

**LEARNING STYLES OF LAW ENFORCEMENT OFFICERS:
DOES POLICE WORK AFFECT HOW OFFICERS LEARN?**

by

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Abstract

This quantitative study utilized the VARK learning style preference assessment instrument to examine how full-time sworn law enforcement officers learn and attempted to identify a predominant learning style preference among the participants. Primary question: Which is the dominant learning style preference of full-time sworn law enforcement officers? Corollary question: How does the law enforcement officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education affect the officers' learning style preference? The sample was taken from a very large sheriff's office located in south Florida which is both nationally and state accredited. Furthermore, this study examined any differences that occur in law enforcement officers' learning style preferences based on gender, age, current rank and/or assignment, years of experience, and level of education. The learning styles and preferences of law enforcement officers appear to be very rarely taken into consideration when formulating lesson plans and curriculum for the training of law enforcement officers. The author intended to add to the body of knowledge concerning law enforcement training so that the effectiveness and efficiency of the training process will be improved.

Dedication

My deepest love and appreciation to my wife, Maria; my son, John Carlos; and my parents, Dorothy and John, for all your help, patience, and support while I undertook this long journey.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

There are almost 700,000 full-time sworn law enforcement officers in the United States (U.S. Department of Justice, Federal Bureau of Investigation, 2008). Those law enforcement officers require constant training. Learning styles are a critical component of the effectiveness of teaching as well as learning; therefore, the identification of particular learning styles or preferences is a critical component of the body of knowledge relating to the field of education and specifically law enforcement training. With the legal movement towards accountability of officers' actions, training is more important than ever for the United States' sworn officers. Within law enforcement agencies, there is a continual need for reinforcement to ensure material and state required standards have been learned. The objective of this study was to identify the dominant learning style of law enforcement officers, if one existed, as well as the differences due to gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

The law enforcement officers that were tested are from a very large sheriff's office located in south Florida. This particular sheriff's office was selected due to its availability and due to the number of law enforcement officers that offer allow for samples from various levels of gender, age, current rank and duty assignments, years of

full-time law enforcement experience, and level of education. Furthermore, this agency is the largest fully accredited sheriff's office in the country and has a stellar reputation for being progressive in the field of law enforcement.

The area where the sheriff's office is located is the third largest county in the state of Florida. South Florida contains both rural and urban areas as well as a demographically diverse population. The sheriff's office consists of both law enforcement (patrol, investigations, special units, etc.) and corrections personnel (those deputies who serve in the jails); however, this study focused solely on the sworn full-time law enforcement deputy sheriffs. The sheriff's office offers several layers of training for its deputies. First there is field training, which is for newly hired deputies, with or without any previous law enforcement experience. Next there exists an in-service program that offers three phases of training every year. Finally, deputies might attend advanced training courses at the police academy or through private training companies.

Learning style research has never specifically examined the cohort of full-time sworn law enforcement officers. There exists a gap in the literature that needs to be closed so that law enforcement trainers and instructors can utilize the body of knowledge when preparing courses aimed at law enforcement officers.

Population

The law enforcement profession in the United States is unique. No other profession allows the professional to bear arms, take away a person's liberty, make life and death decisions, create legal documents, affect court case law, and save lives on daily basis, yet have no military connection and have members who are not enlisted, but are

commissioned, so they are free to leave that profession at will. Some scholars, professionals, and journalists might compare law enforcement with the military, fire service, or private security but the fact remains that law enforcement remains unique to those professions and is one that the public is more likely to interact with during the course of its daily life.

Police officers respond to burglar alarms, enforce traffic laws, arrest bank robbery suspects, conduct sexual crime investigations, perform CPR, put out vehicle fires, answer general questions about how to get somewhere from here, pull victims from house fires, save drowning dogs, and complete many more diverse duties on a daily basis, or at least throughout a career. The author has performed these duties over the last 21 years, and his law enforcement career experience is probably more typical than atypical.

Law enforcement officers are a diverse group of individuals, as diverse as the occupation they hold. Law enforcement officers in the United States originate from all ethnic, educational, and economic backgrounds. Although the basic educational requirements vary from state to state usually the requirements are quite low for entry level law enforcement positions. Unlike kindergarten teachers, who must have at least a bachelor's degree and be certified with the state, law enforcement officers usually only need a high school diploma or equivalent and there are no requirements for a college degree universally mandated by every state. Even the federal agencies, that normally and routinely require a bachelor's degree for many sworn positions, do not require a 4-year degree for every agency that has federal jurisdiction. Often, the federal agencies prefer those applicants with military experience, in some cases more than those applicants with a bachelor's degree.

The characteristics of the population of full-time law enforcement officers that were identified during this study were the preferences that they have as it relates to their learning and training experience. Some officers prefer to learn by seeing (visual preference). Some officers prefer to learn by hearing (aural preference). Some officers prefer to learn by reading and writing (read/write preference). Some officers prefer to learn by doing (kinesthetic preference). Finally some officers prefer to learn using a combination of any of those preferences (multimodal preference).

This study sought to identify common and general attributes possessed by full-time sworn law enforcement officers for the purpose of increasing efficiency and effectiveness in the training of law enforcement personnel. The learning style preferences of law enforcement officers can be identified as other groups' preferences have been identified. Learning style preferences are individual traits; however, given a group of like-minded law enforcement professionals, there should exist some commonality of training preferences and therefore, curriculum can be created to attempt to accommodate the majority of that population.

Background of the Study

When examining the subject of learning styles, there is existing research available that examined various occupations and categories of students, yet nothing could be located in the published literature that examined the learning styles of law enforcement officers and the differences that may or may not exist based on the officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

Within the subject of public safety personnel's learning styles, limited studies were located; however, studies of various occupations such as ambulance drivers and radiological students are available.

Additional issues with the examination of learning styles are extensive due to the vast number of measurement instruments available and the question of if learning styles even actually exist. Research performed by theorists such as D. Kolb (1984), Dunn (2000), and Fleming (2006) offers examples of various learning style assessments but regardless of the many points of intersection there are as many points of divergence.

Statement of the Problem

It is not known how the learning styles of police can be categorized by gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education and that is why this proposed study will fill a void in the current body of knowledge. The problem that exists is that no previous study has specifically targeted the learning styles of full-time sworn law enforcement officers and any differences in the learning styles of full-time sworn law enforcement officers based on gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

This study adds to the existing literature by identifying the dominant learning style of full-time sworn law enforcement officers as well as identifying any differences due to law enforcement officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

Law enforcement officers must be trained constantly due to the Florida Department of Law Enforcement's (2009) requirements that the officers complete a minimum of 40 hours of training every 4 years to retain their law enforcement certification and to continue to be employed as full-time sworn law enforcement officers in the state of Florida.

Purpose of the Study

The objective of this study is to determine the dominant learning style of full-time sworn law enforcement officers and if there exists any difference in the learning styles of law enforcement officers based on gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

This study was conducted by administering a VARK (Visual, Aural, Read/write, Kinesthetic) learning style preference questionnaire to full-time sworn law enforcement officers in an attempt to determine what their dominant learning style is, if there is one, and what differences exist in the learning styles of law enforcement officers based on gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

Rationale

This study was conducted to add additional literature to the subject of learning styles specifically the learning styles of full-time sworn law enforcement officers. With the results of this study, law enforcement trainers can gain the knowledge they need to successfully train law enforcement officers.

Research Questions

The objective of this study was to collect data from full-time sworn law enforcement officers to determine if they have a dominant learning style and if so which one is dominant. Furthermore, the study determined if any differences exist in reference to the full-time sworn law enforcement officers' learning styles based on gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education. The data was used to answer the research questions.

Primary Question

Which is the dominant learning style preference of full-time sworn law enforcement officers?

Corollary Question

How does the law enforcement officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education affect the officers' learning style preference?

Significance of the Study

The importance of the study can be attributed to the need for the successful transfer and retention of knowledge when training law enforcement officers. A law enforcement trainer cannot afford to waste valuable time and resources on a training program that is not successful. Law enforcement trainers are able to utilize the information obtained from this study and apply it to their training programs and curriculum when conducting any type of law enforcement training from classroom lectures to practical skill based instruction.

The study was driven by the lack of information and previous studies on this exact topic. Research exists in the area of learning styles; however, none of the research examined the full-time sworn law enforcement officers to determine their dominant learning styles and if any difference exists due to their gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

This knowledge will also assist in furthering the body of knowledge concerning the VARK learning style questionnaire. The knowledge gained from this study will be adding to law enforcement instruction theory and best practices. The best law enforcement instructors constantly seek out new and improved methods for teaching law enforcement officers based on sound and peer reviewed research.

Definition of Terms

Field training. Training that law enforcement officers receive when they are first hired and is designed to acclimate the officer to the particular law enforcement agency that hired them as well as to reinforce skills taught to the officer during the police academy.

Florida Department of Law Enforcement. An agency that regulates and certifies law enforcement officers throughout the state of Florida.

In-service training. Training that is provided to law enforcement officers on a regular basis that fulfills state requirements and/or is used to enhance the officers' skill sets.

Learning style or learning style preference. A preferred method of learning.

Sworn law enforcement officer. An agent of the government who has taken an oath to enforce the law and possesses the power to arrest and carry firearms.

VARK (Visual, Aural, Read/write, Kinesthetic). A learning style preference questionnaire designed by Fleming in 1997.

Assumptions and Limitations

Assumptions

This study assumed that the participants answered the VARK questionnaire honestly. This study focused on the theory that learning styles exist and that law enforcement officers possess unique learning style patterns depending on the law enforcement officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education. The learning style theory or the concept of learning style theories has an ontological basis derived from the observations of educators throughout history. Students have always presented strengths and weaknesses while learning new concepts or subject matter. Teachers have also shown to others and to themselves that they will prefer to present instructional material in a manner consistent with their own learning style even though their students might learn in an entirely different manner.

The VARK, created and authored by Fleming in 1987 and launched in a paper that he wrote in 1992, has an ontological, epistemological, and axiological basis developed from years of research on the subject of learning styles conducted by Fleming before ever creating the VARK learning style preference assessment instrument. Fleming's research into modal preferences, the basis for his VARK learning style

preference instrument, led him to understand that students learn differently and teachers' teach differently. Fleming added to previous instrument that only measured visual, aural, and kinesthetic by adding the read/write category. By separating the visual category into iconic (visual) and symbolic (read/write), Fleming (2006) believed that he could better define and classify the learning preferences of students. Fleming studied Dunn and Dunn's work extensively as well as Kolb's research into the methods that people use to learn new material. Fleming has revised the length of his VARK questionnaire from an original 17 questions to 13 and since 2006 the VARK has been 16 questions in length. The instrument is easily administered via a paper form or online at Fleming's website. The completion of the instrument and then the subsequent grading only requires approximately 15 minutes to accomplish.

