

Theory of Andragogy Applied to Louisiana Peace Officer Standards Training

*Karolyn Harrell
Laura Beth Norman
Northwestern State University of Louisiana*

Abstract

Training is an essential tool in the process of facilitating change within law enforcement organizations; the methods that law enforcement instructors use to teach subjects are of equal importance. To meet the unprecedented challenges that America's police face in the 21st century, it validates the importance of law enforcement training which this research assesses the differences following the application of behavioral training methods for new law enforcement recruits and andragogical training methods outlined by Malcolm Knowles. Louisiana's implementation of andragogical instructional methodology, utilizing Knowles' assumptions, necessitates a determination of whether benefits have been realized and if so, an assessment of those benefits is what this research set out to accomplish. Due to the legislative requirement that officers must obtain POST certification within the first year of employment, agencies not geographically located near Baton Rouge, Louisiana faced significant challenges. Therefore, elected officials worked to find solutions to these challenges resulting in the creation of regional POST academies throughout Louisiana. This quantitative research study evaluated the effects of andragogical methodologies on the Louisiana POST basic level 1 comprehensive examination mean scores within the southwest, northwest, and southeast regions of Louisiana, of which, officers must score 70% or higher on the examination. This research is unique and is being utilized in Louisiana as a pilot program in law enforcement trainings and is gaining traction across the nation as the successes of the program throughout the state of Louisiana are leading the nation in implementing a successful officer training program.

Keywords: Peace Officers' Standards Training: police training: police training academy: Louisiana law enforcement: andragogical behavioral practices

Introduction

The developmental change in instructional methodology for law enforcement training is the focus of this research; the incorporation of those changes is currently in progress across Louisiana. Prior to this change, the majority of law enforcement training

focused on cognitive (or factual) outcomes, not affective (or emotional) outcomes (Della, 2004). Law enforcement agencies make better use of their in-service training programs by shifting their paradigm to consider the needs of adult learners and by teaching with purpose, not just to cover the material (Della, 2004). The redesign of the Louisiana Peace Officer Standards and Training (POST) instructor certification course has been constructed in such a way as to manage the transition, from the behavioral model of instruction to the newly established adult learning model, in order to achieve successful implementation. One of the primary benefits of andragogical methods is the ability, of the instructor, to cater to the learning style of each adult learner (Bouchrika, 2022). Through the use of andragogical methods, instructors can provide students with different types of activities and assessments to suit the needs of the adult learner. This customization of instruction allows students to develop their understanding of concepts at their own pace, while engaging activities that challenge their ability. Moreover, in a law enforcement training environment, andragogy can be used to provide adult learners with increased access to real world applications and problem-solving techniques. This research attempts to gain a greater understanding of the implementation and application of the principles of andragogy in the instruction of law enforcement basic academy instructors (Knowles, 1970). The goal of this transition is continued improvement throughout the entirety of the law enforcement basic training program, of content delivery by the academy instructors, and content mastery by the law enforcement recruits.

The introduction of andragogy into the law enforcement training classroom, in Louisiana, is an attempt to revolutionize the way in which new recruits learn. Andragogy is the theory that adults require a unique approach to learning (Knowles, 1970). The comparison with andragogy and pedagogy often contrasts them, with pedagogy being the more traditional approach to teaching children (Bouchrika, 2022). Andragogy is built on the premise that adults are more self-directed and motivated than children, and that they need to be given the opportunity to learn in ways that are relevant to their lives (Bouchrika, 2022; Knowles 1970). The goal, via andragogical methods, is to enable new students (recruits) to increase their knowledge by providing them with the ability to learn via self-direction and self-interpretation. Andragogy stresses the idea that adults have a unique interpretation of the world, based upon their own experiences (Knowles, 1970). Therefore,

the premise of Louisiana's implementation of andragogy in law enforcement training is that it will allow officers to understand new and complex concepts by solving problems through the lens of their own life experiences.

Training is the most significant human resource function undertaken by law enforcement agencies (Della, 2004). A well-conceived training plan helps police personnel toward a change in attitudes, practices, and in providing more effective police services (Della, 2004). The training division, within any law enforcement agency, serves as an essential component to an agency's organizational growth and development (Kleygrewe et al., 2022). By moving away from the traditional lecture formats and creating learning environments that facilitate self-directed learning, agencies can increase officers' retention capacities and better ensure that they put their training into practice (Della, 2004). Therefore, the purpose of this study is to analyze POST test scores undergoing the new law enforcement training incorporating andragogy principles and to what degree of effectiveness this form of training implements for recruits in Louisiana.

Literature Review

Law enforcement basic training academies are where change, protocol, and philosophy are first introduced to new police recruits (Birzer & Tannehill, 2001). Law enforcement instruction, within these academies, in the United States has, since the 1970's, been based upon the behavioral model of instruction. At present, police academies are short term, skills-based programs for officers, that skew towards a military style training model. Police training in America is consistent in its approach toward how training is conducted or delivered with the primary direction being behavioral and militaristic in nature (Birzer, 2003). In academia, this model is known as the behavioral model; when applied to law enforcement training, it allows the instructor to place the curriculum's emphasis upon the technical and mechanical aspects of a law enforcement officer's required job (Birzer, 2003). Focusing on the technical and mechanical aspects of policing provides the perfect setting for the socialization of new recruits into a paramilitary structure of traditional policing (Chappell & Lanza-Kaduce, 2010). The technical and mechanical aspects include such skills as the use of force, traffic enforcement, and firearms training. Pedagogical methods are used in many behavioral learning environments and pedagogical teaching approaches are lecture methods in which the learner has little input in the learning experience (Birzer & Tannehill, 2001). Birzer (2003) asserts that this behavioral atmosphere mimics the law enforcement officer hiring

process throughout previous decades where military oriented persons have been successful due to their ability to follow orders without asking questions.

Stress based training is based upon the military (or behavioral) model. Current police practices use a paramilitary construct in their training structure to maintain control (Bronstein, 2015). Bronstein (2015) asserts that this construct is goal oriented without questions permitted by the subordinate ranks to their superior officers. Motivans (2016) found that 48% of the 45,000 police recruits, trained each year in the United States, are trained in an academy utilizing a training model that is more stress than non-stress oriented. In this model, recruits master content, but do not gain the cognitive, moral, and epistemic development necessary to become independent critical thinkers (Ridlehoover, 2020). Often neglected under this instructional model are skills such as de-escalation and crisis intervention (Engel et al., 2020). In fact, a recent systematic review of the effectiveness of mental health (crisis intervention) training for law enforcement officers reported that there were huge variations in training design, delivery, and content, making the best approaches to training unclear.

The notion that classroom programs are designed for the general public or private industry do not work as effectively in teaching law enforcement audiences has been well-researched. However, the understanding of the cognitive styles of police officers has increased over time. In the mid-1970's, Michigan State conducted research into the cognitive styles of law enforcement officers based upon Jungian typology (Hennessy, 2015). The research indicated the majority of law enforcement officers preferred to receive information concretely and realistically. Law enforcement officers preferred to make decisions based upon impersonal and objective analysis. Subsequent research to support and/or refute these findings in both the 1980's and 1990's supported these same conclusions (Hennessy, 2015). Over the past 30 years, significant changes have been made in preservice training for police officers (Walker & Katz, 2013). For the past decade, innovators have been exploring new designs for law enforcement basic training. The sets of practices explored were broad. However, a consensus regarding the andragogical model has emerged. Andragogy provides a method for training law enforcement officers in an environment that is less stressful and centered around the instructor's relationship with the recruit. The non-stress model emphasizes academic achievement, physical training, and a more relaxed and supportive instructor-trainee relationship (Reaves, 2016). The non/low-stress model, provided via the andragogical method, offers a combination of practices deemed effective. Andragogy

advocates both the self-directed learning concept and the teacher as the facilitator of learning, seems to go hand in hand with community policing (Birzer, 2003).

