Learning Styles: Fact or Fiction, A Literature Review of Learning Styles

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Author Information

During my fourth deployment, my Brigade Commander notified me that I had been selected to teach at West Point. This new assignment struck me as odd for two reasons: first, I had not applied for the position, and second, during college, I was not what you’d call a “stand-out” student. To say that I was surprised to find myself preparing to teach college students was an understatement.

I was secretly daunted by the idea but upon arrival to West Point, I learned of the Master Teacher Program. The thought “Oh thank God” entered my head, as it seemed the answer to the question “How am I going to learn to teach these kids?” had just fallen into my lap.

While participating in the Master Teacher Program, I was introduced to methodologies of questioning, levels of questioning, class dynamics, class discipline, academic integrity, and a myriad of other pedagogy topics. Early in the program, I was introduced to the theory of Learning Styles. Surely everyone has heard such things as “He’s a visual learner,” or “I think people learn better by doing,” and so on. Initially, I gave the concept little consideration (as the importance or even existence of a particular learning style seemed negligible if not entirely irrelevant). However, as the text more thoroughly explored different Learning Styles and stressed the importance of changing one’s teaching methods in order to better accommodate different learners, I was compelled to reconsider. This concept of accommodation immediately conflicted with my beliefs about the college experience, which center around the concept of “survival of the fittest.” This type of environment will graduate stronger, more independent, and consequently more successful individuals who provide a positive reflection of the academic environment from which they have come. What organization doesn’t want adaptable, hard-working professionals who can produce results regardless of how their guidance is presented?

Many of the articles and chapters we explored are dedicated to the idea that teachers are accountable for student learning. This is true. However, it bears mentioning that this concept, as a mainstay, comes at the cost of student accountability. If the teacher presents the requisite information and provides appropriate resources for further understanding, it is the responsibility
of the student to learn the material in a method congruent with, or in spite of, their perceived preferences of learning styles.

Armed with only enough information to be dangerous, I sought out resources to confirm or deny the existence of these learning styles and form an opinion as to whether accommodating them creates better grades but academically weaker graduates.

I have prepared this review to present both sides of the Learning Style debate. This review will cover the history, definition, beneficial attributes, as well as some of the controversial aspects of Learning Styles as they relate to teaching. Additionally, the annotated bibliography provides summaries of some of the most relevant resources I found. In my opinion, Learning Styles are teaching’s latest and greatest approach to improving academic performance; noteworthy, but not likely to be rooted in principles of teaching that will stand the test of time. Instructors should not sacrifice their proven teaching methods and precious instructional time attempting to accommodate the preferred learning style of each individual present.

**Topic Overview**

Learning Styles were conceptualized as a way to explain the differences between student performance levels. Many of these learning style theories were developed by educators and psychologists and have been widely accepted. One would be hard-pressed to find someone who has not heard phrases such as, “He’s left brain dominant,” or “She’s right brain dominant,” as an explanation of understanding. More common Learning Style Explanations include: auditory learners, visual learners and hands-on, or kinesthetic learners. There exist several other styles which will be discussed, but these are three prevalent learning style theories which are easily transferable for understanding other theories as well.

Although developed by prominent members of the field, there lies at the other end of the teaching spectrum scientists, psychologists, and educators who cry, “FOUL,” at the notion of Learning Styles.

**History**

While there is a great deal of information available regarding Learning styles, the following is a brief description of the most relevant.

In 1904, French psychologist Alfred Binet developed the first intelligence test. It is commonly believed that this first IQ test spurned an interest learning styles.
Shortly thereafter, in 1907, Dr. Maria Montessori developed the Montessori method of education, a “hands-on” approach to learning.

The next big leap came in 1956 from an American Educational Psychologist, Benjamin Bloom. He, of course, developed Bloom’s Taxonomy, which many consider to be the foundation of the education. Bloom’s Taxonomy is a developmental model by which students evolve through knowledge, comprehension, application, analysis, synthesis, and evaluation.

In 1962 the mother-daughter team of Isabel Myers-Briggs, an American Psychological theorist, and her mother, Katherine Briggs, who became a self taught expert on people, developed the Myers-Briggs Type Indicator, commonly referred to as MBTI, and which seeks to measure psychological preferences for types of learning.