Learning style theory can be controversial with opponents and proponents in the educational research fields. However, this study was based on the assumption that learning style theory is a legitimate measure of preferred methods of learning new information used by both adults and children. Specifically, this study was based on the assumption that the VARK questionnaire is legitimate and statistically valid instrument recently supported by research conducted by Leite, Svinicki, and Shi (2010) of the University of Florida.

Limitations

In addition to assumptions, this study had limitations. This study only measured the learning styles of 101 full-time sworn law enforcement officers that are employed by one sheriff's office in southeast Florida. The results of this study cannot necessarily be used to describe the learning styles of any other group of law enforcement officers. This

study is also limited by the inability to guarantee that all participants answered the VARK questionnaire accurately and honestly.

Nature of the Study

This research was conducted by the researcher who distributed questionnaires via the Internet to full-time sworn law enforcement officers. Full-time sworn law enforcement officers were asked to complete the 16-question VARK learning style preference questionnaire, a four-question demographic questionnaire, as well as a Capella University consent form.

The theoretical framework of this study focused on the theory that learning styles exist and can be identified using one of the many learning style questionnaire instruments that are available. Learning style identification can be critical to proper transfer of knowledge when training law enforcement officers.

Researcher's Philosophy

The importance of training full-time sworn law enforcement officers cannot be understated. The liability that is incurred when officers make critical decisions and act on those decisions in life threatening situations is enormous. Each year many law enforcement officers are injured or killed in scenarios that could be affected by proper and comprehensive training.

Law enforcement officers' training must be effective. Learning style identification can play a critical role in training's effectiveness. Current literature does not identify the learning styles of full-time sworn law enforcement officers. The body of knowledge

needs the addition of this study that examined the learning styles of full-time sworn law enforcement officers and the differences in learning styles of those officers based upon those officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

How does a researcher identify a population's learning style? There are many instruments available. The VARK was chosen to be utilized in this study due to its ease of administration and cost. There are many other instruments that are available for the identification of learning styles. Kolb, Dunn, and many others have created validated and reliable instruments.

By examining learning styles of students, whether they are children in elementary school, nurses, college students or law enforcement officers, new insight can be obtained and more effective teaching and learning can occur. Applying the knowledge of which learning style is dominant and what differences exist based on variations within the student population can allow the instructor to change the delivery of the material being taught to better interface with the learning styles of the students' learning. More effective delivery of material can happen when the instructor truly knows the students being taught. It is important for the body of knowledge pertaining to teaching and learning to grow based on valid research. All groups of people need to be addressed. Law enforcement officers have not been studied extensively prior to this study to determine the way that they best learn new material. Research concerning other populations may assist a law enforcement instructor but that material may also be entirely invalid and inappropriate for an instructor attempting to effectively deliver material to law enforcement officers.

CHAPTER 2. LITERATURE REVIEW

Introduction

The following literature review will help the reader to understand the context of the research problem and what the current literature consists of regarding the learning styles of law enforcement officers in the United States. This chapter is divided into several sections to include the various learning style instruments that exist, law enforcement training, and the VARK questionnaire in an effort to establish the background of the body of knowledge as it currently exists in relation to the learning styles of law enforcement officers.

The literature review is organized starting with the learning styles and adult learning theory discussed, as well as a brief history of these theories. This information is important because one needs to know where research has been so that the proper direction can be taken to further research. Next, is a review of the research design chosen for completing the study. Understanding the design of the research is pertinent because there are various research designs available. The use of quantitative research design is described, and why this study requires a quantitative approach. The foundation of this research study is based on learning style theory.

Learning Style Theory and Adult Learning Theory

“Research in learning styles attempts to categorize individuals into different categories by the patterns they use to take in, perceive, and interpret situations” (Lang, 2004, p. 19). According to Dunn and Griggs (1998), everyone has a unique and specific learning style, and instruction should be designed to best accommodate different methods of learning. Adult learning style theory corresponds to adult learning theory and both will be discussed.

Kolb’s Learning Style Theory

Kolb’s research into learning styles is an example of student-centered and problem-based (experiential) classroom methods that attempt to meet adult’s cognitive learning needs. Kolb developed the Learning Style Inventory to address management training needs and is based on Kolb’s conceptualization of how learning style theory could be used to understand, predict, and plan for individual differences involving the pedagogical requirements of business managers, as well as business school students (Cornwell & Manfred, 1994).

Kolb’s major hypothesis and theory are that individuals prefer different learning styles or strategies that directly relate to how comfortable, as well as how effective, they are when they are learning a new skill, task, or concept. Per Kolb (as cited in Cornwell & Manfred, 1994), the most efficient and preferred learning style method should be one that corresponds to the individual’s primary learning style. Kolb theorized that “learning consists of a four-stage process that involves concrete experience (feeling), reflective observation (watching), abstract conceptualization (thinking), and active experimentation (doing)” (as cited in Cornwell & Manfred, 1994, p. 317).

“Kolb’s learning style model is a multilinear adult development model based on experiential learning theory (ELT)” (Toothman, 2007, p. 32), and Kolb’s model consists of six characteristics, those being learning not as an outcome but as a process, relearning must occur by drawing on previous experience, resolve differences through reflection, learning is holistic and requires a person to think, interaction between the learner and the environment must happen, and finally learning is not to be done by spoon feeding the information but by the learner experiencing learning activities (Toothman, 2007). A. Y. Kolb and Kolb (n.d.) stated that “ELT posits that learning is the major determinant of human development and how individuals learn shapes the course of their personal development” (p. 7).

Gardner’s Multiple Intelligence Theory

Next, unlike Kolb, Gardner developed a concept or theory of multiple intelligences that does not have learning techniques or classroom skills as its primary objective, but rather the primary purpose of multiple intelligence theory is to provide an alternative to the Intelligence Quotient test that was developed by Binet at the beginning of the 20th century (Nettlebeck & Wilson, 2005).

Per Campbell, Campbell, and Dickinson (2004), Gardner did not subscribe to the common premise of intelligence theory, which adheres to two fundamental assumptions. Those two assumptions are that cognition is unitary and that individuals can be adequately described as having a single, quantifiable intelligence. In 1983, Gardner established criteria to measure whether a talent was actually an intelligence. Each intelligence must have a developmental feature, be observable in special populations such

as prodigies or savants, provide some evidence of localization in the brain, and support a symbolic or notational system.

“Gardner stated that each individual possesses unique intelligences that are not always able to be measured using traditional tests, such as the Intelligence Quotient, based on only a small range of abilities” (Campbell et al., 2004, p. 21). Those tests, Gardner maintained, only use reading and writing and, or, mathematical skills to measure a learner’s intelligence. Gardner did not believe that each individual is strong in those areas, but that individuals can be very intelligent in other areas that are not measured using traditional test instruments (Campbell et al., 2004).

Per Campbell et al. (2004), Gardner’s eight intelligence categories are

[a] *Linguistic intelligence* consists of the ability to think in words and to use language to express complex meanings; [b] *Logical-Mathematical intelligence* makes it possible to calculate, quantify, consider propositions and hypotheses, and carry out complex mathematical operations; [c] *Spatial intelligence* instills the capacity to think in three dimensional ways and enables one to perceive external and internal imagery to recreate, transform or modify images, to navigate oneself and objects through space, and to produce or decode graphic information; [d] *Bodily-Kinesthetic intelligence* enables one to manipulate objects and fine tune physical skills; [e] *Musical intelligence* is evident in individuals who possess a sensitivity to pitch, melody, rhythm, and tone; [f] *Interpersonal intelligence* is the capacity to understand and interact effectively with others; [g] *Intrapersonal intelligence* refers to the ability to construct an accurate perception of oneself and to use such knowledge in planning and in directing one’s life; [h] *Naturalist intelligence* consists of observing patterns in nature, identifying and classifying objects, and understanding natural and human made systems. (pp. 20–21)

A limitation to Gardner’s multiple intelligence theory is that there does not exist an endorsed or officially approved test instrument to measure where a learner’s intelligence lies (H. Gardner, personal communication, October 1, 2007). An unofficial testing instrument for young children exists but nothing for adults that Gardner officially approves of. As a result, nothing known to be reliable exists for an educator of adult

learners to measure or identify the intelligences of his or her students. There is no method other than conducting some classroom exercises that are created around particular intelligences, and afterward reviewing which student does well in those exercises. There is no scientific instrument to categorize various adult learners' intelligences. The practical application of the multiple intelligence theory can be limited and lies in the hands of the particular instructor in a particular classroom. Although there were schools at the primary education level designed to account for the various intelligences that Gardner identifies, at the higher education level Gardner's theory does not seem to have been integrated into a large number of, if any, classrooms at institutions of higher education (H. Gardner, personal communication, October 1, 2007).

Analysis of Kolb's and Gardner's Theoretical Concepts and How They Fit Into the Context of Adult Learning Theory as Espoused by Knowles

Kolb and Gardner's theoretical concepts fit into the context of adult learning theory described by Knowles (as cited in Conner, 2005) in a myriad of ways.

The theories complement each other although they do not follow the exact same path but have similar objectives. Kolb clearly created his theory for adult learners, specifically business managers. Gardner developed his theory primarily for child learners; however, the principles can be transferred to adult learners as well. Knowles concedes that four of the five areas of his theory are applicable to child learners as well as adult learners; therefore, andragogy is based on ideas not exclusive to adult learners. (Conner, 2005, Andragogy section, para. 3)

Per Conner (2005), andragogy currently defines an alternative to *pedagogy* and refers to learner-focused education for people regardless of their age. Major assumptions of the concept of andragogy are that five issues be asserted, let learners know why something is important to learn, show learners how to direct themselves through information, relate the topic to learners' experiences, learners must be ready and

motivated to learn, learners must overcome inhibitions and behaviors about learning (Conner, 2005). “The sole difference between adult and child learners is that children have fewer experiences and pre-established beliefs than adults and thus have less to relate” (Conner, 2005, Andragogy section, para. 3).

