

Telling or Discovering



A Comparison of Lecture and Online
Learning in Law Enforcement Basic Training



TITLE

Telling or Discovering: A Comparison of Lecture and Online Learning in Law Enforcement Basic Training

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INTRODUCTION

Law enforcement performance and training in the United States has become a focal point of discussion in recent years. Several high profile incidents around the country have sparked impassioned debate both within and outside of the profession about the competency, culture and role of modern police officers. Inevitably, a significant portion of that conversation has turned to law enforcement training. Several organizations have conducted studies and made assertions that law enforcement training, particularly basic training, largely fails to adequately prepare new officers for the rigors of their job. Based on their findings as well as our own experience as a state law enforcement training academy, the assertion appears to have validity.

The available research suggests law enforcement needs to train more holistically and realistically; forcing learners to integrate information and tactics together, to think critically, and solve problems. Skills that no doubt are paramount to success in the profession. The Effectiveness of Academy Training – A Three Country Study (Lewinski, 2019), Transforming Police Recruit Training: 40 Guiding Principles (Police Executive Research Forum, 2022), the ADAPT Research Report: The Current State of Police Control and Defensive Tactics Training (Polis Solutions, 2022) and Improving Learning Outcomes in Police Academy Training (Beer-Maxwell, et al., 2023) are all research projects on point.

The predominant “traditional” law enforcement training structure is passive, siloed (blocked), trainer centered, information centric, and process focused. These characteristics are the opposite of how research describes an effective learning environment. Several years ago we began exploring how to make basic law enforcement training more effective in the allotted time without a significant increase in resources. Our exploration revealed a multitude of scientific concepts that we subsequently utilized as a basis to develop a training structure. The three most relevant to this study are articulated below.

1. Active learning is more beneficial than passive learning.

Active and passive learning generally describe what learners are required to do in the learning process. There is strong evidence based on research by Bonwell & Eison (1991), Prince (2004), Hattie (2009) and Freeman (2014) that active learning instructional





practices are more effective in increasing exam scores, conceptual understanding, and retention rates.

2. Student centered learning is more beneficial than trainer centered learning.

Student and trainer centered learning approaches describe who is responsible or in “control” of the learning. Do the roles impact learning or is it preferential? There is strong evidence based on research by Springer, Stanne and Donovan (1999), Michael (2006), Mortensen and Nicholson (2015), and Kaput (2018) that student centered learning approaches are more effective in promoting deep learning, conceptual understanding, retention and critical thinking.

3. Problem centric learning is more beneficial than information (solution) centric learning.

Problem centric and information centric learning approaches describe what context learners are learning in. Does the solution need to be presented in the context of the problem or vice versa? There is strong evidence based on research by Dochy, et al. (2003) and Walker and Leary (2009) that problem centric learning approaches are more effective in promoting increased retention and learner engagement.

In addition, Dr. Kolb’s Experiential Learning Theory (1984), Dr. Mezirow’s Transformative Learning Theory (1978), Dr. Bjork’s New Theory of Disuse (1992), and Dr. Bandura’s Social Cognitive Learning Theory (1977) have heavily influenced our training structure as a whole as well as the development of the online learning delivery method at issue in this study.

In 2019, our basic training structure was heavily dependent on lectures for initial learning, accounting for nearly 40% of the basic curriculum. We wanted to devise a delivery method for initial learning that was active, student centered, and provided initial conceptual understanding and retention that would be built upon with practical and integration activities.

To accomplish this we made the activity asynchronous, conceptualized the content, and made it problem centric as opposed to information centric; providing two distinct learning advantages. First, learners were free to determine what was already known to them and what was new, conserving cognition. Second, it created an opportunity to condition a problem-solving behavior similar to what is needed in the work environment. In that environment officers must be adept at identifying the problem, seeking out resources to formulate a solution, producing the solution, and being accountable for the outcomes without the aid of coworkers or supervisors. This design also helped us apply Dr. Bjork’s principles associated with increasing the storage strength (SS) of newly learned information through retrieval practice as opposed to restudy. The resulting Online Learning (OL) delivery method required a 10 fold increase in judgments (1,117 / 11,482) during the initial learning phase. The questions, topics, and training activities were developed and organized to create an inductive learning effect by creating associations between concepts, topics, and skill sets progressively throughout the training. Finally, a component was included to elicit and accurize the student’s perception of their competence, confidence, and value of the concepts.