Law Enforcement in Louisiana

The Louisiana Peace Officer Standards Training program (POST) is undergoing a change. The change is largely observable in a new learning model currently being adopted in the POST classroom delivery method. This new learning model is referred to by the POST council as the adult learning model. The adult learning model, as adopted by the Louisiana POST Council, is based upon the 1968 work of Malcolm Shephard Knowles.

In 1968, Knowles put forward a theory that distinguished adult learning from childhood learning. Childhood learning theory is referred to as pedagogy and Knowles referred to his new adult learning theory as andragogy. Knowles's theory is based upon four main assumptions. These given assumptions are that adults are self-directed learners, adult learners bring a wealth of experience to the educational setting, adults enter an educational setting ready to learn, adults are problem centered in their learning, and adults are best motivated by internal factors (Knowles, 1984).

From these assumptions, Knowles (1968) extrapolated a seven-step process of learning to make the process of adult learning more effective. These steps include the creation of a cooperative learning climate, planning goals mutually, diagnosing learner needs and interests, helping learners to formulate learning objectives based upon their needs and individual interests, designing sequential activities to achieve these objectives, carrying out the design to meet objectives with selected methods, materials, and resources, and evaluating the quality of the learning experience for the learner that includes a reassessment of needs for continued learning. It is this process that forms the basis upon which the Louisiana POST Council has built its adult learning model.

Andragogy

In 1968, Malcolm Knowles proposed a theory that distinguished adult learning from childhood learning. As childhood learning theory is referred to as pedagogy, he referred to his new adult learning theory as andragogy. Knowles's theory is based upon six assumptions. These given assumptions include: (1) adult learning is self-directed; (2) adults need to learn experientially; (3) adults should understand why specific things are being taught; (4) adults learn best when the topic is of immediate value; (5) adults have a pragmatic orientation to learning, approaching learning as problem-solving; and (6) adults are intrinsically motivated to learn. Therefore, following these

assumptions, the design of instructional programs for adults must take care to explain why specific things are being taught, remain task-oriented rather than utilizing rote memorization, consider the wide range adult learners' backgrounds, varied learning styles, and skill levels; and allow adult learners to discover things for themselves with proper guidance. Based on this theory and the six assumptions, this is the basis for the new andragogical practices being implemented in the police training academies in Louisiana.

Transformative Experience through Andragogy

There is a great opportunity for academia to help law enforcement training change from a primarily behavioral program to one that creates better people through a transformative learning experience. Generally speaking, informational learning is considered to be passive learning. It is the type of learning that takes place when students are expected to simply listen to an instructor, take notes, and pass tests based upon lecture. Informational learning can become transformational learning when the student is asked to apply their knowledge to a meaningful situation. This allows learners to discover answers for themselves and to ask more powerful questions along their paths of discovery. Transformational learning, then, may help to create leaders who may have more impact than their passive learner counterparts.

In 1978, Jack Mezirow introduced the Transformational Learning model. This model attempts to help learning transform, or change, a learner's existing frames of reference. To accomplish this, a method is applied that utilizes problem-solving, procedural tasks, and self-reflections. The premise of Mezirow's theory is that learning transformation happens when adults face a disorienting dilemma; a challenge that calls into question their existing beliefs. It forces them to critically reflect upon what has taken place. Mazeski (2020) believes that law enforcement is in the midst of a disorienting dilemma: a growing rift between the community and the police.

For instructors, transformative learning is a theory of adult learning that is addressed to those involved in helping adults learn (Mezirow, 1991). Transformational learning theory is about change: a dramatic and fundamental change in an individual, in how they see the world in which they live, and what role they maintain in that world (Mezirow). Mezirow's development of transformation learning theory centers around the learning experience of the individual. Mezirow's theory of transformational learning allows the individual learner to recognize, reassess, and modify the structures of their beliefs and assumptions that influence our preconceived notions, assumptions, beliefs, attitudes, and actions (Mezirow).

Methodology

The research adopts a positivist quantitative paradigm, emphasizing empirical inquiry and hypothesis testing. Quasi-experimental design (QED) was employed to compare the impact of contrasting instructional methodologies, where the behavior of interest is the scores earned by recruits exposed to different instructional methods. The study employs a nonequivalent groups design, comparing posttest exam scores of law enforcement recruits before and after the implementation of the new instructional method. This design, despite potential biases due to nonrandom assignment, facilitates a comparative analysis of the effects of instructional methods on posttest scores. Thus, participants are nonrandomly assigned to treatment and control groups based on temporal cohorts, ensuring similarity through candidate selection processes. The treatment group undergoes training using the new instructional method, while the control group follows the traditional approach. Interval data from the posttest exams measure recruits' knowledge acquisition and application, focusing on comprehension, statutory knowledge, English proficiency, and problem-solving abilities. Statistical analysis of interval data allows for the evaluation of treatment effects, providing insights into the effectiveness of andragogical methodologies in law enforcement training.

Research Questions and Hypotheses

By comparing test results from the Louisiana POST Basic level 1 exam before and after the adoption of andragogy, the research endeavored to provide evidence supporting or refuting the efficacy of using andragogical methodologies in law enforcement basic training, employing a standardized exam administered once by the POST academy in a controlled environment. Thus, the following research questions and hypotheses were formulated:

Research Question 1:

What are the impacts, if any, of the implementation of andragogical methods on the effectiveness of the academic component of law enforcement basic training of southwest, northwest, and southeast Louisiana through scoring a minimum of 70% (70/100) on the Louisiana POST Certification Exam for Peace Officers?

Hypothesis 1

Ho:

The use of andragogical instructional methods will result in no changes to the competency scores on the Louisiana POST Certification Exam for Peace Officers in southwest, northwest, and southeast Louisiana.

Ha:

The use of andragogical instructional methods will yield greater results in the competency scores on Louisiana POST Certification Exam for Peace Officers in southwest, northwest, and southeast Louisiana.

Research Question 2:

Has the implementation of andragogical methods improved the effectiveness, on the academic component of law enforcement basic training in southwest, northwest, and southeast Louisiana, by achieving a 70% (70/100) on the Level 1 Louisiana POST Certification Exam for Peace Officers?

Hypothesis 2

Ho:

There is not a statistically significant difference in mean scores for the classes of recruits in southwest, northwest, and southeast Louisiana, who received andragogical instruction.

Ha:

There is a statistically significant difference in mean scores for the classes of recruits in southwest, northwest, and southeast Louisiana, who received andragogical instruction.

Design of the Study

This research endeavored to establish the effectiveness of andragogy, through posttest exam scores, after the legal and policy changes were implemented statewide in Louisiana. In cases where the number of variables is not bewilderingly large, all relevant factors can be more easily compared and analyzed, using the societal grouping as almost a laboratory for the quasi-experimental design (QED) approach to the phenomena (Nadel, 1951). The key difference between QED and other design methods is that QED allows for the measurement of multiple behaviors; this allows for comparisons to be made between the different behaviors (Price et al., 2017). The behavior in question are the scores earned, by recruits, after being exposed to a particular instructional methodology. The research question, using post-test scores to measure the successfulness of andragogical methodology, is best answered using a quasi-experimental design; therefore, the design method adhered to in this study is a quasi-experimental design.

Quasi-Experimental Design

Quasi-experimental research involves the manipulation of an independent variable without the random assignment of participants to conditions or counterbalancing of orders of conditions. Quasi-experimental research eliminates the directionality problem because it involves the manipulation of the independent variable (Price et al., 2017). However, it does not eliminate the problem of confounding variables, because it does not involve random assignment to conditions or counterbalancing. For these reasons, quasi-experimental research is generally higher in internal validity than non-experimental studies (Price et al., 2017). This quasi-experimental design has been selected as the appropriate method because it allows for the comparison of two contrasting instructional methodologies. The methodology that will be used to test the hypothesis will require standardized assessments as the instrument of measurement. Quantitative quasi-experimental design (QED) is a design method that involves designing experiments to test the idea of an experiment's effect on a particular behavior. This method is particularly useful when testing the effect of variables on hypothesized outcomes.