A discussion of these andragogical points, as compared to Kolb’s and Gardner’s theories, is relevant when attempting to analyze and compare Knowles’s concepts to the other theories proposed by Gardner and Kolb. The first major difference between Gardner’s concepts and Knowles’s and Kolb’s concepts is that Gardner does not dictate any particular pedagogy or andragogy. Therefore, Gardner does not specifically tell teachers what to do in their classrooms; rather Gardner points out that students learn differently due to their individual strengths in various areas, skills, or fields.

The first issue in adult education, per Knowles (as cited in Conner, 2005), is to let learners know why something is important to learn. This point is not equal to any particular concept or intelligence that Gardner stated. Kolb’s theory contains a few points that could be compared to the concept of letting the learner know why the material is important to learn. Kolb discussed not spoon-feeding material to learners, meaning avoiding a situation where learners are not told why a topic is important to learn. Kolb discussed learning as holistic, which could describe a learner knowing why the subject matter is important to learn and how it will help them in the real world. Kolb discussed tying new material to a learner’s existing knowledge. Explaining why a learner is learning something can allow that connection between existing knowledge and new knowledge to occur (as cited in Conner, 2005).

The second point that Knowles discussed in his theory of andragogy is that learners know how to direct themselves through information (as cited in Conner, 2005). Gardner's intelligences could describe certain intelligence qualities such as visual-spatial learners being able to learn to direct themselves through a learning experience by seeing material in front of them and then making critical learning connections. Kolb discussed that the learner needs to interact with his or her environment. That process could lead to learners becoming self-directed.

Next, Knowles stated that learners need to relate their learning to prior experiences. Kolb certainly is in alignment with that concept. Kolb stated that learners must relate new learning to previous learning. Gardner does not discuss that concept in his multiple intelligences theory.

The student becoming ready and motivated to learn is another concept that Knowles discusses in andragogy. Kolb discussed having the learner resolve any disagreements or other emotional barriers prior to learning, in essence making the learner ready to learn. Gardner did not specifically discuss the student being ready to learn; however, Gardner suggested that if the teacher considers the students' specific intelligence strengths and weaknesses, then the students will be more ready and motivated to learn.

Knowles's final point is that learners need to overcome inhibitions before learning. In addition, that also corresponds with Kolb's statement about learners needing to be emotionally prepared to learn. Gardner's theory of intrapersonal intelligence could also share an emotional element to learning. Per Campbell et al (2004), Gardner defined intrapersonal intelligence as being the ability of a person to be connected emotionally to

his or her true feelings. Intrapersonal intelligence describes a learner who truly knows himself or herself, and therefore is intelligent when it comes to feelings, beliefs, and emotions.

The Effectiveness of Kolb's, Gardner's, and Knowles's Evolving Methods as Compared to the More Traditional Approaches as Critiqued by Dewey

The effectiveness of Kolb's, Gardner's, and Knowles's concepts over traditional classroom techniques such as strict lecturing can be difficult to evaluate. Modern universities still utilize the lecture method of information delivery, especially those institutions that hold classes in large lecture halls where hundreds of college students sit and passively listen to a professor or lecturer. Conversely, smaller institutions of higher education, such as the community colleges or private universities where the researcher has taught, offer the instructor opportunities to utilize techniques more closely aligned with those espoused by Kolb, Gardner, and Knowles.

“The question of how people learn was first raised in the Western tradition by Plato, in the *Meno*, and by Aristotle, and it has occupied most of our major philosophers, including Locke, Descartes, Hume, Kant, and Mill” (Markel, 1999, p. 213). Dewey was an early critic of traditional classroom techniques, in which the teacher is the sole leader and director of classroom learning, and the learners' unique needs are secondary (Conner, 2005). Dewey criticized conformity and a cookie-cutter mentality in the classroom. Dewey was an early evaluator of classroom teaching techniques and called experiential learning a theory of experience. Dewey's philosophy of education supports and is in alignment with the researcher's philosophy. The researcher believes that teaching should

focus on real experience and be practical-based so that things learned in the classroom can be applied to real-world problems.

Per Turnbull (2008), Dewey's philosophy is the concept of questioning, in both his theory of inquiry and his attention to practical problem-solving. Furthermore, "Dewey's version of inquiry takes a scientific form" (Turnbull, 2008, p. 50). Turnbull went on to discuss Dewey's concept of problems, the real focus of education. "Dewey defined the meaning of a problem in terms of its solution. Furthermore, this problem-solving involves finding an answer that dissolves the difficulty of the situation, so that the difference between problem and solution lie in experience itself" (Turnbull, 2008, p. 53). "For Dewey, all problems and solutions were to be found in experience. Dewey said that experience is not itself knowledge; knowledge arises from the inquiry into experience" (Turnbull, 2008, p. 54). It is apparent that Dewey's focus on life and education was to identify problems and treat them as real-world issues. Dewey's pragmatic beliefs led to his attempt at changing the classroom practices of teachers to mesh with his philosophy.

Dewey, and other pragmatists, believed that experience was not only part of knowledge, it was actually the only form of knowledge. Moreover, "Dewey's problem-solving rationale and emphasis on experience produce the distinctive characteristic of pragmatism" (Turnbull, 2008, p. 55). Like the researcher, Dewey believed in scientific inquiry. Turnbull stated that "science can substitute for practical reason because of its similar logic in which the method of problem-solving is of utmost value" (p. 63). An example of this is how Dewey dealt with questions, he "resolved questions into hypothetical propositions, just as in science" (Turnbull, 2008, p. 66).

Per Markel (1999), Dewey called for a progressive form of education, one that rejected the lecturing mode dominant at that time, which required that students sit attentively and listen. One definition of *learning*, in traditional education, is the acquisition of what already is incorporated in books and in the heads of the elders. Dewey championed a progressive education based on the idea that there is an intimate and necessary relation between the processes of actual experience and education. With Dewey's approach, students would attend classes, and they would read, but they would also practice problem-solving activities that engaged their attention and related to their interests. They would, in other words, formulate realistic research questions, then perform research, assemble and analyze their data, and present their findings. They would learn to think critically and communicate effectively.

In contrast to traditional lecturing still employed by many universities and colleges throughout the world, not to mention the lecturing and nonengagement that still occurs daily in primary and secondary schools, Dewey (as cited in Markel, 1999) stated that

Learning is the process by which people make sense of their environment. Certainly learning begins with ideas and theories, but a person also must actively confront experience and thereby learn to question and test theories and make connections between disparate and conflicting information and theories. (p. 214)

A less contemporary study by Johnson (1974) listed the characteristics of traditional educational programs. Johnson (1974) discussed various factors concerning teaching and learning, such as

1. The main indicators of student achievement are knowledge of the subject and ability.

2. Students operate within specified time limits, hour requirements are generally adhered to.
3. Criteria of success are letter grades.
4. Entrance requirements are important concerns, those who are not ready are not admitted.
5. Students are scheduled for instruction into fairly rigid blocks of time.
6. On-campus classroom teaching is the most common approach to instruction.
7. Practical field exercises are limited.
8. Learnings (subject matter) are organized into courses representing academic time units.
9. Lecture-discussion is the most common mode of presentation.
10. The criterion for a good instructor is how much he or she knows about the subject.
11. Management is organized around departments and divisions.
12. The criteria for staff selection are often based on departmental needs.
13. Humanization and personalization are enforced as essential.
14. Program changes occur as needed, in the form of innovations on the basic pattern.
15. Subject matter is selected and organized primarily by the person teaching the course.

The previous criteria for traditional education programs are in stark contrast to the teachings of Kolb, Gardner, Knowles, and Dewey. Once again, absolute effectiveness of the nontraditional methods espoused by the nontraditional educators has not been

scientifically proven; however, these leading researchers offer many alternatives based on a pragmatic philosophy with an emphasis on real life learning or real-world intelligences. Gardner's concepts have been realized by several schools; however, these accomplishments have only been documented at the kindergarten through 12th grade levels. None of the adult education programs utilizing Gardner's theories and documenting successes were discovered in the literature. Gardner designed the theory to deal with child learners, and he did not seem specifically concerned with adult learners.

To summarize, there are several theorists, for example Kolb, Gardner, and Knowles, who have proposed alternatives to traditional learning or intelligence models for adults. Although the literature does not entirely support the effectiveness of these alternative theories, there exists some indication that Gardner's, Kolb's, and Knowles's theories might have some usefulness in a classroom containing adult learners. Furthermore, Dewey started questioning the effectiveness of traditional educational methodology in the early 20th century. Since Dewey's theories were first introduced, traditional educational methodology has been examined and criticized by numerous contemporary theorists, such as Kolb, Gardner, and Knowles, and their research is worth considering when developing curriculum for adult learners.

Adult Learning Theory

The meaning of *andragogy*, initially defined as the art and science of helping adults learn (Conner, 2005), has come to be defined differently by different people since Knowles wrote his first edition text introducing the term to contemporary educators. The term currently defines an alternative to pedagogy and refers to learner-focused education

for people, regardless of their age. Major assumptions of the concept of andragogy are that

The andragogic model asserts that five issues be considered and addressed in formal learning. They include [a] letting learners know why something is important to learn, [b] showing learners how to direct themselves through information, and [c] relating the topic to the learners' experiences. In addition, [d] people will not learn until they are ready and motivated to learn. Often this [e] requires helping them overcome inhibitions, behaviors, and beliefs about learning. (Conner, 2005, Andragogy section, para. 2)

Andragogy is commonly defined in education texts as the way adults learn; however, Knowles himself concedes that four of andragogy's five key assumptions apply equally to adults and children. The majority of the andragogical foundation concepts are shared by all humans of any age. The sole difference between adult and child learners is that children have fewer experiences and pre established beliefs than adults and thus have less to relate (Conner, 2005).

Per Conner (2005), the prevailing issue is that adults in the 21st century should not expect to analyze and synthesize much information if they rely on others to determine what should be learned, how it will be learned, and when it will be learned. Autonomy is critical for adults to thrive in a learning environment. Independent and critical thinking skills are paramount to having a successful life and to essential cognitive development (Conner, 2005).

Most adults today are not free of pedagogic bias developed as they made their way through their early learning experience. To really become self-actualized, according to Maslow (as cited in Coy & Kovacs-Long, 2005), in a learning scenario, adults must unlearn their reliance teacher and take it upon themselves to meet their learning needs, and demand that their instructors or professors also change their definition of how

learning occurs. “Adults must know how they process information” (Conner, 2005, Andragogy section, para. 6).