In 1976, the Dunn and Dunn Learning Style Model was the first teaching model to introduce diagnostic testing for evaluation purposes.

In 1983, American Developmental Psychologist Howard Gardner developed Gardner’s Seven Knowledge Types. This theory breaks down human learning into rather distinct areas including: Logical-Mathematical Intelligence, Linguistic Intelligence, Spatial Intelligence, Musical Intelligence, Kinesthetic Intelligence, Interpersonal Intelligence, and Intrapersonal Intelligence.

In 1984, Social Psychologist David A. Kolb developed his experience-based learning model. Dr. Kolb’s work in the 80s and 90s was the most influential for creating emphasis that teachers modify teaching style to accommodate student learning style.

In 1995, Professor Mark Tennant categorized types of learning into three categories: (A)titude, (S)kills, and (K)nowledge with his ASK design, which has been innumerably copied, modified and utilized among a variety of for-profit programs.

In 2003, Dr. L. Dee Fink published Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses. Dr. Fink’s book adds to some of the principles of Blooms Taxonomy and expands upon them to accommodate new learning types.

Also in 2003, the Institute of Education at the University of London conducted research commissioned by the British Government’s Learning and Skills Development Agency which concluded that students do not learn through their preferred or defined learning style to the exclusion of other learning styles.

In 2007 Prof. Susan Greenfield, Director of the Royal Institute and professor of pharmacology at Oxford University published the following in Times Educational Supplement Magazine (29th
July 2007), “from a neuroscientific point of view [the learning styles approach to teaching] is nonsense.”

**Beneficial Attributes**

Many people find a learning style or learning program which they believe reaches them. Most of these programs require a certain amount of input to determine one’s individual learning style. After receiving the results of a learning-style diagnostic test, people often believe that, armed with the knowledge of what type of learner they are, they can then go out into the world and soak up information like a sponge. There are numerous websites on the World Wide Web that advertise “Find Your Learning Style!” Even typing the phrase “Learning Style Quiz” or “Learning Style Inventory” into a search engine will direct one to a website like this one hosted by Penn State: [http://www.personal.psu.edu/bxb11/LSI/LSI.htm](http://www.personal.psu.edu/bxb11/LSI/LSI.htm). After answering twenty-four questions, the user is prescribed their individual learning style. With this information, many students try to incorporate more elements of their learning style into their studies.

Common sense tells us to play to one’s strengths whenever possible. So if one is a “hands-on” learner or visual learner, why not study by “doing,” or collecting more visual media to better develop understanding?

College websites, such as the University of Georgia’s [http://snjones.myweb.uga.edu/page2.htm](http://snjones.myweb.uga.edu/page2.htm), where some Graduate education students have published their reported benefits understanding one’s individual learning preference include: “1). **You will have a better chance of avoiding problematic situations.** Knowing how you learn and how you relate to the world can help you make smarter choices. 2). **You will be more successful on the job.** If you know how you learn, you will be able to look for an environment that suits you best and you’ll be able to work more effectively on teams. 3). **You will be more able to target areas that need improvement.** The more you know about your learning styles, the more you will be able to pinpoint the areas that are more difficult for you.”

Another website [http://www.studyingstyle.com/learning-style-benefits.html](http://www.studyingstyle.com/learning-style-benefits.html) has a list of 21 benefits broken down into categories of academic, personal, and professional. Some of the benefits include: “gives you a head start and maximizes your learning potential,” “allows you to learn “your way”- through your own best strategies,” “gives you insight into your strengths, weaknesses, and habits,” among many others listed benefits.

It would seem that the internet, colleges, and universities are trumpeting the benefits of learning styles and the benefits of knowing one’s individual learning style.

While it is easy to find the supposed benefits of understanding one’s learning style preference as it relates to individual study, it is significantly harder to find the benefits of understanding and accommodating various learning styles which are published by an established authority. Many
of the marketed benefits are esoterically described and full of self-important back-patting. Other benefits claimed cannot be subjected to scientific testing for verification.

**Controversial Aspects**

One of the main controversial aspects of crediting the importance of Learning Styles is the for-profit aspect. Most have seen commercials for “Hooked on Phonics” or the “Sylvan Learning Centers.” These companies, and many others like them, claim to be able to unlock the secrets of your student’s learning...for a price (financing available, of course). A search for “children learning” entered into a search engine retrieve 1.5 million hits.