Quantitative

Quantitative methods have been largely underpinned by positivist principles (Ryan, 2006). Quantitative research has positivist features when it tries to link variables, test theories, predict, or to isolate and define categories before research starts, and then determine the relationship between them (Ryan, 2006). It is a deeply rooted assumption that quantitative foundations, using statistical inference to estimate the effects of a given experiment, are key to the rigor of the positivist research paradigm (Park et al., 2020). This quantitative focus requires sufficient sample size and power to detect meaningful effect sizes based on appropriate statistical tests (Park et al., 2020). Throughout this research such as t-tests and ANOVA.

Positivist Paradigm

Research and inquiry are about creating new knowledge. The research conducted for this study is positivistic quantitative. The method used for this study is quantitative and the paradigm construct adhered to is positivism. Paradigms guide scientific discoveries through their assumptions and principles (Park et al., 2020). Positivism embraces the tenets of the scientific method and empirical inquiry; it does not distort research or let one's values intrude by drawing on personal worldviews, motives, self-interest, or customs by capitulating to external pressures. Positivism relies on the hypothetico-deductive method to verify a priori hypotheses that are often

stated quantitatively, where functional relationships can be derived between causal and explanatory factors (independent variables) and outcomes (dependent variables) (Park et al., 2020). The main tenets of logical positivism are the verifiability principle, the logical structure of scientific theories (formal, deductive logic), and probability. The positivist research paradigm is an academic model of research in which a hypothesis is formulated, tested, and updated as new information becomes available (Park et al., 2020). The positivist paradigm assumes that knowledge is objective and free from bias, and only that which can be observed is worthy of study. Positivist research aims to reduce the amount of bias and distortion that can occur in scientific study. Positivism depends on quantifiable observations that lead to statistical analysis.

Nonequivalent Groups Design

The research design was a posttest only nonequivalent groups design. A nonequivalent group design is a quasi-experiment used to assess the relative effects of treatments that have been assigned to groups of participants nonrandomly (Reichart, 2005). Because the participants have been assigned to treatments nonrandomly, differences in the composition of the treatment groups can bias the estimates of the treatment effects (Reichart, 2005). A variety of statistical methods are available for taking into account this selection bias. Each method imposes different assumptions about the nature of the selection effects, but it can be difficult to determine which set of assumptions is most appropriate in a given research setting (Reichart, 2005). In the nonequivalent groups research design, participants in one group are exposed to a treatment. The treatment, in this study, is a change in the instructional delivery method. The nonequivalent group is not exposed to the treatment; this group took the post test before the change in instructional delivery method took place. Then, the two groups are compared.

Sample

The researcher employed non-probability judgmental sampling and purposive sampling to draw participants from three regional POST academies in Louisiana:

- Calcasieu Parish Sheriff's Office Regional POST Academy under the direction of Captain Cinnamon Salvador
- Bossier Parish Sheriff's Office Regional POST Academy under the direction of Captain Sarah Rhodes

- St. Charles Parish Sheriff’s Office Regional POST Academy under the direction of Captain Mark Candies (from 2014 – 2022); presently under the direction of Captain Darren Gros.

The recruits enrolled in a regional POST academy class, in Louisiana, come from law enforcement agencies that are geographically located in a particular POST academy’s service region. In other words, the Calcasieu Regional Academy enrolls recruits from law enforcement agencies throughout southwest Louisiana, the Bossier Parish Regional Academy enrolls recruits from law enforcement agencies throughout northwest Louisiana, and the St. Charles Parish Regional Academy enrolls recruits from law enforcement agencies throughout southeast Louisiana. Research treats the recruits as respondents, with somewhat differing definition from the customary term as the respondents were not self-selected.

The requirements for test takers eligibility creates a rather homogenous group, with test-takers sharing following common characteristics: all test-takers are Peace Officers, all test-takers took the standardized basic training course, all scores pertain to POST Level 1 certification, all test-takers met the POST requirement for firearm certification, and all attended training and took the test at an accredited training center.

Louisiana POST Level 1

The Louisiana POST level 1 exam serves as the primary assessment tool, evaluating various competencies essential for successful performance as a Louisiana peace officer. Data collected span two years of POST level 1 exam from each academy. Questions within this exam encompass areas such as comprehension, statutory knowledge application, English proficiency, and reasoning skills, aligning with the curriculum objectives of the POST academy (Harwell & Gatti, 2001). Administered under standardized conditions, this examination ensures consistency and reliability in assessing participants' knowledge acquisition and application, thus providing a robust basis for interval data analysis. Louisiana POST basic final exam scores were obtained, from the Louisiana POST academy directors, in both individual exam scores and in aggregate form. Scoring data obtained from the academies include (a) individual exam scores, (b) aggregate exam mean scores, (c) consisting of two years of data using treatment of the behavior model of instructional methodology, and (d) and 2 years of using treatment of andragogical methodology.

Findings

In total, the researcher obtained the scores for 981 Peace Officers who passed the POST exam. As evident in Table 1, 49 percent (482) of all available individual scores came from Calcasieu Sheriff’s Office Regional Academy, while only 19 percent (186) were available from Bossier Parish Sheriff’s Office Regional Academy. Additionally, 31 percent were available from St. Charles Parish Sheriff’s Office. The behavioral instructional model group consisted of 484 Peace Officers. The mean test score observed in that group was 81.81 points, with a standard deviation of 5.761. The andragogical instructional model consisted of 497 Peace Officers. The mean score observed in this group was 82.75 points, with a standard deviation of 5.148.

Table 1
Distribution of Peace Officers’ Scores by Academy

	Cases						
	Valid		Missing		As % of Total		
	Academy	N	Percent	N	Percent	N	Percent
Individual Test Scores	Calcasieu	482	100.0%	0	0.0%	482	49.13%
	Bossier	186	100.0%	0	0.0%	186	18.96%
	St Charles	313	100.0%	0	0.0%	313	31.91%

Available data indicated that the mean of individual POST test scores (Table 2) was highest in Bossier SO (84) and lowest in Calcasieu SO (82). However, the absolute difference between the academies was rather small. In addition, with relatively uniform ranges and low standard deviations in data across 3 different academies, the overall results do not indicate a significant degree of variability in scores, or at least in the group of Peace Officers that took the POST exam and passed.

Table 2
Basic Statistics: Cumulative Test Scores by Academy

Academy	Mean	Std. Error	Median	Variance	Std. Deviation	Minimum	Maximum
Calcasieu	81.832	0.244	82	28.718	5.359	68	93
Bossier	83.887	0.368	84	25.214	5.021	70	94
St Charles	82.032	0.325	82	33.076	5.751	65	93

Note. Louisiana POST basic final exam scores.

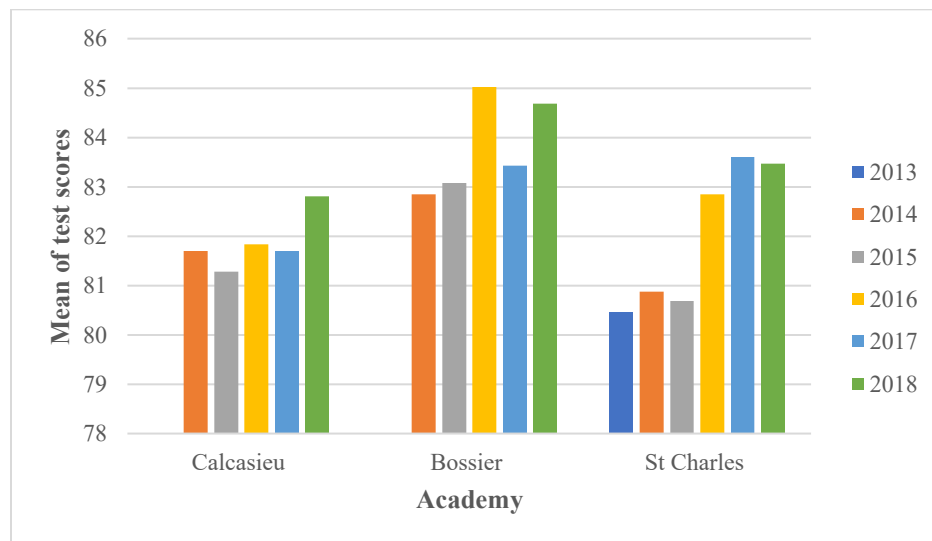
Examination of the distribution, through a boxplot, illustrated relative tight grouping of the results around the mean, as indicated by standard deviation statistic (Table 2), with mild negative skewness. Additionally, distributions of results in each academy indicates rather high internal

consistency in final scores as evidenced by small number of mild outliers (four in total), defined as the values that are more than 1.5 x Interquartile Range (IQR) below the first Quartile (Q1). Skewness of the distribution was tested further. In addition, the researcher investigated the nature of detected outliers, establishing that outlier values represent valid POST results which do not have a strong effect on the distribution and further testing procedure. Thus, the researcher decided to keep outlier values.

