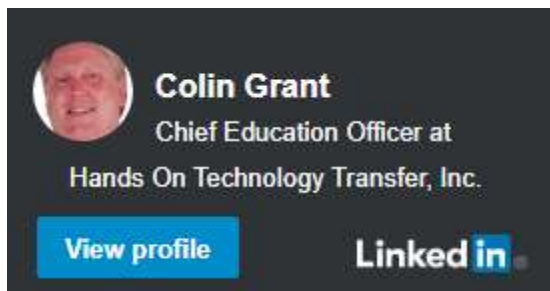
CONCLUSIONS

By combining statements that are some combination of false, baseless, and out of context, and by conflating the goals and characteristics of training and reference, marketers of learning systems make the chic and trendy case that the educational needs of the learners in the 21st century are unique and different, and must be organized and served according to new and generally fantasy-based methodologies. While there are newish and useful delivery systems that can enhance and support training, the claim that for complex technical training, micro-lessons, smart phone-based training, and reference materials are an effective replacement for comprehensive, facilitated, live, remote or on-demand training is at best a fantasy, and at worst a tragic mistake.

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ENDNOTES

Those sources which were directly quoted, or whose content was referred to directly, are listed in the endnotes. Note: for WWW-based sources, we have included the dates on which we most recently accessed links so that should posts be deleted or links become inaccurate, readers can use the Internet Archive (<https://archive.org/web/>) to find sources.

¹ Vander Ark, Tom. (October 2, 2019). [What Is 21st Century Learning? How Do We Get More?](https://www.forbes.com/sites/tomvanderark/2019/10/02/what-is-21st-century-learning-how-do-we-get-more/#b6081c525bcf) *Forbes*. [Online]. Available: <https://www.forbes.com/sites/tomvanderark/2019/10/02/what-is-21st-century-learning-how-do-we-get-more/#b6081c525bcf>, accessed February, 2020.

² Rich, Elizabeth et al. (October 11, 2010). [How Do You Define 21st-Century Learning?](https://www.edweek.org/tsb/articles/2010/10/12/01panel.h04.html) *Education Week*. [Online]. Available: <https://www.edweek.org/tsb/articles/2010/10/12/01panel.h04.html>, accessed February, 2020.

³ Breed, Cathy. (August 22, 2019). Characteristics of 21st Century Learners. *Kami*. [Online]. Available: <https://blog.kamiapp.com/characteristics-of-21st-century-learners/> accessed February, 2020.

⁴ Mirra, Nicole. (May 22, 2017). What Do We Mean When We Talk About 21st Century Learning? *Connected Learning Alliance*. [Online]. Available: <https://clalliance.org/blog/mean-talk-21st-century-learning/>, accessed February, 2020.

⁵ The Modern Learner. (January, 2020 [est.]). *Intrepid Learning*. [Online]. Available: <https://blog.intrepidlearning.com/resources/the-modern-learner>, accessed February, 2020.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ Maybin, Simon. (March 10, 2017.) Busting the attention span myth. *BBC World Service*. [Online]. Available: <https://www.bbc.com/news/health-38896790>, accessed February, 2020.

¹¹ Ghausi, Nadjya. (October 19, 2018). Sorry, Goldfish: People's Attention Spans Aren't Shrinking, They're Evolving. *Entrepreneur*. [Online]. Available: <https://www.entrepreneur.com/article/321266>, accessed February, 2020.