While many of these companies are marketing toward the parents of elementary, middle, and high school students, most also have programs for college students.

These for-profit learning experts are so prolific that during my research phase of this assignment, the neuropsychologist with whom I was consulting pointed me in the direction of *Teaching with Style* by Anthony F. Grasha, Ph.D., a psychologist whose book and lecture were circuitous advertisements for each other. It seems even medical professionals and others in the educational field are not invulnerable to the influence of the en vogue, for-profit learning style experts.

The questionability that profit potential casts upon the theory of Learning Styles aside, there are also several scientific arguments against these theories. Many studies and articles have been published to counter the legitimacy of these Learning Style theories.

One of the most outspoken and prolific antagonists of the theories of learning styles is Daniel Willingham, Professor of Psychology at the University of Virginia. Many of Prof. Willingham’s articles are full of research in the field of Learning Styles and sound historical evidence dating to the 1940s. While acknowledging that not every student is the same, Professor Willingham believes it would be wrong to categorize students in an effort to enhance learning. In fact, Professor Willingham believes that educators catering to students’ perceived learning strengths may actually enable or mask behaviors they have developed in order to cope with a learning disability or another disorder.

During an interview with the American Federation of Teachers, Professor Willingham discusses how all types of learners relate and remember stories in a consistent manner despite their perceived learning preference. While he acknowledges some of this may be due to the talent of the story teller, he also discusses the cognitive science behind how people listen to stories and how there is no such science to support learning styles.

Also in Professor Willingham’s corner was Professor Steven A. Stahl. Proffessor Stahl was an education Investigator and Researcher for the National Science Foundation before his death in 2004. His conclusions regarding learning styles are summarized by some of his following
quotations: “Many of the studies supporting learning style theory are not based on reliable study,” and “Many people mistake learning preferences for learning styles—there is a big difference.” In recent years many journalist and researchers have been quoting his research to discredit the argument of learning styles.

Apparently taking sides in the Learning Style debate is not strictly an American phenomenon. In 2003, the Learning and Skills Development Agency of the British Government published a study that concluded, “There is little evidence that approaches based on learning styles and learning cycles are valid.” The study goes on to say that no matter the students’ preference it was possible to help them understand using techniques which were not in line with their preference. This study discusses several disciplines of research conducted to support the findings including brain research and pharmacology. An article published about the study in the Sunday Telegraph, 29 July 2007, highlights a bold statement from contributing researcher Professor Greenfield at Oxford, “The rationale for employing VAK (visual, auditory, and kinesthetic) learning styles appears to be weak. After more than 30 years of educational research into learning styles there is no independent evidence that VAK (visual, auditory, and kinesthetic), or indeed any other learning style inventory, has any direct educational benefits.”

**Conclusion**

Clearly there is a strong debate on both sides of the argument about Learning Styles. Even publications such as *Teaching At Its Best* by Linda Nilson, a compilation of various teaching-related topics, includes a chapter dedicated to Learning Styles. This text is currently used by many colleges within their faculty development programs. It would seem these theories are readily accepted at such universities. Like many other seemingly sound ideas at the time, eventually science, experience and consequently, popular belief will begin to question and/or disprove the theories. Unfortunately, these theories often continue to be used, defended, repackaged, and remarked to keep them fresh until the science and research that disputes them can become equally prolific. Factors outside the scientific realm will continue to help some of these theories survive. As long as people are willing to pay for fixes and cures to improve academic performance, there will always be some form of snake oil for sale. They may package it in alluring, flattering ways that may include promises of understanding individual needs and unique tailoring to one’s own style of learning. Sadly, until science, research and public opinion can find the definitive solution to more effective learning and education, the theory will continue.

During my the research, I found it alarming that those arguing for Learning Style accommodations could not produce quantitative facts or objective data to support their position. However, reading the work of those who argues against Learning Styles, you find studies with quantitative facts, doctors, professors, researchers, and credible, established authorities which support this position. To be a modern and effective teacher, one must rely on the facts to support teaching practices and philosophies rather than the changing winds of theory. What makes sense is not necessarily what is true.
Annotated Bibliography

This website has a myriad of topics and even though it is not regarded as an academic research tool it is a good place to start data mining a subject. Typically serves best as a starting point. I found most of the history I was looking for here although I did have to supplement its information with other significant history covered in other text. The main issue is collaborating the contributors/authors as being credible.