Examining the mean POST test scores (Figure 1), the highest scores (on average) were attained in different years: Calcasieu Sheriff’s Office in 2018, Bossier Sheriff’s Office in 2016, St Charles Sheriff’s Office in 2017. However, despite some variability in mean scores over the years, these remained rather consistent, apart from St Charles Sheriff’s Office, where mean scores increased quite markedly in 2015. When the POST scores were examined in relation to the mean (Figure 2), the individual scores that were above and below the respective academy means are remarkably consistent. This is a likely byproduct of standardized evaluation methodology and practices used by the evaluating instructors.

Figure 1

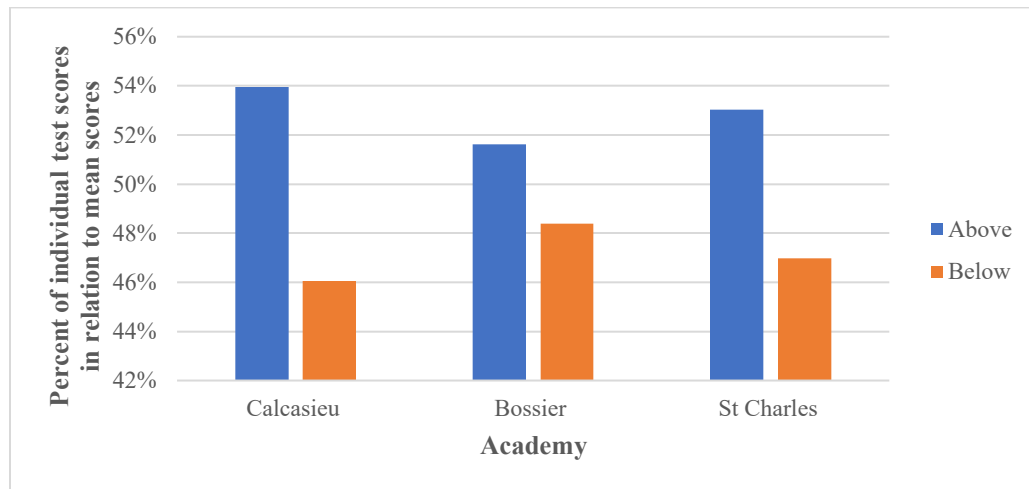
Variability in Mean Test Scores in Different Years and Highest Mean Score Attained (by Academy)



Note. The years in which the highest mean test scores were attained in each academy varies

Figure 2

Percent of Total Individual Scores in Relation to the Mean Score of the Academy

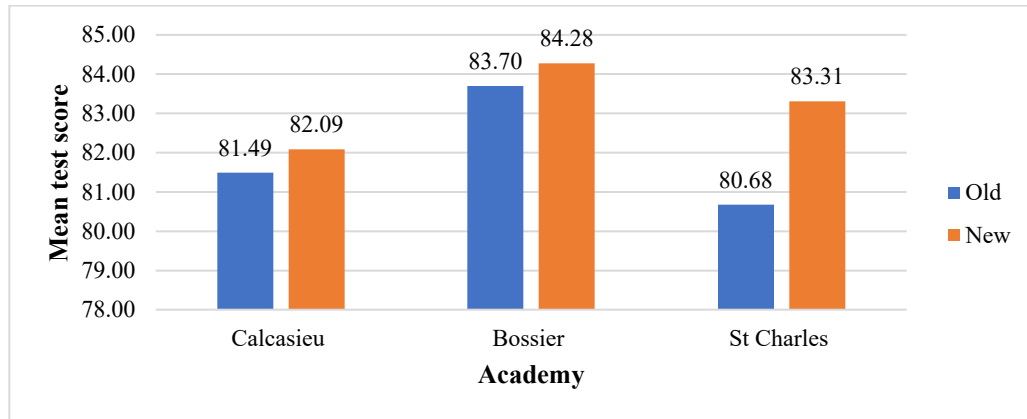


Note. Majority of test takers scored above the respective academy mean.

Upon examination of the mean scores for the periods when the behavioral instructional model was used against the mean scores attained during the periods of use of the andragogical instructional model (Figure 3), it became evident that the mean scores increased with introduction of the andragogical model. The behavioral instructional model group consisted of 484 Peace Officers. The mean test score observed in that group was 81.81 points, with a standard deviation of 5.761. The andragogical instructional model consisted of 497 Peace Officers. The mean score observed in this group was 82.75 points, with a standard deviation of 5.148. The largest increase (2.63 absolute points) was recorded in the St. Charles Sheriff's Office Regional Academy, while the smallest increase (0.58 absolute points) was recorded in Bossier Parish Sheriff's Office Regional Academy.

Figure 3

Mean POST Test Scores with Behavioral Instructional Model (old) vs with Andragogical Instructional Model (new)



Note. Mean POST Test Scores Increased After Introduction of the New Pedagogical Method.

Normality

To examine the hypotheses and establish whether the scores attained by the Peace Officers are higher after use of the andragogical instructional model in their training, i.e., establishing whether there are statistically significant differences in mean scores between groups of Peace Officers that were subjected to different instructional models, the researcher proceeded with normality testing of the recorded scores. This procedure was prompted by the preliminary investigation of the sample distributions revealed skewness of the distribution. In testing normality of distribution in these groups, the researcher used two tests: Kolmogorov-Smirnov (K-S) test and Shapiro-Wilk. Both tests are widely used to determine whether a sample comes from a specific probability distribution or not, with subtle, yet important differences between them. The purpose of the K-S test is to compare the cumulative distribution function (CDF) of the sample with the expected CDF of the hypothesized distribution (typically, normal distribution). If the difference between the two is large enough, then we can reject the null hypothesis that the sample comes from the hypothesized distribution. On the other hand, the Shapiro-Wilk test, as applied in this research, is used to determine whether a sample of data comes from a normal distribution or not. Specifically, it tests the null hypothesis that the data are normally distributed against the alternative hypothesis that the data come from a different distribution. Inherent advantage of the Shapiro-Wilk

test is its robustness in detecting deviations from normality. As shown in the results in Table 3, the data are not normally distributed ($t=.068$, $df=484$, $p<.01$; and $t=.067$, $df=497$, $p<.01$ respectively).

Table 3
Tests of Normality

	Instructional Model	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Test Score	Behavioral	.068	484	<.001	.983	484	<.001
	Andragogical	.067	497	<.001	.984	497	<.001

Note. (a.) Lilliefors Significance Correction

Given the very large sample size in this research, in combination with the relatively small value of K-S test ($t= .068$), led the researcher to accept small departures from normality and employ parametric statistical methods to explore the hypothesis further due to robustness of parametric methods and their tolerance to small deviations from normality. This decision should be considered in the light of the characteristics of the K-S test. The K-S statistic measures the largest difference between the empirical distribution function (EDF) of the sample and the cumulative distribution function (CDF) of the hypothesized distribution. Since the value of the K-S statistic ranges from 0 to 1, with higher values indicating greater differences between the sample and hypothesized distributions. Thus, the tradeoff between mathematical manipulation of the dataset (i.e., data transformation) and accepting the small K-S value given the large sample size, was considered acceptable by the researcher.

