Are Learning Styles a Myth? If So, What’s Next?

Most of us in higher education have used learning styles in our teaching for many years; however questions have been raised about whether this theory is supported by current research. In short, empirical research supporting this theory is lacking. We owe it to our students to provide them with learning strategies based on the newest findings in brain science. This edition of my blog presents the evidence and points educators toward more effective teaching and learning strategies. Future editions of this blog will continue to explore new findings in brain science that can be more helpful to our students.

What is the evidence against learning styles? Cognitive psychologists Pashler et al. ( 2010) set up criteria for evaluating the research on learning styles and conducted a review of the literature. They searched for studies using **empirical methodology** in which students were assessed for learning style, randomly assigned to different instructional approaches and then tested to show improvement based on learning style. After reviewing the literature on learning style research, they reported that evidence for the validity of learning style assessments was weak or contradictory. The authors concluded that “the widespread use of learning-style measures in educational settings is unwise and a wasteful use of limited resources.” (See the link to the article below). Recent researchers have confirmed these conclusions (Bishka, 2010; Fridley & Fridley, 2010; Kirshner & van Merrienboer, 2013; Mayer, 2011; Norman, 2009; Riener & Willingham, 2010; Rohrer & Pashler, 2012; Scott, 2010).

As one of the practitioners who has taught for many years, I know that students learn in different ways and I always teach using a combination of audio, visual and kinesthetic modalities. Pashler did find evidence that students differ in how they learn:

* They have different aptitudes and interests.
* Prior knowledge and culture greatly affect how students learn.
* Some students have learning disabilities which affect learning.
* Optimal teaching methods vary across disciplines. For example, in teaching writing, a heavy verbal emphasis is required. For teaching geometry, a heavy visual-spatial emphasis works best.

If learning styles is a myth, what comes next? Basic research on learning and memory has provided new information on how the brain learns and guidelines for effective study techniques. Neuroscientists have recently shown that learning is increased by **using and integrating all the senses rather than relying on just the preferred ones.** Learning is optimized when more senses are used when trying to remember what we are studying.

One of the benefits of teaching using learning styles is that we are aware of the many different ways in which students learn. Rather than helping students to identify learning preferences, help them to understand how to **use multiple senses** including audio, visual, kinesthetic, tactile, and even olfactory (smell) and gustatory (taste).

For example, when studying Spanish, students can be motivated to learn by watching videos of Spanish speaking countries (visual). Then they can listen to the words and say them out loud (audio), use flash cards to practice the vocabulary (tactile and kinesthetic), imagine the smell of Mexican food (olfactory), eat some salsa and chips (gustatory), and if possible, travel to a Spanish speaking country where they can practice the language using all the senses.

Educators are often criticized because they do not use evidence based practices in education. Education is a complex field in which educators who are passionate about teaching and learning work with students who are very different in their motivation, interests, abilities and prior learning. There is a need to identify learning practices that have experimental support to provide students with effective learning strategies.

As an author of college and career success materials, I feel an obligation to have my materials reflect the latest findings in brain science. My new 7th Edition of *College and Career Success* deletes the material on learning styles and has two new chapters on learning strategies based on the latest findings in brain science.

Watch for future editions of this blog with new information on brain science and practical learning strategies.

Paschler, H., McDaniel, M., Rohrer, D. and Bjork, R. (2010) Learning Styles: Concepts and Evidence. *Psychological Science in the Public Interest* **9**, pp. 105-119 available at: <https://www.psychologicalscience.org/journals/pspi/PSPI_9_3.pdf>

Here are some additional current articles on this topic:

“All You Need to Know about the Learning Styles Myth in Two Minutes”
<http://www.wired.com/2015/01/need-know-learning-styles-myth-two-minutes/>

 “Finding Common Ground: The Myth of Learning Styles”
<http://blogs.edweek.org/edweek/finding_common_ground/2014/04/the_myth_of_learning_styles.html>

“Are Learning Styles a Symptom of Education Ills?
<http://op-talk.blogs.nytimes.com/2015/02/25/are-learning-styles-a-symptom-of-educations-ills/?_r=0>

“Can Neuroscientists Dispel the Myth that Children Have Different Learning Styles”
<http://www.theguardian.com/science/head-quarters/2015/apr/24/can-neuroscientists-dispel-the-myth-that-children-have-different-learning-styles-im-a-scientist-learning-zone-wellcome-trust>

“The Myth of Learning Styles”
<http://www.changemag.org/archives/back%20issues/september-october%202010/the-myth-of-learning-full.html>

“Brain Based Learning, Myth versus Reality: Testing Learning Styles and Dual Coding”
<https://www.sciencebasedmedicine.org/brain-based-learning-myth-versus-reality-testing-learning-styles-and-dual-coding/>