By the beginning of training in 2024, the OL had been developed and codified. In 2024 the OL delivery method accounted for 221.00 curriculum hours while lectures accounted for 83.50 curriculum hours.





The Peace Officer Basic (POB) curriculum included 113.50 curriculum hours of OL and 62.50 hours of lecture while the Detention Officer Basic (DOB) curriculum included 107.50 curriculum hours of OL and 21.00 hours of lecture.

OBJECTIVES

The fundamental question and purpose of this study is to determine if the OL delivery method had the intended effect. In essence, did learners perform at higher levels during the initial learning phase with the OL delivery method compared to lectures; and was there retention and learning transfer? While there are a variety of novel ways to boost exam scores in the short term, in our view the ultimate measure of success for any delivery method is in retention and transfer.

To answer these questions we sought to compare the mean initial learning of topics provided through OL and lectures, determine the mean retention rate of information by competency through a cumulative exam, and determine the transfer rate of information by competency through practical evaluations. The following three questions were at issue.

1. Is there a significant distinction between learning by lectures and learning through OL?
2. Is there a substantial retention rate?
3. Is there a substantial transfer rate?

This study is a small portion of a larger whole allowing us to look very critically at and gain understanding of the effectiveness of specific law enforcement delivery methods individually, and their impact on learning transfer and skill generalization.

METHODOLOGY

In the past we have made attempts to compare the new training structure, which includes the online delivery method at issue, with the old training structure. Unfortunately, from the perspective of comparison, some of the most significant structural changes involved evaluation methods, creating a circumstance where exam scores from the old training structure did not mean the same thing as the current exam scores.

While the new training structure heavily relies on the online delivery method at issue in this study for initial learning of information, there also remains a considerable number of traditional lectures in the curriculum. The approach in this study is different in that the same learners are participating in both types of delivery methods and are required to complete the same exams, resulting in a more standardized measure. In addition, to minimize the impact of certain variables skewing the data such as difficulty of topic, progression, or test interval, the study encompasses both POB and DOB students and includes all “cognitive” topics the learners were evaluated on during basic training. While these two disciplines share commonalities, they are significantly different in many ways. We believed this provided an environment where the delivery methods could be analyzed independently of a particular training discipline. We have also included performance data on the cumulative exam as well as practical evaluations not as

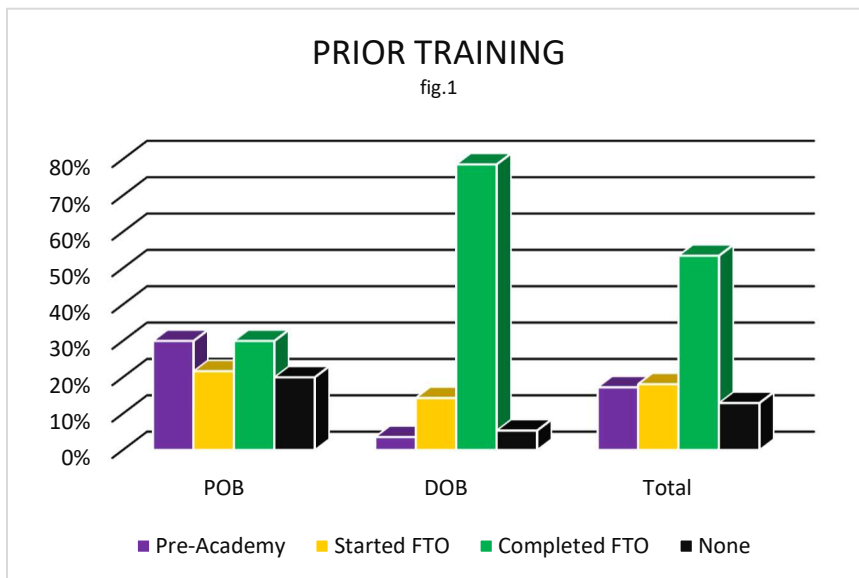




comparative between the two delivery methods but to determine if retention and learning transfer occurred during the learning phase.

The sample in this study analyzed the performance of 182 basic students (POB 104 – DOB 78) who participated in basic training in 2024. 89.01% of the students (POB 84.62% - DOB 94.87%) were male and 10.99% (POB 15.38% - DOB 5.13%) were female. The average student age was 29.04 (POB 28.97 – DOB 29.58) years old.