T-test

Independent samples t-test was used to test the following hypotheses:

- *Ho*: There are no statistically significant differences in mean scores between groups of Peace Officers that were subjected to different instructional models;
- *Ha*: Statistically significant differences in mean scores between groups of Peace Officers that were subjected to different instructional models are significantly higher in the group of Peace Officers where andragogical instructional model was used in their training.

Tests compare the means between two unrelated groups (i.e., behavioral instructional model and andragogical instructional model groups) on the same continuous, dependent variable (i.e., Louisiana POST test scores). Thus, use of this test was preferred over other tests, such as the paired samples t-test or the Wilcoxon rank-sum test, as the sample data do not represent matched pairs. As we see in Table 4, Levene’s test showed that the variances for Louisiana POST test scores

between two groups were not equal: $F(979) = 5.24, p = .02 < .05$; thus, the Levene's test null hypothesis of equal population variances was rejected. Since the Levene's test indicates unequal variances, Welch's t-test results (*test score; equal variances not assumed* column in SPSS output; Table 4) were used to test the research hypothesis. Welch's t-test was used because when the variances are significantly different, an alternative statistical method was needed that did not assume equal variances.

Table 4

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means				Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
	F	Sig.	t	df	Significance				Lower	Upper
					One-Sided p	Two-Sided p				
Equal variances assumed	5.24	0.02	-2.7	979	0.003	0.007	-0.943	0.349	-1.63	-0.259
Equal variances not assumed			-2.7	960.6	0.004	0.007	-0.943	0.349	-1.63	-0.257

The independent-samples t-test was supplemented with an effect size calculation to assess the practical importance of the mean difference in test scores between the behavioral instructional model group and andragogical instructional model group. The estimate of the effect sizes of the independent samples (Table 5) indicated the need for cautious interpretation of these results. Despite reaching statistical significance, the overall effect was small ($d = -0.173, 95\% \text{ CI } [-.298, -.047]$). This conclusion is not affected by subsequent examination of the group differences using Hedges' correction, which yields a more conservative p-value compared to the uncorrected t-test; thus the higher threshold for statistical significance. Hedges correction is a statistical technique used to adjust effect sizes in meta-analysis by correcting for potential bias due to small sample sizes. However, even with this correction, the conclusion drawn from a statistical test remains unchanged because the original analysis was based upon the data available at the time of the test.

The conclusion drawn from a statistical test is not affected by subsequent examination of group differences using Hedges correction because the conclusion was based on the original analysis of the available data.

Table 5
Independent Samples Effect Sizes

Test Score	Standardizer ^a	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Cohen's d	5.459	-.173	-.298	-.047	
	Hedges' correction	5.463	-.173	-.298	-.047
	Glass's delta	5.148	-.183	-.309	-.057

Note. (a.) The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation. Hedges' correction uses the pooled standard deviation, plus a correction factor. Glass's delta uses the sample standard deviation of the control group.

Assuming a significance level of 0.05, the researcher conducted an independent sample t-test and obtained a following results: $t(960) = -2.7, p = .007 < .05$. Since the p-value is less than the significance level, we reject the null hypothesis and conclude that there is enough evidence to support the alternative hypothesis. Therefore, we can infer those individuals who took the Louisiana POST test after receiving instructions and training per andragogical instructional model had *statistically significantly* higher test scores compared to scores of individuals who took the Louisiana POST test after receiving instructions and training per behavioral instructional model. However, despite reaching statistical significance, the overall effect was small ($d = -0.173$, 95% CI [-.298, -.047]), indicating the need for further research to establish potential effects of other intervening variables which were not available for this research.

Analysis of Variance (ANOVA)

Having established the mean difference in test scores between the behavioral instructional model group and andragogical instructional model group, the researcher was interested in exploring which academy attains significantly different test scores. A one-way ANOVA (Table 6) was used to tests the following hypotheses:

- H_0 : There are no statistically significant differences in mean test scores of Peace Officers in different academies, irrespective of the method of instruction used during training;
- H_a : There are statistically significant differences in mean test scores of Peace Officers in different academies, irrespective of the method of instruction used during training.

Table 6:
ANOVA Output Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Calcasieu	482	81.83	5.359	.244	81.35	82.31	68	93
Bossier	186	83.89	5.021	.368	83.16	84.61	70	94
St Charles	313	82.03	5.751	.325	81.39	82.67	65	93
Total	981	82.29	5.477	.175	81.94	82.63	65	94

As evident in Table 7, the between-academy variances (based on mean) in scores are homogenous: $F(2, 978) = 1.858, p = .157 > .05$; thus, fulfilling the preconditions for proceeding with ANOVA.

Table 7
Tests of Homogeneity of Variances (ANOVA)

Test Score		Levene Statistic	df1	df2	Sig.
		Based on Mean	1.858	2	978
	Based on Median	1.918	2	978	.147
	Based on Median and with adjusted df	1.918	2	964.567	.147
	Based on trimmed mean	1.988	2	978	.137

Further testing confirmed a statistically significant difference between groups as determined by a one-way ANOVA ($F(2,978) = 10.127, p = .001 < .05$) (Table 8).

Table 8
ANOVA test output

Test Score	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	596.384	2	298.192	10.127	<.001
Within Groups	28797.698	978	29.445		
Total	29394.082	980			

Post-hoc testing was performed to understand which specific group means differ significantly from each other following a significant overall F-test. For that purpose, the post-hoc Tukey HSD (Honestly Significant Difference) and LSD (Least Significant Difference) tests were used. The Tukey HSD test controls the overall Type I error rate, which is the probability of falsely rejecting the null hypothesis that there is no difference between the groups, while LSD is less conservative than Tukey HSD. Post-hoc tests using Tukey HSD and LSD tests (Table 9) revealed that test scores were statistically significantly higher (83.89 ± 5.021 points, $p = .001 < .05$) in the

Bossier Sheriff’s Office Regional Academy compared to scores in the other two academies. There were no statistically significant differences between the scores in the St Charles Sheriff’s Office Regional Academy and the Calcasieu Sheriff’s Office Regional Academy.

Level 1 Test Scores

In total, the researcher obtained the scores for 981 Peace Officers who passed the POST exam. As evident in Table 9, 49 percent (482) of all available individual scores came from Calcasieu Sheriff’s Office Regional Academy, while only 19 percent (186) were available from Bossier Parish Sheriff’s Office Regional Academy. Additionally, 31 percent were available from St. Charles Parish Sheriff’s Office.

Table 9
Distribution of Peace Officers’ Scores by Academy

	Cases						
	Valid		Missing		As % of Total		
	Academy	N	Percent	N	Percent	N	Percent
Individual Test Scores	Calcasieu	482	100.0%	0	0.0%	482	49.13%
	Bossier	186	100.0%	0	0.0%	186	18.96%
	St Charles	313	100.0%	0	0.0%	313	31.91%

Available data indicated that the mean of individual POST test scores (Table 10) was highest in Bossier SO (84) and lowest in Calcasieu SO (82). However, the absolute difference between the academies was rather small. In addition, with relatively uniform ranges and low standard deviations in data across 3 different academies, the overall results do not indicate a significant degree of variability in scores, or at least in the group of Peace Officers that took the POST exam and passed.

Table 10
Basic Statistics: Cumulative Test Scores by Academy

Academy	Mean	Std. Error	Median	Variance	Std. Deviation	Minimum	Maximum
Calcasieu	81.832	0.244	82	28.718	5.359	68	93
Bossier	83.887	0.368	84	25.214	5.021	70	94
St Charles	82.032	0.325	82	33.076	5.751	65	93

Note. Louisiana POST basic final exam scores.