In contrast to Knowles’s concept of andragogy, pedagogy literally means the art and science of educating children and often is used synonymously with the term teaching. Pedagogy actually should be used to define teacher-centered education. The pedagogic model dictates that teachers assume full and complete responsibility for making decisions about what the students will learn, how it will be learned, and when it will be learned. Teachers exclusively direct the learning process. The researcher likens this to an actor on a stage presenting material to an audience with little or no interaction occurring. The teacher basically throws information at an audience (the students) and hopes that some of the material will stick and be absorbed. The word pedagogy is actually taken from the Greek word *paid*, meaning “child,” and *agogus* meaning “leader of.” That definition accurately explains what is happening in a teacher-centered classroom where there truly is one, and only one, leader that the class follows. (Conner, 2005, Pedagogy section, para. 1–2)

The pragmatistic approach aligns itself with the researcher’s philosophy.

Pragmatism is an approach founded in science yet deals with the choices that people make in reference to their actions in any given situation (James, as cited in Gutek, 2004). Moreover, James (as cited in Gutek, 2004) went on to say that “when we choose and think, our conclusions can guide our actions but they are also provisional and subject to further revision” (p. 71).

Dewey divided the concept of pragmatism into two categories: experimentalism and instrumentalism. “Experimentalism states that human beings think most accurately and completely when they use the experimental, or scientific, method to test an idea to see if it works, solves the problem, and brings the results that they wish to achieve” (Gutek, 2004, p. 71).

Dewey’s Instrumentalism category of pragmatism involves the fact that human beings, possessing a highly developed brain, nerve endings, and a movable thumb and

forefinger, are an instrument or tool maker. “These instruments, part of material culture, can be used to increase human power in order to harness the environment and solve all kinds of problems” (Gutek, 2004, p. 71).

The common denominator between the theories of pragmatism’s two components exists in the realm and framework of being practical based educational delivery methods focusing on evidence that actual learning took place. The teachers’ efforts should be assimilated into the students’ learning. Metaphorically, there is no real teacher present in a classroom unless there are students learning. The teacher should almost dissolve completely into the background, and the students should become dominant. Teachers should not be actors on a stage, presenting a script to their students as if they are an audience, but rather the teachers should be coaches, mentors, and facilitators ensuring the consistent transfer of knowledge of material that the students do not know but must know.

The differences between child and adult learners reflect a need for pedagogical and andragogical teaching methodologies. Clearly adults and children differ in their thoughts, beliefs, and actions. One could argue that adults and children differ in more areas than not. With these differences in mind, why would the art and science or education assume that children and adults learn in the same manner? Why would the exact same techniques used to teach children effectively automatically be used to transfer knowledge to adult learners? In the area of medicine and psychology, fields where research is widely conducted, there exist child psychologists and pediatricians. Those specialists address the needs of the cohort of humans that they have identified as children. Why should the field of education contain only one type of teacher? The medical and

psychological specialists have proven biological and cognitive differences between adults and children. How can professionals in the field of education ignore scientific facts proving the concept of biological, cognitive, and psychological differences between adults and children? It appears that for the field of education to be a respected social science, theories from other scientific field, medicine and psychology, should be embraced and knowledge gained from the extensive research conducted in those fields should be utilized to teach children. Knowles's and others concepts of an adult learner and adult learning should be acknowledged and incorporated into curriculum specifically tailored for the adult learner.

Knowles is a contemporary theorist who focused on the needs and development of the adult learner. Knowles's research provided a basis for a new learning platform for which those educators in the field of higher education could launch their teaching styles. Knowles (as cited in Brookfield, 2005) argued that teachers of adults should use techniques that build upon adult's natural capacity and desire to plan and conduct their own learning. The child learner may not see or understand the purpose of the education and may not appreciate the intrinsic value of the education; the younger students may only attach value to the fact that they enjoy receiving good grades or enjoy the praise of their respective parents when receiving good grades for the work that they completed. It takes a higher level of maturity to enjoy or appreciate any intrinsic reward and the nonadult learners may not possess that ability. Conversely, the young adult might actually enjoy learning for learning's sake once that young adult has reached a level of maturity, allowing the intrinsic appreciation to occur.

Knowles utilized the term for the science of adult learning, andragogy, which literally means “to lead man” (McPherson & Lorenz, 1985, p. 57). Interestingly, the word andragogy has not been fully accepted by academia, as proven by the fact that the word *andragogy* does not even appear in the 11th edition of *Merriam-Webster’s Collegiate Dictionary*. “The theory of andragogy has been developed in contrast to the theory of pedagogy, which has dominated our views of teaching human beings of all ages” (McPherson & Lorenz, 1985, p. 57).

Guttek (2004) stated that

Improving practices within the classroom environment must be a continuous process, and the faculty member must not become stagnant in his or her teaching practices. Teaching and the transference of knowledge is a dynamic and ever changing process, and the practices within any classroom must reflect the best possible procedures for that specific setting. (p. 45)

Quantitative Research Design

Quantitative research design is known as researching by using numbers. It is an analytical process that involves setting up variables, giving the variables labels, and then analyzing the data in a fashion that makes them easily evaluated (Gall, Gall, & Borg, 2003). Oftentimes quantitative research is accompanied by graphs and charts that show the relationships between variables, how they correlate as well as how they differ. Quantitative research is a type of positivist research, and is widely accepted as producing valid and reliable information in which one can interpret results (Gall et al., 2003). This type of research is performed in education as well as numerous other fields including hard sciences, psychology, and the business world.

Quantitative researchers normally perform their research within the social reality that remains constant over time. The person performing the study does not become part of the population of the research being performed; they research from the stance of an observer more than a participant. Quantitative research depends on a sampling from the immediate population being researched. Quantitative research has been described as being qualifying or confirmatory research (Gall et al., 2003). Examples of quantitative research include, descriptive and casual-comparative, correlational, as well as experimental research design.

The VARK

A learning styles instrument was developed and copyrighted by Fleming was selected to be used in this study. The VARK questionnaire is able to categorize students by perceptual response (Fleming, 1992). The VARK instrument categorizes individuals as visual, aural, reading/writing, kinesthetic, or multimodal. The instrument has 16 questions and the participant can select one or more answers to each question with each answer corresponding to one of the 4 categories. The answers are accumulated by category and the highest score determines whether the participant is visual, aural, reading/writing, or kinesthetic. If the highest score is shared by 2 or more categories then the participant is considered to be multimodal. Multimodal individuals may use more than one category equally well. The categories refer to the ways individuals prefer information to be delivered to them and the way that they would prefer to deliver information (Lang, 2004). “Visual individuals prefer diagrams, charts, and symbolism; aural individuals prefer auditory presentations; read/write individuals prefer text based

formats; kinesthetic individuals are active, hands on learners, and multimodal individuals are equally flexible in more than one category” (Lang, 2004, p. 20).

Per Fleming (2010), law enforcement officers have never before been the target group for the VARK instrument. Furthermore, Fleming has no knowledge of any previous study completed that examined the learning style preferences of full-time sworn law enforcement officers using the VARK or any other learning style measurement instrument.

Law Enforcement Training

For the purpose of this study, law enforcement training is described as the training that a law enforcement officer receives in the police academy, field training, and in-service training. This training can consist of classroom instruction in various topics such as legal issues, criminal procedure, or agency policies and procedures.

Benefits of Proper Law Enforcement Training

All law enforcement officers have the ability to learn the skills necessary for their job performance to be productive if they have been able to complete a police academy and survived the field training process. The concept that simply lecturing and showing the officers how to perform a skill, even with practical exercise, will guarantee success in skill development and retention cannot be a belief of those law enforcement instructors who are sincerely attempting to transfer knowledge to their students. Legal liability exists every time a law enforcement officer takes action; therefore, mitigation of the legal liability and exposure is paramount when considering law enforcement training.

Unfortunately, oftentimes an officer receives minimal training on a job requirement, and then is expected to perform the job flawlessly with the training received.

The law enforcement trainer's main role is to design a lesson plan and curriculum that is appropriate for the officers attending training, as well as those officers' needs and abilities. What an instructor does not want to do is to simply lecture or use the same instructional techniques regardless of the material being taught. What makes a law enforcement training course successful is that it is geared towards specific learning goals. The law enforcement trainer's attitude towards the material being taught will directly affect the students' attitude toward the material. It is imperative to show that the material learned has direct application to what is being practiced on the street.

Although in-service and other required training is seen by some officers as negative, it should be viewed as an opportunity to learn helpful techniques and tactics as an opportunity to practice skills learned.

CHAPTER 3. METHODOLOGY

Introduction

This study addressed the need of additional research concerning the learning styles of law enforcement officers. Minimal learning style research exists pertaining to public safety personnel and no study exists that studied the learning styles of full-time sworn law enforcement officers. The liability that exists in the law enforcement profession requires that officers are very well trained and for that training to be effective the learning styles of law enforcement officers needs to be defined.

Problem Statement

The problem that exists is that there is a need for more research in the area of the learning styles of law enforcement officers to ensure that the people who protect society learn effectively and efficiently. This research adds to the existing literature by identifying the dominant learning style shared by most law enforcement officers as well as identifying the differences in learning styles within the ranks of law enforcement personnel based on their gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

Research Questions

The objective of this study was to collect data from full-time sworn law enforcement officers concerning their dominant learning style as well as the differences that exist within the full-time sworn law enforcement officers based on their gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education. The data was used to answer the research questions.

Primary Question

Which is the dominant learning style of full-time sworn law enforcement officers?

Corollary Question

How does the law enforcement officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education affect the officers' learning style?

Theoretical Framework

The study was completed by administering a VARK questionnaire to full-time sworn law enforcement officers who are employed by a very large sheriff's office located in south Florida. As a part of the study, the researcher also gathered demographic information that was used to stratify the variations in learning styles based on specific variables that exist within the sample such as, gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education.

Methodology and Research Design

Researchers have previously studied learning styles of many cohorts of people; however, full-time sworn law enforcement officers have escaped being the target of previous research. Underlying assumptions emerge from the studies of teachers and researchers. The theoretical framework for this study will be drawn from previous studies such as Klingensmith's (2006). The Klingensmith study, titled *Learning Styles of Emergency Services Responders*, involved firefighters, first responder emergency personnel, and a limited number of full-time law enforcement arson investigators, and used the VARK questionnaire to determine their learning styles. That study is the closest in design to this study, which this researcher was able to locate. Using a quantitative design allows the researcher to gather numerical data derived from the VARK questionnaire identifying learning style preferences. Fleming (1992) developed the VARK and it has been used in multiple studies to determine the learning styles of various adult populations.