On the University of Washington website this article focuses on different types of Learning Styles and Learning models as it applies to creating specialized education to mentally challenged students. It is interested because it goes from the esoteric and describes a method to put the abstract into practice. What is most interesting is there conclusion is similar to the one published by the British Learning and Skills Development Agency in 2003.

This website, hosted by the University of South Dakota was primarily useful in establishing as a standard to what most colleges have available in regard to identifying student learning styles. There are links for learning about the three main learning styles (visual, auditory, and kinesthetic), and a link to take an inventory to discover your own learning style. There are also links to magazine article related to learning styles and learning in a college setting.

Mrs. Taylor puts together an interesting article that takes a quick departure from the standard VAK Learning Style Argument and writes of Classical Conditioning, Operant Conditioning, Observation Learning. While her learning types are social based learning and not education based learning it will make for a good personal project in the future to tie in the other learning styles to examine overlap or brainstorm for more effective teaching/communication in the class.

This is really an introductory level article on learning styles. It discusses the VAK types of learning and gives examples of day to day problems one may encounter and how each type of learner may solve that problem. It does discuss upfront the best methods for learning involve combining the types of learning for the best outcomes. What is best from this website is the list
of links going to other educational websites that offer a wide range of articles for those looking for more information.

**Henry, Julie. “Professor Pans ‘Learning Style’ Teaching Method,” Available at:**
In this July of 2007 article Julie Henry interviews Oxford Professor of Pharmacology Baroness Susan Greenfield about her research in the field of Learning Styles. What is good about this article/ interview is that is discussed other research being done by the British government and interviewed another professor who both have done significant research discrediting the theories of Learning Styles.

**“Learning Styles a Myth, British Researchers Say,” Available at:**
This article discusses the previously mentioned British study and really gets into the meat of the research and who was involved. Several researched are interviewed or quoted and other resources for other research are listed throughout the article. This article also briefly mentions the 13 most widely used theories of learning styles studied. I thought the article was a little short and the true meat and potatoes was going out to find the rest of the study and research.

**Strauss, Valerie. “Willingham: Student ‘Learning Style’ Theory is Bunk,” Available at:**
In this news blog Mrs. Strauss has invited Prof. Willingham to guest blog. In this installment Prof. Willingham slams the notion of separating students into groups based on learning styles. He gives examples of why it does not work and even calls out certain education districts on their attempts to incorporate learning style. It is a little over the top and not impartial at all but Prof. Willingham’s credibility is beyond reproach.

**“Learning Styles Theory at Controversy,” Available at:**
This blog is interesting because it is primarily language teachers discussing the merits of learning styles. Having struggled with languages in high school and college I thought for sure this group would have a preference for a particular learning style, but that was not the case. Some of the contributors actually give links and quotes from studies that are in strong opposition to the learning style theories.

**“Learning Styles Are Bunk,” Available at:**
In this blog the first thing you are hit with is a You Tube video of Prof. Willingham of UVA discussing the science behind the flaws of learning style theory. The text of the article goes in
anf further explains his discussion and video presentation. This website is primarily for educators of K-12 education. The contributor comments are a treasure trove of insight to many public school systems. Going through the comments to see what some educator are trying is very interesting.

Willingham, Daniel Ph.D., “Ask the Cognitive Scientist.” Available at: http://www.aft.org/newspubs/periodicals/ae/summer2005/willingham.cfm. 13 MAR 2012. Hosted from the American Federation of Teachers website this is a community sharing site with tons of information from various levels of educators. What was most helpful to me was the discussion regarding as what the types of learners really were explained as through a process over a concept. Another aspect that was interesting was learning more about different types of education experts versus folks like a cognitive scientist and why they have conflicting views.

Willingham, Daniel Ph.D., “Ask the Cognitive Scientist.” Available at: http://www.aft.org/newspubs/periodicals/ae/summer2004/willingham.cfm. 13 MAR 2012. Similar and authored by the same author from above this article discusses how effective story telling is for student learning. Good discussion and good points of why the method works despite the perceived learning styles. It includes many good points on what a good story has in it and how each of those points sticks to the listener no matter what they think their learning is. Prof. Willingham also includes research from other leaders in the field for further depth in the subject.