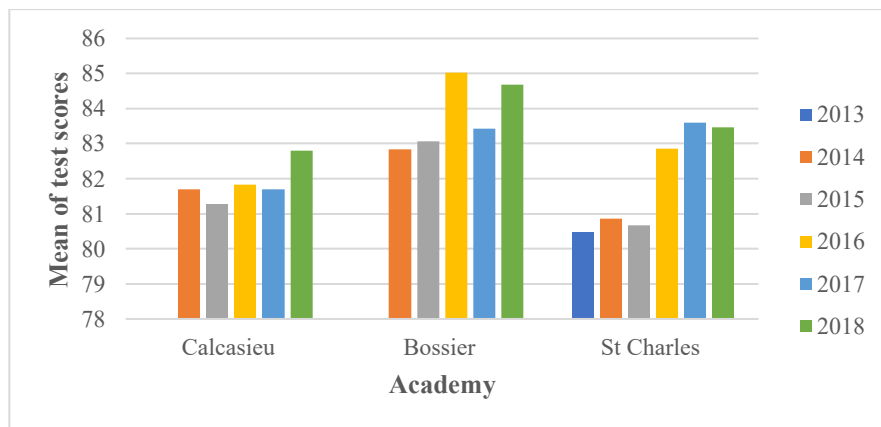
Examination of the distribution, through a boxplot, illustrated relative tight grouping of the results around the mean, as indicated by standard deviation statistic (Table 2), with mild negative skewness. Additionally, distributions of results in each academy indicates rather high internal

consistency in final scores as evidenced by small number of mild outliers (four in total), defined as the values that are more than 1.5 x Interquartile Range (IQR) below the first Quartile (Q1). Skewness of the distribution was tested further. In addition, the researcher investigated the nature of detected outliers, establishing that outlier values represent valid POST results which do not have a strong effect on the distribution and further testing procedure. Thus, the researcher decided to keep outlier values.

Examining the mean POST test scores (Figure 4), the highest scores (on average) were attained in different years: Calcasieu Sheriff’s Office in 2018, Bossier Sheriff’s Office in 2016, St Charles Sheriff’s Office in 2017. However, despite some variability in mean scores over the years, these remained rather consistent, with the exception of St Charles Sheriff’s Office, where mean scores increased quite markedly in 2015. When the POST scores were examined in relation to the mean (Figure 5), the individual scores that were above and below the respective academy means are remarkably consistent.

Figure 4

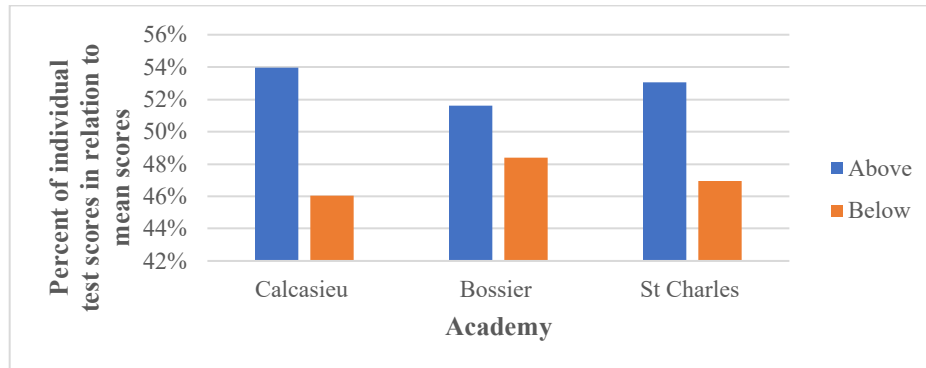
Variability in Mean Test Scores in Different Years and Highest Mean Score Attained (by Academy)



Note. The years in which the highest mean test scores were attained in each academy varies

Figure 5

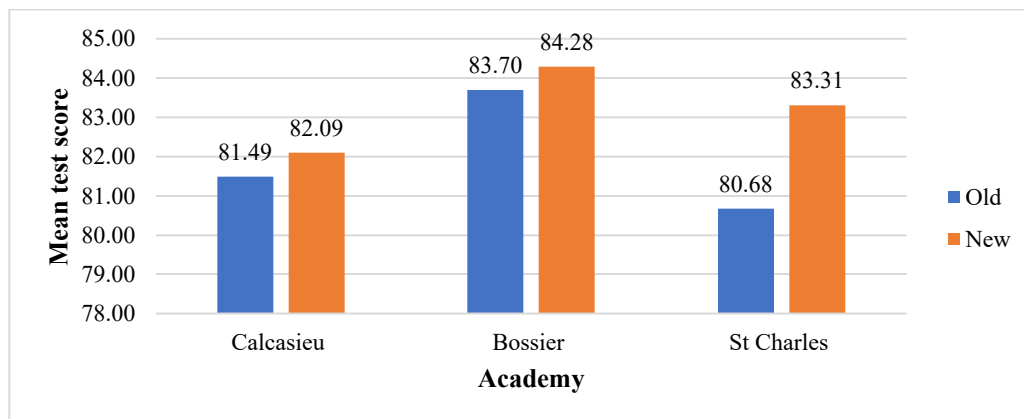
Percent of Total Individual Scores in Relation to the Mean Score of the Academy



Note. Majority of test takers scored above the respective academy mean.

Figure 6

Mean POST Test Scores with Behavioral Instructional Model (old) vs with Andragogical Instructional Model (new)



Note. Mean POST Test Scores Increased After Introduction of the New Pedagogical Method.

Upon examination of the mean scores for the periods when the behavioral instructional model was used against the mean scores attained during the periods of use of the andragogical instructional model (Figure 6), it became evident that the mean scores increased with introduction of the andragogical model. The behavioral instructional model group consisted of 484 Peace Officers. The mean test score observed in that group was 81.81 points, with a standard deviation of 5.761. The andragogical instructional model consisted of 497 Peace Officers. The mean score observed in this group was 82.75 points, with a standard deviation of 5.148. The largest increase

(2.63 absolute points) was recorded in the St. Charles Sheriff’s Office Regional Academy, while the smallest increase (0.58 absolute points) was recorded in Bossier Parish Sheriff’s Office Regional Academy.

Table 12

Tests of Normality

	Instructional Model	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Test Score	Behavioral	.068	484	<.001	.983	484	<.001
	Andragogical	.067	497	<.001	.984	497	<.001

Note. (a.) Lilliefors Significance Correction

The study utilized two tests of normality as the preliminary investigation showed skewness of distribution. The two tests utilized were the Kolmogorov-Smirnov (K-S) test and the Shapiro-Wilk. As shown in Table 12, the data are not normally distributed ($t=.068$, $df=484$, $p<.01$; and $t=.067$, $df=497$, $p<.01$ respectively).

Discussion

Comparing the results, this research found that individuals who took the Louisiana POST test after receiving instructions and training per andragogical instructional model had *statistically significantly* higher test scores (82.75 ± 5.15 points) compared to scores of individuals who took the Louisiana POST test after receiving instructions and training per behavioral instructional model (81.81 ± 5.76 points), $t(960) = -2.7$, $p = .007 < .05$. The 95% confidence interval (CI) of the mean difference was included as part of the analysis to improve the assessment of the independent-samples t-test result. That is, an effect size that is estimated from a data of a large sample size is likely to be more accurate than one estimated from a data of a small sample size (Lee, 2016). The unstandardized effect size was -0.943 points, with lower bound of -1.63 and upper bound of -0.257. These results, in combination with non-equal variances in scores of the two groups, indicates the difference in mean scores is not due to chance and is statistically significant (Table 13).

Table 13*Independent Samples Test*

Levene's Test for Equality of Variances t-test for Equality of Means

	F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					One-Sided p	Two-Sided p			Lower	Upper
					Equal variances assumed	5.24			0.02	-2.7
Equal variances not assumed			-2.7	960.6	0.004	0.007	-0.943	0.349	-1.63	-0.257

The independent-samples t-test was supplemented with an effect size calculation to assess the practical importance of the mean difference in test scores between the behavioral instructional model group and andragogical instructional model group. The estimate of the effect sizes of the independent samples (Table 14) indicates the need for cautious interpretation of these results. Despite reaching statistical significance, the overall effect was small ($d = -0.173$, 95% CI [-.298, -.047]). This conclusion is not affected by subsequent examination of the group differences using Hedges' correction, which yields a more conservative p-value compared to the uncorrected t-test, thus the higher threshold for statistical significance. Hedges correction is a statistical technique used to adjust effect sizes in meta-analysis by correcting for potential bias due to small sample sizes. However, even with this correction, the conclusion drawn from a statistical test remains unchanged because the original analysis was based upon the data available at the time of the test. The conclusion drawn from a statistical test is not affected by subsequent examination of group differences using Hedges correction because the conclusion was based on the original analysis of the available data.