The research design used a quantitative approach and used descriptive statistics to analyze the data to determine the dominant learning style of full-time sworn law enforcement officers, and how the variables of gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education affect the law enforcement officers' learning style preferences. *Merriam-Webster's Collegiate Dictionary* (2000) stated that descriptive statistics are a set of procedures that can be used to summarize data and allow the researcher to make comparisons and correlations between the data (as cited in Klingensmith, 2006). The VARK questionnaire that was used identified the individual learning styles of full-time sworn law enforcement officers,

while the correlational data analysis showed any relationship between learning styles and the variables of gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education (Klingensmith, 2006).

The actual steps taken for conducting the research was kept very simple and easy to administer. The researcher obtained written consent from the sheriff's office. Then the researcher obtained consent from each of the 101 participants who randomly agreed to participate by completing an online questionnaire administered from the sheriff's office's Intranet website. Once the consent was electronically signed, the website then administered the VARK instrument to each participant. In addition, there was a demographic questionnaire to capture the basic demographic information from each participant. The data was then analyzed using descriptive statistics. Each participant's identity was kept completely anonymous and a random number was assigned by the survey instrument to identify the participants. The results were then analyzed by grading each instrument as to which learning style preference was the most often chosen by each participant. Whichever preference choice was chosen the most often by the participant defined which learning style preference each participant preferred to learn using. If there was more than one learning style preference chosen the same number of times or near the same number of times then the participant's learning style preference was classified as multimodal. A research spreadsheet provided by the VARK's author, Neil Fleming, was used to calculate results and to classify participants.

Sampling Design

The population from which this sample was drawn is a group of law enforcement officers in the state of Florida who are employed by a sheriff's office. The sample included 101 full-time sworn law enforcement officers who work for a large sheriff's office located in south Florida. The sample population was chosen using a random and convenience method. The 101 participants completed the questionnaire properly. The instrument was only available for a 2-month period and therefore, no more than 101 participants chose to participate. This method was chosen because of the availability of the law enforcement officers, as well as the convenience and low cost of obtaining permission from the sheriff's office that employs the participants. The sample met the needs of the research problem, as this sample met the criteria necessary to perform and carry out the intended research questions. To encourage participation by the law enforcement officers, who tend to be skeptical of research and outside studies of their organizations, no information contained any names to ensure anonymity and their results were given a randomly generated number from the survey website.

Data Collection Procedures

The data collection occurred via the Internet through the sheriff's office Intranet. The researcher utilized an electronic questionnaire method. All law enforcement officers were asked the same questions, in the same order. The demographic questionnaire was designed to determine each participant's gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education. The participants

recorded all answers directly onto the VARK instrument and the demographic questionnaire.

Data Analysis

Descriptive statistics will be utilized to analyze the data collected. The chi-square test for categories was also performed on the data set. This test is a statistical test to identify whether a sample set of observations has a different distribution from a hypothetical or population set of observations. Chi-square determines whether the given distribution differs significantly from the population distribution. These statistical applications yield information that gives a description of the data set.

The patterns and general tendencies of the statistical information help to describe each of the variables. The use of this set of statistical information helped decide if a relationship was considered to be real or just a chance fluctuation. In addition to the chi-square, simple descriptive statistics were utilized to analyze the data set. Percentages among the variables were calculated and listed, as well as the counts for each variable. The counts and percentages are listed in tables for visual comparison to each other. The interpretations of the data were completed once the data had been analyzed using SPSS software.

Quantitative Research

The researcher will discuss the research methodology chosen for this study, quantitative research. Per Gall et al. (2003)

Quantitative Methodology, also known as positivist research, is inquiry that is grounded in the assumption that features of the social environment constitute an objective reality that is relatively constant across time and settings. The dominant methodology is to describe and explain features of this reality by collecting numerical data on observable behaviors of samples and by subjecting these data to statistical analysis. (p. 634)

Hopkins (2000) discussed quantitative methodology and described it in terms of quantitative research having the aim to determine the relationship between one thing (an independent variable) and another (a dependent or outcome variable) in a population. That is the most obvious one distinguishing quantitative from qualitative research. Qualitative research does not utilize a dependent or independent variable; however, quantitative relies on those variables to form a study. Quantitative research designs are either descriptive with subjects usually measured once or experimental with subjects measured before and after a treatment. Descriptive studies establish only associations between variables. Experiments establish causality. Of course, in all studies, subject characteristics can affect the relationships that are being investigated. The effect of subject characteristics can be limited by either using a less heterogeneous sample of subjects or preferably by measuring the characteristics and including them in the analysis.

Research methodology must not be determined by a researcher's personal preference; that is akin to buying the shoe and then making the foot fit. The study determines the methodology. The primary focus of this study was to add to the body of knowledge concerning how law enforcement officers learn so that trainers can better prepare curriculum that maximizes the efficiency of training given the limited time that exists for training as well as the contemporary budget constraints.

The administration of the VARK learning style inventory to 101 full-time sworn law enforcement officers was conducted in order to identify their learning styles and to determine if these styles fell into any particular pattern based upon the years of experience, current rank and assignment, level of education, age, and gender and to determine if there exists any relationship between those variables.

A quantitative research method was used to collect data from and about the participating subjects and all data collected was organized using the variables. The data were logged, transformed and analyzed accordingly.

Research Design

A quantitative research design and descriptive statistical methodology was used to explore the learning styles and identify the dominant patterns of learning preferences of full-time sworn law enforcement officers in general, and in relation to the variables of gender, age, current rank and/or assignment, years of experience, and level of education. Descriptive statistics are normally used to summarize data and allow the researcher to make comparisons and correlations between data (*Merriam-Webster's Collegiate Dictionary, 2000*). The VARK questionnaire was used to identify the individual learning styles of the full-time sworn law enforcement officer participants. The chi-square determines whether the distribution differs significantly from a hypothesized distribution.

Characteristics of the Sample Population

There were 101 full-time sworn law enforcement officer participants. The characteristics of the population were obtained via demographic questions that preceded the Internet based VARK instrument.

In addition to the Chi square, simple descriptive statistics were utilized to analyze the data set. Percentages among the variables were calculated and listed, as well as the counts for each variable. The counts and percentages are listed in tables for visual comparison to each other.

The interpretations of the data were completed once the data had been analyzed using SPSS software. The data showed that the dominant learning style for the sample as a whole was multimodal. Multimodal indicates that the sample prefers to learn using more than one of the four other categories of learning preferences defined in the VARK instrument. Multimodal is defined as preferring to use one of the 11 different combinations of the Visual, Aural, Read/write, or Kinesthetic preferences. Those combinations can be any of two or more of the Visual, Aural, Read/write, or Kinesthetic preferences.

The statistics presented provide a concise description of the results of the data once it was analyzed. The analyzed data results revealed the following: Certain groups showed certain tendencies or patterns toward the VARK categories, but, as a whole, the general population pattern was multimodal with a secondary and lesser tendency towards Read/write. The results did not support any common belief among law enforcement officers and law enforcement trainers that law enforcement officers prefer to learn hands-

on as opposed to learning through reading and writing, seeing the information, or hearing about the information.

Summary

In conclusion, the study must determine the methodology; choice of methodology should never be based on a researcher's personal preference. This study called for a quantitative approach rather than a qualitative approach due to the nature of the data derived from the VARK instrument.

In comparison, quantitative research is appropriate when processing data derived from tests, and when lived experience or other non-numerical data does not need to be manipulated. Quantitative methodology offers many advantages, including allowing the researcher to be more brief and concise with his or her study due to the fact that the data presented within the study is strictly numerical.

Finally, the research question determines the methodology, and the methodology should never be determined because of a researcher's likes or dislikes. This researcher's question lends itself to a quantitative design, specifically a descriptive study. This researcher needs to be able to measure the dominant learning style of full-time law enforcement officers and how their gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education affect their learning style preferences. Utilizing a quantitative design is how the researcher best synthesized the data from this study.

CHAPTER 4. DATA COLLECTION AND ANALYSIS

Introduction

This chapter will describe the results of the data analysis derived from the research methodology previously outlined and explained in Chapter 3. The statistics presented provide a concise description of the results of the data once it was analyzed. The analyzed data results revealed the following: Certain groups showed certain tendencies or patterns toward the VARK categories, but, as a whole, the sample preferred a multimodal learning approach with a secondary and lesser preference tendency towards Read/write.

Research Questions

Primary Question

Which of the five VARK defined learning styles is dominant among full-time sworn law enforcement officers?

Corollary Question

How does the law enforcement officers' gender, age, current rank and/or assignment, years of experience, and level of education affect the officers' learning style preference?

Results

Preferences

The majority of the full-time sworn law enforcement officers had the multimodal preference for learning. Data revealed that while the majority of the participants are multimodal as their preferred learning preference, certain variable categories presented findings that the Read/write category was also a very common choice. The Read/write category was strong enough to alter and weaken the statistical strength of the multimodal category as being the dominant category overall. Chi-square performed on the collected data resulted in showing no significance.

The results of the collected and analyzed data have shown a tendency for the full-time sworn law enforcement officers to be multimodal in their learning style preferences; that indicates that just as the general population tends to be multimodal so do police (Fleming, 2010). Learning appears to be more humanistic than situation or profession dependent based on the data from this study. However, while the multimodal preference was clearly the most preferred style, the various methods that these participants prefer to use to learn, based on the VARK, can be quite different within the category of multimodal. Each of the 11 specific categories that could occur as being defined as multimodal were not analyzed and was outside of the range and scope and limits of this study as well as the limits of the sample size. Thus, this study found that the main five categories offered through the VARK instrument sufficed to examine and analyze this particular sample of full-time sworn law enforcement officers.

All data was analyzed using the SPSS software and did not require any special or unique numbering for the VARK categories to be analyzed. There were inherent issues with the collected data that made the analysis problematic. First of all, the data was nonparametric and the types of analysis appropriate were therefore limited. The gender samples were problematic due to the disproportion of females versus males and that did not allow for any valid data analysis based on gender. Frequency tables have been included to illustrate and display the data that was gathered based on gender; however, no statistics are available and no conclusions can be drawn as to how gender affects the learning style preferences of full-time sworn law enforcement officers based on gender alone.

Data Collected and Statistical Analysis

Overall, the analysis that presented itself as being appropriate for this nonparametric (non-interval level) data was quite simple and limited in range and scope due to the small sample size and the characteristics of the sample that was gathered.

