# The ILEETA Journal

# ILEETA

International Law Enforcement
Educators and Trainers Association

# What Does the Research Say?

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At the 2022 ILEETA conference I presented on the science of learning. The field of cognitive psychology, focusing on how people learn, is big and the research that began around the 1950s continues in an attempt to unravel the mystery of how to pass knowledge and skills from person to person. It is fascinating to learn which methodologies improve recall, but research studies always open up questions and the need for more research. Our understanding is constantly being challenged and evolving. The research results I share in this article today could be challenged with other research and change, but they provide insight into effective learning and, in some cases, challenge commonly held beliefs. This is an overview of the research discussed in my ILEETA conference session.

Myths

When we teach, we pass on the information we have to others who, in turn, pass on that information. This is the cycle of learning and teaching. The problem with this is that misinformation becomes embedded in our collective knowledge.

I was shocked when I read a tweet that simply read. Sir Robert Peel did not write Peel's Principles. I wish I could remember who tweeted it and give them credit. This sent me down an internet rabbit hole, and low and behold – they were right! Despite numerous websites, including universities, stating Sir Robert Peel wrote the principles that guide modern policing, I was able to find sources that confirmed he did not write them. Sir Robert Peel did develop the concepts and deserves the credit, but he did not actually write Peel's Principles. Academics summarized his ideas into the principles in the 20th century.

https://www.researchgate.net/publication/222736101_The_invention_of_Peel's_principles_A_study_of_policing_'textbook'_history

https://openoregon.pressbooks.pub/ccj230/chapter/5-2-sir-robert-peel/

The author of Peel's Principles is an example of how myths become fact, but there is no harm in this mistake because the concepts are still valid. What happens when a myth has propagated so much that up to 90% of educators still believe it, spend time on it, and it is actually detrimental to learning? This myth is LEARNING STYLES.

How many of us have spent hours answering surveys to figure out if we are a visual, auditory, reading, or kinesthetic learner? Possibly some of you spend your precious classroom time doing this exercise. When anyone brings up the myth of learning styles in an online discussion forum, a heavy debate ensues. What I notice in this debate are the people arguing it is false cite research, and people who argue it is true use anecdotes. The biggest revelation from this debate is, we do not have the ability to understand how our own brain works. That may be uncomfortable to realize but the research on learning styles proves it over and over. People may prefer a format but test results show they do not learn better that way.

The source that first opened my mind to this is a TED talk https://www.youtube.com/watch?v=855Now8h5Rs

I have a number of sources on this, including a meta-analysis for the real research geeks, in the google doc link at the end of the article.

The issue with the myth of learning styles, aside from the amount of time wasted on those surveys, is that it pigeon-holes people and limits their mindset about learning. The statement we often hear is "I don't learn this way." The reality is everyone's brain receives and processes information through multiple senses. People claim they are kinesthetic learners. How do they learn about history, war, atoms etc. when they can't touch or experience

them? If you claim to be an auditory learner, how did you learn to drive?

Instructors are told to facilitate in a manner that appeals to the different learning styles. The useful part of this is presenting information in multiple modes, which does increase learning. The concept of dual-coding, using images and speech, are supported by research. My two goals in talking about this are that people stop referring to learning styles in their training, and teaching methodologies are driven by the learning objectives, not preferences.

Effective Learning

What is more effective for learning, a well-presented lecture or engaging exercises? Which one do students prefer? This study facilitated a course using these two methods, tested the students, and asked for feedback. The students rated the class with the charismatic lecturer higher, but guess who did better on the test? The class with the exercises. This study really got the cogs in my brain going because of the weight that is often put on post course feedback, otherwise known as smile sheets. What is important, what they learn or how they feel about the class? Of course, this study also shows the benefits of engaging people in learning. Passively listening to a lecture is easier and may be more entertaining, but you're not learning as much as you think you are. This also ties back to learning styles and how we confuse preference with effective. You may prefer visual, listening, reading etc. but that does not mean you learn better that way.

https://www.insidehighered.com/news/2019/09/09/study-how-smooth-talking-professors-can-lull-students-thinking-theyve-learned-more

Note Taking

Now we get down to a single component of learning, note taking. What is more effective, handwriting notes or taking notes on a laptop or device? Most people can type a lot faster than they write. Is it better to capture more of what was said in typed notes or less in handwritten notes? I always believed it was handwriting, which is the correct answer but not for the reason I thought. I felt the physical action of writing helped commit the information to memory, but the studies show the limitation of writing slow forces people to process the information and pick out key points to write down. It is the brain having to work through it that helps us remember. This also falls under the concept of desirable difficulties. As we saw in the last study with the entertaining lecture and the exercises, the work involved may not make you a student favourite but it does improve learning. To incorporate this in to your training, consider using a manual populated with models and important concepts, and questions or headings with space to guide note taking.

https://www.scientificamerican.com/article/a-learning-secret-don-t-take-notes-with-a-laptop/

I had a great time discussing research and how we can use it to improve our effectiveness in the classroom. We are very lucky to have access to so much research at the touch of a button, but we still have to figure out how to apply the findings because research is conducted in a bit of a vacuum by design, to try and isolate the results. Thank you to every person who studies how we learn. We have learned a lot in the last 70 years but there is still a lot to learn, partly because advances in technology continue to open up more delivery methods.

https://docs.google.com/document/d/10bYxydCtYPlbxReEsxrpBeiT0AeLW9U1DEEj79aD-aI/edit

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**About the Author**
*Kerry Avery is the owner of Odin Training Solutions Inc. Kerry has a Master's degree in Education and 20 years' experience designing training programs, with the last 12 years spent working with law enforcement. Kerry has consulted for various LE agencies and organizations in Canada, the United States, Central America and Ukraine. Kerry teaches in the Certificate in Adult and Continuing Education program at the University of Victoria, and coaches law enforcement instructors on course design and facilitation. Kerry is the Managing Editor for the ILEETA Journal, and has presented at conferences for ILEETA, IADLEST, and IACP.  She can be reached at Kerry.Avery@shaw.ca.*