Table 14*Independent Samples Effect Sizes*

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Test Score	Cohen's d	5.459	-.173	-.298	-.047
	Hedges' correction	5.463	-.173	-.298	-.047
	Glass's delta	5.148	-.183	-.309	-.057

Note. (a.) The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation. Hedges' correction uses the pooled standard deviation, plus a correction factor. Glass's delta uses the sample standard deviation of the control group.

The following research questions and hypotheses guided this quantitative study:

Research Question 1

What are the impacts, if any, of the implementation of andragogical methods on the effectiveness of the academic component of law enforcement basic training of southwest, northwest, and southeast Louisiana through scoring a minimum of 70% (70/100) on the Louisiana POST Certification Exam for Peace Officers?

Hypothesis 1

Ho:

The use of andragogical instructional methods will result in no changes to the competency scores on the Louisiana POST Certification Exam for Peace Officers in southwest, northwest, and southeast Louisiana.

Ha:

The use of andragogical instructional methods will yield greater results in the competency scores on Louisiana POST Certification Exam for Peace Officers in southwest, northwest, and southeast Louisiana.

Finding to Research Question 1

Assuming a significance level of 0.05, the researcher conducted an independent sample t-test and obtained the following results: $t(960) = -2.7, p = .007 < .05$. Since the p-value is less than the significance level, the research rejects the null hypothesis and concludes there is enough evidence to support the alternative hypothesis. Therefore, we can infer those individuals who took the Louisiana POST test after receiving instructions and training per andragogical instructional model

had statistically significantly higher test scores compared to scores of individuals who took the Louisiana POST test after receiving instructions and training per behavioral instructional model. However, despite reaching statistical significance, the overall effect was small ($d = -0.173$, 95% CI $[-.298, -.047]$), indicating the need for further research to establish potential effects of other intervening variables which were not available for this research.

Research Question 2

Has the implementation of andragogical methods improved the effectiveness, on the academic component of law enforcement basic training in southwest, northwest, and southeast Louisiana, by achieving a 70% (70/100) on the Level 1 Louisiana POST Certification Exam for Peace Officers?

Hypothesis 2

Ho:

There is not a statistically significant difference in mean scores for the classes of recruits in southwest, northwest, and southeast Louisiana, who received andragogical instruction.

Ha:

There is a statistically significant difference in mean scores for the classes of recruits in southwest, northwest, and southeast Louisiana, who received andragogical instruction.

Finding to Research Question 2.

By establishing the mean difference in test scores between the behavioral instructional model group and andragogical instructional model group, the researcher was interested in exploring which academy attains significantly different test scores. A one-way ANOVA (Table 15) was used to test the following hypotheses:

- H₀: There are no statistically significant differences in mean test scores of Peace Officers in different academies, irrespective of the method of instruction used during training;
- H_a: There are statistically significant differences in mean test scores of Peace Officers in different academies, irrespective of the method of instruction used during training.

Table 15

ANOVA Output Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Calcasieu	482	81.83	5.359	.244	81.35	82.31	68	93
Bossier	186	83.89	5.021	.368	83.16	84.61	70	94
St Charles	313	82.03	5.751	.325	81.39	82.67	65	93
Total	981	82.29	5.477	.175	81.94	82.63	65	94

As evident in Table 16, the between-academy variances (based on mean) in scores are homogenous: $F(2, 978) = 1.858, p = .157 > .05$; thus, fulfilling the preconditions for proceeding with ANOVA.

Table 16*Tests of Homogeneity of Variances (ANOVA)*

		Levene Statistic	df1	df2	Sig.
Test Score	Based on Mean	1.858	2	978	.157
	Based on Median	1.918	2	978	.147
	Based on Median and with adjusted df	1.918	2	964.567	.147
	Based on trimmed mean	1.988	2	978	.137

Further testing confirmed a statistically significant difference between groups as determined by a one-way ANOVA ($F(2,978) = 10.127, p = .001 < .05$) (Table 17).

Table 17*ANOVA test output*

Test Score	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	596.384	2	298.192	10.127	<.001
Within Groups	28797.698	978	29.445		
Total	29394.082	980			

Post-hoc testing was performed to understand which specific group means differ significantly from each other following a significant overall F-test. For that purpose, the post-hoc Tukey HSD (Honestly Significant Difference) and LSD (Least Significant Difference) tests were used. The Tukey HSD test controls the overall Type I error rate, which is the probability of falsely rejecting the null hypothesis that there is no difference between the groups, while LSD is less conservative than Tukey HSD. Post-hoc tests using Tukey HSD and LSD tests (Table 18) revealed that test scores were statistically significantly higher (83.89 ± 5.021 points, $p=.001<.05$) in the Bossier Sheriff's Office Regional Academy compared to scores in the other two academies. There were no statistically significant differences between the scores in the St Charles Sheriff's Office Regional Academy and the Calcasieu Sheriff's Office Regional Academy.

Table 18*Multiple Comparisons*

Dependent Variable: Test Score							
(I)	Academy (J)	Academy Code	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Calcasieu	Bossier	-2.055*	.468	<.001	-3.15	-.96
		St Charles	-.200	.394	.868	1.12	.72
	Bossier	St Charles	1.855*	.502	<.001	.68	3.03
		Calcasieu	2.055*	.468	<.001	.96	3.15
	St Charles	Bossier	-1.855*	.502	<.001	-3.03	-.68
		Calcasieu	.200	.394	.868	-.72	1.12
SD	Calcasieu	Bossier	-2.055*	.468	<.001	-2.97	-1.14
		St Charles	-.200	.394	.612	-.97	.57
	Bossier	St Charles	1.855*	.502	<.001	.87	2.84
		Calcasieu	2.055*	.468	<.001	1.14	2.97
	St Charles	Bossier	-1.855*	.502	<.001	-2.84	-.87
		Calcasieu	.200	.394	.612	-.57	.97

Note. *. The mean difference is significant at the 0.05 level.

Therefore, we can infer the test scores were statistically significantly higher (83.89 ± 5.021 points) in the Bossier Sheriff's Office Regional Academy compared to scores in the other two academies. There were no statistically significant differences between the scores in the St Charles Sheriff's Office Regional Academy and the Calcasieu Sheriff's Office Regional Academy.

Table 19
ANOVA Effect Sizes^a

	Test	Eta-squared	Point Estimate	95% Confidence Interval	
				Lower	Upper
Score			.020	.006	.040
		Epsilon-squared	.018	.004	.038
		Omega-squared Fixed-effect	.018	.004	.038
		Omega-squared Random-effect	.009	.002	.019

Note. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

However, as with the results of the independent samples t-test, some caution that the interpretation is warranted, despite established statistical significance. While the effect of treatment was significant, $F(2,978) = 10.127, p = .001 < .05, \eta^2 = .020, 95\% \text{ CI } [.006, .040]$, these results indicate an overall 95% confidence that the true value of eta-squared for the population lies between .006 and .040, based on the sample data. The confidence interval provides additional information beyond the point estimate of eta-squared, allowing us to assess the precision of the estimate and the range of plausible values. The eta-squared statistic (Table 19) shows this small effect on the dependent variable (POST test score), showing the independent variable (instructional model) accounted for very small variance in the dependent variable (POST test scores), after controlling for other sources of variance available to researcher in this model.

Future Implications

This study reinforces prior research indicating the value and benefit of andragogical delivery in instructional settings, extending these findings into the law enforcement domain. Reliance on traditional instructional models as a means of assuring minimum knowledge and competency in occupations that may adversely impact the public, such as law enforcement, may not necessarily address the need to develop the capacity, skills, behavior, and technical expertise of learner-participants that will enable them to adequately respond to increasingly complex operational environments. Using the andragogical methods in Louisiana POST training appears to be an effective way to address that need. This is, of course, assuming that the exam scores

adequately reflect both the educational attainment of the Peace Officer taking the test and absence of effects of others, potentially explanatory variables which were not included in this research.