Examining the relationship between the preferred learning style and the demographical variable allowed the researcher to attempt to identify the dominant learning style of the participants as well as if any of the demographic variables affected the preferred learning style choice. That being said, the data was problematic due to some of its inherent qualities and deficiencies. The Pearson Chi-square results were not significant due to an unbalanced sample caused in part by the patrol rank and/or current assignment being the majority; however, that represents the actual demographics of law enforcement assignments. The Read/write preference absorbed most of the variance; therefore, the significance was dispersed. Drawing solid conclusions from this limited

study as to the dominant learning styles of full-time sworn law enforcement officers, as well as if demographic variables affect learning style preferences, would not be recommended. The future researcher of law enforcement learning styles should examine the recommendations offered in Chapter 5 for suggested future research in this area. Chapter 5 discusses the suggested further research that must occur for this topic to be examined more thoroughly and for the data to provide meaning significant enough to alter the teaching and training methodology of law enforcement trainers.

Data Presented

Table 1 lists the sample participants' demographic information by variable. As the table illustrates, the sample size for female officers was very small (only 11 participants) and the vast majority of participants were assigned to the patrol division (67 total).

Also of interest is the fact that the greatest number of participants had over 20 years of law enforcement experience with 33 reporting that many years experience in full-time law enforcement. Also, the largest number of participants had earned at least an associate's degree with the greatest of number of degree holders having a bachelor's degree.

Table 2 depicts all results based on all demographic variables. The data show that there were a much greater number of male participants (90) than female participants (11), the most common age group was the 41–50 years of age group (36), the most common assignment was patrol (67), the most common years of experience group was the group with over 20 years of experience (33), and the most common level of education was the bachelor's-degree level (31) with a close second with 30 participants reporting some college but no earned degree.

The preferred learning style preference was the multimodal preference although the Read/write was a very close second within the female group and a substantial second place group within the males. The Read/write for both genders and for all variables was significant enough to affect the overall results indicating that the multimodal group was the preferred learning style of full-time sworn law enforcement officers.

Table 1. Total Sample Demographics

Demographic variable	<i>n</i>
Gender	
Male	90
Female	11
Age (in years)	
21–30	17
31–40	31
41–50	36
51–60	16
61 and older	1
Current assignment	
Patrol	67
Investigations/Special Units	21
Administration	13
Years of law enforcement experience	
1–5	19
6–10	16
11–15	18
16–20	15
20+	33
Education	
High school	10
Some college	30
Associate’s degree	19
Bachelor’s degree	31
Master’s degree	10

Table 2. Cross-Tabulation, Learning Preference by All Variables

Demographic variable	Preference*					N
	V	A	R	K	Multimodal	
Total sample	2	9	33	12	45	101
Gender						
Male	2	8	29	11	40	90
Female	0	1	4	1	5	11
Age (in years)						
21–30	2	1	5	1	8	17
31–40	0	3	13	2	13	31
41–50	0	4	11	7	14	36
51–60	0	1	3	2	10	16
61 and older	0	0	1	0	0	1
Current assignment						
Patrol	1	7	20	6	33	67
Investigations/Special Units	1	1	8	4	7	21
Administration	0	1	5	2	5	13
Years of law enforcement experience						
1–5	1	2	4	2	10	19
6–10	1	2	7	2	4	16
11–15	0	1	8	2	7	18
16–20	0	2	7	2	4	15
20+	0	2	7	4	20	33
Education						
High school	0	1	0	0	6	10
Some college	1	0	12	4	13	30
Associate’s degree	0	5	7	1	6	19
Bachelor’s degree	1	3	7	6	14	31
Master’s degree	0	0	4	1	5	10
Doctorate/law degree	0	0	0	0	1	1

*V = Visual, A = Aural, R = Read/write, K = Kinesthetic.

Table 3 depicts the cross-tabulation results of learning style preferences based on the gender variable in counts and percentages. The table clearly displays that the multimodal category is the most preferred learning style preference for both genders. The Read/write preference is strong enough to influence the data set and is the second most preferred learning style preference reported by the participants.

Of great interest is that the Kinesthetic preference, commonly believed to be the preferred learning style preference is not strongly supported in this study. Chi-square was completed for the gender variable even though the female officer sample size was very small (11); statistical significance did not exist for the comparison by gender in this study.

Table 3. Cross-Tabulation, Learning Preference by Gender

Gender	Learning preference*					Total
	V	A	R	K	Multimodal	
Males						
<i>n</i>	2	8	29	11	40	90
% of learning preference	100.0	88.9	87.9	91.7	88.9	
% of males	2.2	8.9	32.2	12.2	44.4	
% of total	2.0	7.9	28.7	10.9	39.6	
Females						
<i>n</i>	0	1	4	1	5	11
% of learning preference	0.0	11.1	12.1	11.1	11.1	
% of females	0.0	9.1	36.4	9.1	45.5	
% of total	0.0	11.1	4.0	1.0	5.0	
Total	2	9	33	12	45	101

*V = Visual, A = Aural, R = Read/write, K = Kinesthetic.

Table 4 depicts the cross-tabulation results of the age variable. The greatest number of participants fell into the group of 41–50 years of age (36) and the multimodal preference was the most common (45). The Read/write was tied with multimodal (13) in the age group containing 31–40 year old participants (13) and was the only choice for the one participant who was over 60 years of age. The Pearson chi-square test for the age variable had 16 degrees of freedom, the value was 18.819, and the p-value was .278.

Table 5 depicts the cross-tabulation results of the current rank and/or assignment variable. Most participants were assigned to patrol which is consistent with overall law enforcement demographics. The second most common category was the investigations or special unit assignment group. That group includes detectives, agents, trainers, SWAT operators and other nonpatrol or nonadministration officers. The smallest group was the administration assignment. That group would contain chiefs, captains, lieutenants and other high ranking administrators.

Multimodal was the most common in the patrol assignment group (33) but Read/write was a very common preference for the other two assignment groups taking the majority in the investigations/special unit group (7 versus 8 multimodal) and tying for most common preference in the administration group (5). The Pearson chi-square test for the current rank and/or assignment variable had a degree of freedom equaling 24. The value was 21.472.

Table 4. Cross-Tabulation, Learning Preference by Age

Age	Learning preference*					Total
	V	A	R	K	Multimodal	
21–30						
<i>n</i>	2	1	5	1	8	17
% of learning preference	11.8	5.9	29.4	5.9	47.1	
% of 21–30	100.0	11.1	15.2	8.3	17.8	
% of total	2.0	1.0	5.0	1.0	7.9	
31–40						
<i>n</i>	0	3	13	2	13	31
% of learning preference	0.0	9.7	41.9	6.5	41.9	
% of 31–40	0.0	33.3	3.4	16.7	28.9	
% of total	0.0	3.0	12.9	2.0	12.9	
41–50						
<i>n</i>	0	4	11	7	14	36
% of learning preference	0.0	11.1	30.6	19.4	38.9	
% of 41–50	0.0	44.4	33.3	58.3	31.1	
% of total	0.0	4.0	10.9	6.9	13.9	
51–60						
<i>n</i>	0	1	3	2	10	16
% of learning preference	0.0	6.3	18.8	12.5	62.5	
% of 51–60	0.0	11.1	9.1	16.7	22.2	
% of total	0.0	1.0	3.0	2.0	9.9	
> 60						
<i>n</i>	0	0	1	0	0	1
% of learning preference	0.0	0.0	100.0	0.0	0.0	
% of > 60	0.0	0.0	3.0	0.0	0.0	
% of total	0.0	0.0	1.0	0.0	0.0	
Total	2	9	33	12	45	101

*V = Visual, A = Aural, R = Read/write, K = Kinesthetic.

Table 5. Cross-Tabulation, Learning Preference by Current Rank/Assignment

Current rank/assignment	Learning preference*					Total
	V	A	R	K	Multimodal	
Patrol						
<i>n</i>	1	7	20	6	33	67
% of learning preference	1.5	10.4	29.9	9.0	49.3	
% of Patrol	50.0	77.8	60.6	50.0	73.3	
% of total	1.0	6.9	19.8	5.9	32.7	
Investigations/Special Units						
<i>n</i>	1	1	8	4	7	21
% of learning preference	4.8	4.5	38.1	19.0	33.3	
% of Invest./Spec. Units	50.0	11.1	24.2	33.3	15.6	
% of total	1.0	1.0	7.9	4.0	6.9	
Administration						
<i>n</i>	0	1	5	2	5	13
% of learning preference	0.0	7.7	38.5	15.4	38.5	
% of Admin.	0.0	11.1	15.2	16.7	11.1	
% of total	0.0	1.0	5.0	2.0	5.0	
Total	2	9	33	12	45	101

*V = Visual, A = Aural, R = Read/write, K = Kinesthetic.

Table 6 illustrates the years of full-time law enforcement experience that the participants have accrued and which learning style preference they display based on the answers to the VARK survey. Of interest here is the fact that both the least experienced officers as well as the most experienced officers display the preference for the multimodal category.

Read/write was again a strong runner up in most of these categories and dominant in two of those experience categories. The Pearson chi-square test for the years of experience variable had a degree of freedom equaling 20. The value was 24.475.

Table 6. Cross-Tabulation, Learning Preference by Years of Law Enforcement Experience

Years of law enforcement experience	Learning preference*					Total
	V	A	R	K	Multimodal	
1-5						
<i>n</i>	1	2	4	2	10	19
% of learning preference	50.0	22.2	12.1	16.7	22.2	
% of 1-5	5.3	10.5	21.1	10.5	52.6	
% of total	1.0	2.0	4.0	2.0	9.9	
6-10						
<i>n</i>	1	2	7	2	4	16
% of learning preference	50.0	22.2	21.2	16.7	8.9	
% of 6-10	6.3	12.5	43.8	12.5	25.0	
% of total	1.0	2.0	6.9	2.0	4.0	
11-15						
<i>n</i>	0	1	8	2	7	18
% of learning preference	0.0	5.6	44.4	11.1	38.9	
% of 11-15	0.0	11.1	24.2	16.7	15.6	
% of total	0.0	1.0	7.9	2.0	6.9	
16-20						
<i>n</i>	0	2	7	2	4	15
% of learning preference	0.0	13.3	46.7	13.3	26.7	
% of 16-20	0.0	22.2	21.2	16.7	8.9	
% of total	0.0	2.0	6.9	2.0	4.0	
> 20						
<i>n</i>	0	2	7	4	20	33
% of learning preference	0.0	6.3	21.9	10.4	62.5	
% of > 20	0.0	22.2	21.2	33.3	4.4	
% of total	0.0	2.0	6.9	4.0	19.8	
Total	2	9	33	12	45	101

*V = Visual, A = Aural, R = Read/write, K = Kinesthetic.

Table 7 displays the results of the data based on the officers' level of education. As shown here, the multimodal category is the clear majority based on education. The second closest category is Read/write but that category is still much smaller in number than the multimodal category. The Pearson chi-square test for the level of education variable had a degree of freedom equaling 20. The value was 21.910.

Table 7. Cross-Tabulation, Learning Preference by Level of Education

Education	Learning preference*					Total
	V	A	R	K	Multimodal	
High school						
<i>n</i>	0	1	3	0	6	10
% of high school	0.0	10.0	30.0	0.0	60.0	
% of total	0.0	1.0	3.0	0.0	5.9	
College						
<i>n</i>	1	0	12	4	13	30
% of college	3.3	0.0	40.0	13.3	43.3	
% of total	1.0	0.0	11.9	4.0	12.9	
Associate's						
<i>n</i>	0	5	7	1	6	19
% of associate's	0.0	26.3	36.8	5.3	31.6	
% of total	0.0	5.0	6.9	1.0	5.9	
Bachelor's						
<i>n</i>	1	3	7	6	14	31
% of bachelor's	3.2	9.7	22.6	19.4	45.2	
% of total	1.0	3.0	6.9	5.9	13.9	
Master's						
<i>n</i>	0	0	4	1	5	10
% of master's	0.0	0.0	40.0	10.0	50.0	
% of total	0.0	0.0	4.0	1.0	5.0	
PhD/JD						
<i>n</i>	0	0	0	0	1	1
% of PhD/JD	0.0	0.0	0.0	0.0	100.0	

% of total	0.0	0.0	0.0	0.0	1.0	
Total	2	9	33	12	45	101

*V = Visual, A = Aural, R = Read/write, K = Kinesthetic.

Table 8 depicts the chi-square results. The data were problematic due to the fact that the sample size was small and due to the fact that the Read/write learning preference results had a strong influence on the analytic results of the dominant learning preference of multimodal.

The gender variable was not able to have a degree of freedom established due to the small sample size of the female participant group (11). The age variable produced a 8 degrees of freedom, the current rank and/or assignment variable produced 24 degrees of freedom, the years of full-time law enforcement experience variable produced 20 degrees of freedom, and finally the level of education variable produced 20 degrees of freedom.

Table 8. Chi-Square Results

Demographic variable	<i>df</i>	Value	P-value
Gender	4	.379	.984
Age	16	18.819	.278
Current rank and/or assignment	24	21.472	.778
Years of full-time law enforcement experience	20	24.475	.345
Level of education	20	21.910	.515

CHAPTER 5. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The intent of this study was to identify the learning styles of full-time sworn law enforcement officers in order to help improve their performance in their key role of professionals responsible for protecting life and property. Full-time sworn law enforcement officers would like to be seen as professionals; therefore, it is necessary for them to experience the educational rigor required of professionals in other fields.

Research Questions

The research questions considered in this study were as follows.

Primary Question

Which is the dominant learning style preference of full-time sworn law enforcement officers?

Corollary Question

How does the law enforcement officers' gender, age, current rank and duty assignments, years of full-time law enforcement experience, and level of education affect the officers' learning style preference?

Understanding and identifying learning style preferences can help in the understanding of specific groups of individuals, or those in particular professions. This

understanding can be useful for the individual as well as for those who educate and train them. It can help individuals become effective learners and problem solvers (McClincy, as cited in Klingensmith, 2006).

The researcher has been a police trainer for the last 15 years and in discussions with fellow law enforcement and police academy trainers, the overwhelming theory promulgated is that officers learn best by doing (kinesthetically), and do not like to learn by reading or writing. However, there has not been a study, that the researcher has located, that supports that theory. This study is an attempt to identify any dominant learning style preference that exists among full-time sworn law enforcement officers. Per Silberman (as cited in Klingensmith, 2006), their approach to learning may appear to be haphazard and random, and that high on their preference lists are experiential activities. The concept that law enforcement officers are kinesthetic learners is the prevailing theme behind most law enforcement training that currently exists.

The VARK

The VARK Learning Preference test was administered to 101 full-time sworn law enforcement officers in order to identify their learning styles. Data acquired from the administration of the VARK were then subjected to several statistical tests—the descriptive statistics include the total count and percentages of the variables and learning style preferences. Once data were correlated, the significance of the correlations was determined and the learning styles patterns identified. Correlation measures the strength of a linear pattern of the variables as they relate to each other. Chi-square was also conducted for all data tested in this study. Even though it was not at a level of

significance when chi-square was performed on data, the descriptive statistics showed multimodal was chosen more than any of the other choices. The descriptive statistics did reveal that of the 101 subjects taking the VARK, the second most common preference was the Read/write that had an overall affect on the strength of the multimodal preference.

Several interesting concepts and correlations emerged once the data was examined. The multimodal category was strongest overall given all variables. Kinesthetic preferences, the preference to learn by hands-on doing, was not even a strong preference overall despite the prevailing belief spoken of by law enforcement officers in general that they prefer to learn hands-on.

Overall, the study provided insight into the world of law enforcement training and the learning preferences of full-time sworn law enforcement officers; however, due to the limited sample size, and the limited number of participants representing the various demographic factors that were to be compared and correlated, the study was simply the first step in a ladder of research that must occur for the body of knowledge into law enforcement learning styles to be expanded. The common belief and hypothesis that law enforcement officers learn best by doing was not supported by the study. Moreover, the belief that law enforcement officers do not prefer to learn by reading and writing was also not supported by the study due to the fact that second only to the multimodal preference was the Read/write preference based on the collected data.

Social Impact

The accepted method for the development of professionals in any professional field is based on the type of training and education those professionals receive. Addressing learning styles has been a controversial yet important topic discussed by many theorists. Identifying learning styles has proven to be useful in helping both the learners and instructors alike (Merriam & Caffarella, as cited in Klingensmith, 2006). Up to this point, research of adult learning styles and preferences has been limited especially when it refers to full-time law enforcement officers, which appears to have been nonexistent prior to this study. The damaged economy and the legal and political attitudes that currently prevail within our society have required law enforcement agencies to become very efficient in their training programs and to become very cognizant of mitigating government liability. No profession could be more important than one that requires of its members to be armed and to take away the liberty of citizens for the greater good of society. This challenge mandates continuing improvements in the training of law enforcement officers.

When the curriculum developers, trainers, and instructors have the information about how a student learns, they are better able to design and teach a curriculum (McCliney, as cited in Klingensmith, 2006).

Recommendations for Action

The use of diverse instructional methodologies to ensure that students receive the information through their preferred learning style may improve their knowledge and retention (McCliney, as cited in Klingensmith, 2006). By incorporating learning styles

information into the classroom the instructor may be able to help prevent disillusionment and frustration on the part of the learner, in addition to providing an opportunity for more efficient and comprehension of the material. Knowledge of learning styles can help instructors design experiences appropriate for students that will enable them to learning in thoughtful and systematically ways (Postsecondary Education Planning Commission, as cited in Klingensmith, 2006).

Recommendation for Further Study

A question worth considering is the relationship between the learning style preferences of full-time sworn law enforcement officers and the teaching styles of law enforcement instructors. Learning style preferences must be complemented by similar information about teaching style preferences. Another question is what types of instructional aides are available and/or can be implemented to accommodate the dominant learning style preferences of full-time sworn law enforcement officers. Instructional aides can make or break a learning environment depending on the nature of the learning.

Critical Reflections

Law enforcement officers and instructors can benefit from a relevant learning environment and from the enhancement of their learning skills. Effective means to reach all learners is modality based instruction, which consists of organizing around the different modalities to accommodate the needs of the learner (McCliney, as cited in Klingensmith, 2006). In order to achieve a maximally effective learning experience, law

enforcement instruction needs to be planned and implemented based upon the learning styles of the students. In order to accomplish this goal there needs to be

- Learning style-based instruction
- The diagnosing of individual learning styles
- Profiling group preferences
- Determining group strengths and weaknesses
- Examining subject content for areas that may create problems with weak skills
- Analyzing student's prior achievement scores
- Remediating weak skills, assessing current instructional methods to determine whether they are adequate or require more flexibility
- Modifying the learning environment; and developing personalized learning experiences (Keefe, as cited in Klingensmith, 2006).

Determining the proper instrument for the measurement of learning style preference is an important step in research of the topic of learning styles and preferences. The objectives of the study and the design of the study to meet those objectives is paramount for research to be useful and valid. Any instrument used must be both reliable and valid. The systematic research of any subject and the report of the findings leads to other research questions and additional studies. The purpose for any research is to use its results to increase the body of knowledge on that topic and to then use that knowledge in practice. When both students and instructors utilize information from the literature pertaining to learning styles it sets up a win-win environment for effective and efficient learning to occur.

Given the constantly changing and increasingly legally liable aspect of the course content of law enforcement training, it is a benefit for instructors and student officers to be able to understand their preferred learning style. Utilizing all available information about learning styles when planning and implementing training curriculum could improve the quality of course design, as well as delivery of course content, so that law enforcement officers can better serve the public in the most safe and efficient manner possible.

The 101 full-time sworn law enforcement officer participants were employed by the Sheriff's Office located in south Florida. This study was problematic in the gathering of data due to the fact that the participants were not easily accessible to previous researchers and therefore, had not participated in this type of study previously. It required assistance from the police chief of the law enforcement agency that the researcher is employed by to obtain permission from the Sheriff's Office to make available the volunteer participants. Permission was granted to have the survey instrument published on the law enforcement agency's internal intranet website for only 2 months, December 2009 and January 2010. During those 2 months of data collection, 101 participants voluntarily completed the survey.

The objective of the researcher's recommendation for future research is twofold: (a) to expand the use of the VARK for special categories of populations, and (b) to examine the learning style preferences of full-time sworn law enforcement officers using the VARK and/or other test instruments designed to measure learning styles, and behavioral attributes of full-time law enforcement officers.