The research shows that the results are statistically significant. This statistical significance provides Louisiana's law enforcement policy makers a mathematical foundation for making decisions; it allows them to determine whether the results of this experiment were likely to have occurred by chance or if they are truly representative of what is happening in the larger population. This is important because it enables Louisiana's law enforcement policy makers to make informed decisions based on data rather than intuition or guesswork.

Conducting this statistical analysis allowed the researcher to calculate various measures such as means, standard deviations, and effect sizes and compare these measures to theoretical distributions to determine the likelihood of obtaining the observed results by chance. Again, if the probability of the observed results occurring by chance is very low (typically less than 5%, or $p < 0.05$), we say that the findings are statistically significant.

For Louisiana law enforcement policymakers, this statistical significance is important; it allows them to draw meaningful conclusions from data. The results of this study show that the andragogical instructional model is effective with statistical significance. Policy makers can be confident that the adult learning model is likely to produce improved outcomes for new recruits. Without statistical significance, it would be difficult to know whether the findings were simply due to chance or if they were truly representative of what would happen in a larger population.

Conclusion

The findings of this quantitative study are significant in providing evidence that the andragogical approach to instruction is indeed more effective in preparing students for passing the Louisiana POST exam. However, despite reaching statistical significance, the overall effect was small indicating the need for further research to try and identify other factors that may contribute to how well students do on the Louisiana POST exam. The results demonstrate the effectiveness of the andragogical instructional model for student success when taking the Louisiana POST exam.

In the United States, the Courts have consistently held that municipalities can be held liable for failing to adequately train police officers under Section 1983. For example, in the City of Canton, Ohio versus Harris, the Supreme Court held that the inadequacy of police training may serve as the basis for § 1983 liability where the failure to train amounts to deliberate indifference to the rights of persons with whom the police come into contact. Thus, agencies that fail to

adequately invest in training for their recruits and veteran officers face significant legal, financial, and reputational risks, losing the trust and support of the community. As noted by the Police Executive Research Forum (2022) communities do not want their police officers operating like soldiers; they want officers who are part of the community and have strong interpersonal skills and other traits to serve effectively as community guardians. This realignment and cultural shift begins with how academies are structured and operated, how recruits are treated (like adult learners, not soldiers in a boot camp), and how academy training is integrated with field training and real-world experiences of officers. Using the andragogical methods in Louisiana POST training academies appears to be an effective way to address that need. This study reinforces prior research, such as Knowles (1984), indicating the value and benefit of andragogical delivery in instructional settings, extending these findings into the law enforcement domain.

This research confirms that individual Peace Officers who took the Louisiana POST exam after receiving instruction and training per the andragogical instructional model had statistically significant higher test scores compared to scores of individuals who took the Louisiana POST exam after receiving instructions and training per the behavioral instructional model. Further analysis revealed that students from the Bossier Parish Sheriff's Office Regional Academy, on average, attained higher Louisiana POST exam scores than the students from the other two academies (St Charles Parish Sheriff's Office and Calcasieu Parish Sheriff's Office).

References

- Anderson, S. (Ed). (2014). *Collins English dictionary* (12th ed.). Harper Collins.
- Birzer, M. (2003). Theory of andragogy applied to police training. *Policing: An International Journal of Policy Strategies and Management*. (25)1, 29-42.
- Birzer, M., & Tannehill, R. (2001). A more effective training approach for contemporary policing. *Police Quarterly*, 4(2), 233-252
- Bouchrika, I. (2022, September 27). *The andragogy Approach: Knowles' Adult Learning Theory Principles*. Retrieved from Research.com: <https://research.com/education/the-andragogyapproach>
- Boyle, R. P. (n.d.). Path Analysis and Ordinal Data. *American Journal of Sociology*, 74(4), 461-480.
- Bronstein, N. (2015). Police management and quotas: Governance in the CompStat era. *Columbia Journal of Law and Social Problems*, 48(4), 543-581.

- Chappell, A. T., & Lanza-Kaduce, L. (2010). Police academy socialization: Understanding the lessons learned in a paramilitary-bureaucratic organization. *Journal of Contemporary Ethnography*, 39(2), 187-214.
- Della, B. (2004). Nontraditional training systems: Realizing the effectiveness of an agency's most valuable resource. *FBI Law Enforcement Bulletin*, 73(6), 1-9.
- Engel R., McManus H., & Herold, T. (2020). Does de-escalation training work? *Criminology & Public Policy*, 19(3), 721–159.
- Gardner, P. L. (1975). Scales and Statistics. *Review of Educational Research*, 45 (1) 43-67.
- Hargrove, M. D. (2015). The Brutal Truth about Police Brutality. *Eastern Kentucky University*.
https://encompass.eku.edu/honors_theses/283/
- Harwell, M., & Gatti, G. (2001). Rescaling ordinal data to interval data in educational research. Harwell, M. R., & Gatti, G. G. (2001). Rescaling Ordinal Data to Interval Data in Educational Research. *Review of Educational Research*, 71(1), 105-131.
- Hennessy. (2015). Training police for procedural justice.
<https://law.yale.edu/sites/default/files/area/center/justice/skoganvancraenhennesy2015.pdf>
- Knowles, M. (1968). Andragogy, not pedagogy. *Adult Leadership*, 16(10), 350-352.
- Knowles, M. (1970). *The modern practice of adult education; Andragogy versus pedagogy*. Association Press.
- Louisiana Administrative Code, Standards and Training, Title 22 § III-4701 (2023).
<https://regulations.justia.com/states/louisiana/title-22/part-iii/>
- Louisiana Commission on Law Enforcement and Administration of Criminal Justice. (n.d.). *Peace Officer Standards and Training Council (POST)*. Retrieved from
<https://lcle.la.gov/programs/post/>
- Mezirow, J. (1978). Perspective Transformation. *Adult Education Quarterly*, 28(2).
- Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. Jossey-Bass.
- Motivans, M. A. (2016). Federal Justice Statistics. *Bureau of Justice Statistics*.
- Nadel, S. F. (1951). *The Foundations of Social Anthropology*. Routledge.
- Park, Y., Konge, L., & Artino, A. (2020). The Positivism paradigm of research. *Academic Medicine: Journal of the Association of American Medical Colleges*, 95 (5).

- Price, P., Jhangiani, R., Chiang, I., Leighton, D., & Cuttler, C. (2017). *Research methods in psychology* (3rd ed.). Pressbook Openbook Publishing.
- Reichardt, C. (2005). Nonequivalent Group Design. *Encyclopedia of Statistics in Behavioral Science*. John Wiley & Sons.
- Ridlehoover, M. (2020, 5 7). *Perspective: Need for Critical Thinking in Police Training*. Retrieved from FBI: Law Enforcement Bulletin: <https://leb.fbi.gov/articles/perspective/perspective-need-for-critical-thinking-in-police-training>
- Ryan, A. (2006). Post-positivist approaches to research. *Researching and writing your thesis: a guide for postgraduate students*, 12-26.
- Walker, S., & Katz, C. (2013). *The Police in America: An Introduction* (Vol. 8th Edition). McGraw-Hill.
- Wrigley, H. S. (1993). One Size Does Not Fit All: Educational Perspectives and Program Practices in the U.S. *TESOL Quarterly*, 27(3), 449-465.
- Zmeyov, S. I. (1998). Andragogy: Origins, Developments and Trends. *International Review of Education*, 44(1), 103-108.

Author Biographies

Dr. Karolyn Harrell has extensive experience across areas of criminal justice and education. She has a Masters in Criminal Justice from Nova Southeastern University and a Doctorate in Education from Northwestern State University of Louisiana. In her current position, she teaches and advises in the Department of Behavioral Sciences (Criminal Justice) at Northshore Technical Community College.

Dr. Laura Beth Norman is an Assistant Professor in Adult Learning and Development in the Gallaspy College of Education and Human Development at Northwestern State University of Louisiana. She currently serves on various committees within the institution and has received university awards such as the Distinguished Faculty Scholar Award.