The law enforcement officers must have adequate training to perform their duties in a safe, legal, and efficient manner. This study can directly benefit and impact the lives of the 700,000 or more full-time sworn law enforcement officers that are employed in the United States. Moreover, there are many part-time, reserve, auxiliary, and special law enforcement officer who serve daily on part-timer basis and sometimes without pay. All of those officers can also benefit from the results of this study. Often, those part-time officers do not receive all of the training that the full-time officers receive; therefore, it is even more critical that they receive efficient and effective training when they are able to participate. The part-time officers also do not always have as much experience as the full-time officers have, unless they had served as full-time officers previously.

Many additional studies can and should be conducted in reference to law enforcement training. The researcher would like to see the federal government fund constant research into the effectiveness and efficiency, or lack thereof, of currently law enforcement training that occurs in the United States. Unfortunately, there are no federal standards for law enforcement officers except those standards that apply to federal officers themselves or those officers with federal jurisdiction; each state is sovereign when it comes to the requirements to become a law enforcement officer and the requirements for maintaining the state law enforcement certification. For instance, in the state of Florida, where this study was conducted, any certified law enforcement officer, full-time, part-time, or reserve) and auxiliary must complete at least 40 hours of training every 4 years. That training includes some mandatory topics such as domestic violence, safe and legal traffic stops, firearms proficiency qualifications, elderly abuse, juvenile sex offender investigations.

If a comparison were to be completed of the consequences of improper training for any given occupation or profession, law enforcement would have to rank at the top of the list. If a barber makes an error, then maybe a person suffers from an unattractive haircut. If a baker makes a mistake, then maybe the bread will not taste right. If a butcher makes a mistake, then maybe the cut of meat is not sectioned properly. If a law enforcement officer makes a mistake then a person's freedom could be taken from him or her. If a law enforcement officer makes an error then someone could lose his or her life or be maimed. Only a few professions exist that have such a high level of liability attached to the consequences of the professional's actions.

Government Impact

Government agencies' budgets are suffering, and have been for several years. Each dollar spent must be spent properly. Taxpayers demand that Law enforcement agencies provide the best service for the lowest cost. Interestingly enough, law enforcement is one of the few professions where the law enforcement officer actually helps pay for his or her own salary due to the fact that each and every law enforcement officer is a taxpayer in one way or another. Those employed in private industry do not contribute to their own salary unless they patronize their employer's business.

The results that indicate that the full-time sworn law enforcement officers who participated in this study prefer to learn by using more than one learning style preference, that being multimodal, directly corresponds to the existing literature provided by Fleming, the author of the VARK learning style preference instrument. The VARK website and published findings illustrates that the general public also prefers to use more

than one preference and the majority are in fact multimodal learners as indicated by the VARK instrument that the general population is completing online at the VARK website.

Improvements that could be made for the next study of this kind are vast. First of all, the sample size could be much larger than the 101 participants that were part of this study. Also, a longitudinal study could be completed following the police recruit from the first day of the police academy, then after the recruit completes half of the police academy, then after the recruit completes the police academy, then after the recruit completes half of the field training program, then after the recruit complete field training program, then once the recruit is an actual officer who has served 1 year, then 5 years, and so forth. The results could be computed for the purpose of tracking and all changes that occur to the officer's learning style preference throughout a law enforcement career. Other personality traits sometimes are affected from the profession of law enforcement such as the officers become more cynical, skeptical, and pessimistic. It would be of interest to see if the officers' learning style preferences are also affected in any way by a career in police work. This study only captured different segments of law enforcement officers as they were separated by the various demographic factors that were identified. No individual officer was tracked to determine any change that may or may not occur during the officer's law enforcement career.

Why Train Law Enforcement Officers?

Why do law enforcement officers need any training beyond the police academy or beyond their formal criminal justice degree education, if they have such a degree due to the fact that none is required in many states? Law enforcement officer must be regularly

and consistently trained due to many factors. First of all, legally, there exists tremendous liability if an officer is not trained properly. Failure to train is an actual topic of civil liability and litigation and is used in civil suits against law enforcement agencies when their officers make mistakes that cause someone to suffer a loss. Second, law enforcement officers must possess perishable skills that they use almost every day. Law enforcement officer must drive a vehicle in an emergency mode and must be trained regularly in driving techniques and tactics. Law enforcement officers arrest suspects everyday; therefore, those officers must be ready to use defensive tactics, handcuffs, TASERs, expandable batons, chemical weapons, and possibly firearms. Those skills are perishable and if not used and practiced regularly will begin to disintegrate. The only method to maintaining perishable psycho-motor skills (often inappropriately referred to as muscle memory) is repetition and regular practice. Without regular practice the officer will remember a certain level but depending on how much training precedes the required use of that skill, the skill that is displayed could be of poor quality or of excellent quality.

The author has been a police trainer for the last 15 years and has seen firsthand the difference consistent training can make in the lives of law enforcement officers. The author taught a reality-based training class based on realistic scenarios and involving TASER electronic control devices in 2009 and a few days after that an officer who had attended that class had to deploy his TASER against a resisting and fighting suspect. The TASER malfunctioned and due to the previous day's training, the officer was able to immediately correct the malfunction and successfully deploy the TASER allowing the suspect to be arrested without any further incident.

Expectations and Results

The author had expectations for a much larger sample size. After 2 months of offering the survey to volunteer participants, 101 was not a very large sample size. A larger sample size, especially to include a larger number of female participants, would greatly affect the ability to analyze data and reduce the problematic quality of the data. Moreover, the results were expected to be that full-time sworn law enforcement officers learn best by doing, kinesthetically, not multimodally with a close second indicating they prefer to learn by reading and writing. A future study with a larger sample size and using the VARK or another valid instrument would yield interesting results that could be compared and contrasted to this limited study.

The Future of Law Enforcement Training

The future of law enforcement training is unknown by this author. Trends that the author has witnessed since he started in the law enforcement and security fields is that currently all training emphasizes reality-based scenarios. This is a direct influence from the U.S. military that has been using real-world scenario training for many years to prepare the armed forces personnel for real combat. The author is a certified reality-based training instructor and prepares real-world scenarios with mock weapons and safety equipment to simulate real-world police scenarios that the officers might be subjected to on a daily basis. This study can help in the determination of how full-time law enforcement officers learn; however, the trend towards the reality-based training programs will not be impeded by this study or probably any other study due to the apparent effectiveness of placing police.

The Future of Learning Style Research

Learning style research is a dynamic and sometimes controversial topic and one that will continue to evolve as additional studies, such as this study, are conducted and the body of knowledge is increased. Research into specific cohorts, such as full-time sworn law enforcement officers, will be required for specific use in various corporation or government training programs. It would be beneficial if Fleming or Dunn and Dunn would expand their research into specific groups of learners such as law enforcement officers. The 21st century will hopefully provide greater teaching and learning skills and perhaps this study can assist in developing improved training programs for those who protect and serve.

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APPENDIX. VARK QUESTIONNAIRE

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How Do I Learn Best?

Questionnaire version 7.0

Choose the answer which best explains your preference and check the boxes(s) in front of it.

Please check more than one if a single answer does not match your perception. Leave blank any question that does not apply.

You are about to purchase a digital camera or mobile phone. Other than price, what would most influence your decision?

- It is a modern design and looks good.
- The salesperson telling me about its features.
- Trying or testing it
- Reading the details about its features.

A group of tourists want to learn about the parks or wildlife reserves in your area. You would:

- talk about, or arrange a talk for them about parks or wildlife reserves.
- take them to a park or wildlife reserve and walk with them.
- give them a book or pamphlets about the parks or wildlife reserves.
- show them internet pictures, photographs or picture books.

I like websites that have:

- audio channels where I can hear music, radio programs or interviews.
- things I can click on, shift or try.
- interesting design and visual features.
- interesting written descriptions, lists and explanations.

You want to learn a new program, skill or game on a computer. You would:

- use the controls or keyboard.
- talk with people who know about the program.
- read the written instructions that came with the program.
- follow the diagrams in the book that came with it.

Remember a time when you learned how to do something new. Try to avoid choosing a physical skill, e.g. riding a bike. You learned best by:

- watching a demonstration.
- written instructions—e.g. a manual or textbook.
- listening to somebody explaining it and asking questions.
- diagrams and charts—visual clues.

You are helping someone who wants to go to your airport, town centre or railway station. You would:

- write down the directions.
- go with her.
- tell her the directions.
- draw, or give her a map.

You are using a book, CD or website to learn how to take photos with your new digital camera. You would like to have:

- diagrams showing the camera and what each part does.
- a chance to ask questions and talk about the camera and its features.
- clear written instructions with lists and bullet points about what to do.
- many examples of good and poor photos and how to improve them.

You are going to choose food at a restaurant or cafe. You would:

- listen to the waiter or ask friends to recommend choices.
- choose something that you have had there before.
- choose from the descriptions in the menu.
- look at what others are eating or look at pictures of each dish.

You have a problem with your knee. You would prefer that the doctor:

- used a plastic model of a knee to show what was wrong.
- gave you a web address or something to read about it.
- described what was wrong.

- showed you a diagram of what was wrong.

You have finished a competition or test and would like some feedback. You would like to have feedback:

- using examples from what you have done.
- from somebody who talks it through with you.
- using a written description of your results.
- using graphs showing what you had achieved.

You are planning a holiday for a group. You want some feedback from them about the plan. You would:

- phone, text or email them.
- give them a copy of the printed itinerary.
- use a map or website to show them the places.
- describe some of the highlights.

Other than price, what would most influence your decision to buy a new non-fiction book?

- Quickly reading parts of it.
- It has real-life stories, experiences and examples.
- A friend talks about it and recommends it.
- The way it looks is appealing.

You have to make an important speech at a conference or special occasion. You would:

- gather many examples and stories to make the talk real and practical.
- write a few key words and practice saying your speech over and over.
- write out your speech and learn from reading it over several times.
- make diagrams or get graphs to help explain things.

You are going to cook something as a special treat for your family. You would:

- use a cookbook where you know there is a good recipe.
- cook something you know without the need for instructions.
- ask friends for suggestions.

- look through the cookbook for ideas from the pictures.

You are not sure whether a word should be spelled `dependent' or `dependant'. You would:

- write both words on paper and choose one.
- find it in a dictionary.
- see the words in your mind and choose by the way they look.
- think about how each word sounds and choose one.

Do you prefer a teacher or a presenter who uses:

- handouts, books, or readings.
- diagrams, charts or graphs.
- demonstrations, models or practical sessions.
- question and answer, talk, group discussion, or guest speakers.