17.24% of the students (POB 30.00% - DOB 3.57%) had participated in some type of pre-academy training before arriving for basic training. 18.10% of the students (POB 21.67% - DOB 14.29%) had begun but not completed a field training program at their agency. 53.45% of the students (POB 30.00% - DOB 78.57%) had completed a field training program at their agency. 12.93% of students (POB 20.00% - DOB 5.36%) had no training prior to arriving for basic training.



Data was retrieved from the Blackboard Learning Management System (LMS) as learners participated in the Online Learning (OL) activities, exams, the Pre-Academy General Survey, and the Final Survey. Data was collected from every participating POB and DOB student in 2024.

The data was comprised of exam scores, practical evaluation scores, time on task, and survey answers. Of the 106 topics (POB 60 – DOB 46), 88 (POB 48 – DOB 40) representing 221 curriculum hours (POB 113.50 – DOB 107.50) and

consisting of 2,707 exam points (POB 1,929 – DOB 1,334) were delivered utilizing the OL delivery method. 18 topics (POB 12 – DOB 6) representing 83.50 curriculum hours (POB 62.50 – DOB 21.00) and consisting of 556 exam points (POB 356 – DOB 199) were delivered utilizing lectures.

The 3,263 total exam points were encapsulated in 1,352 exam questions. Many of the exam questions required multiple answers. Each exam point indicated a judgment learners were required to make regarding a question. Learners were given 1 point for every correct answer and 0 points for every incorrect answer.

Students were tested weekly utilizing written exams consisting of several different topics. Topics were only tested on one occasion. The average interval between the topic and the exam was 2 weeks. The cumulative exam was comprised of questions from a variety of topics within each of the five competencies.





Our training structure utilizes a competency based evaluation system that allows for direct and indirect measures of performance. Direct measures indicate a specific learning outcome associated with a learning objective. Indirect measures meet a performance standard associated with one of the five competencies; Criminal Law, Interpersonal Interactions, Professional Skills, Operational Skills, and Investigative Skills. All direct measures (questions) are also organized by competency. All learning objectives satisfy a performance standard in a competency in a specific circumstance. (See Appendix D) This data did not parse between delivery methods but was relevant to determine retention beyond the initial exam as well as transfer as measured during the Patrol and Investigative Integration activities near the end of basic training.

DELIVERY METHODS

As indicated earlier, one of the intentions of this study was to explicitly define and isolate the delivery methods being compared. These two methods are distinct in several ways. Our lectures are characterized as passive, trainer focused, information centric, synchronous learning environments. They are intended to be conceptualization activities where information is prepared and delivered by a trainer to learners. Generally, the trainer begins with a list of objectives followed by the necessary information to accomplish those objectives. Most lectures also include a “review” of some type at the end, attempting to tie the information to the objectives. With this method, trainers are interacting with the students, exposing them to information.

By contrast the OLs are characterized as active, learner focused, outcome centric, asynchronous learning environments. There are three components of the OL; a pretest, a learning activity, and a survey, which learners must complete in that sequence. The pretest is an experiential activity containing all of the questions and answers learners will interact with during the learning activity. The pretest is timed, allowing 1 minute per question. Once learners have completed and submitted the pretest the LMS indicates to them whether they passed (90% or higher) or failed utilizing the word “PASS” or “FAIL” highlighted by a corresponding background color (green or red). Information about their percentage score or which questions they missed is withheld from them to create a condition of ambiguity and curiosity and they are only allowed to attempt the pretest once.

The learning activity is an experimentation and conceptualization activity comprised of the concepts and learning objectives associated with the topic, the questions and answers from the pretest (answers are randomized), as well as the requisite information to answer the questions. The information is presented in a variety of ways including reading material, videos, and links to resources. There is no time limit for the activity, learners are not required to interact with the information in any particular way, and there is no forced sequencing within the activity itself. Learners are allowed to utilize other sources of information to answer questions if they choose. Once they have completed and submitted the learning activity the LMS provides them with their score, their answers to each question and an indication of each correct answer, and any automated feedback for the question. Learners are required to achieve a minimum score of 70% on the learning activity and have 3 attempts to do so.





The final component of the OL is a three question survey. This is a reflective activity designed to elicit the learner’s perceptions of their confidence, competence, and value of the information they learned utilizing the questions articulated in Appendix A. Students also complete a final survey designed to elicit their perceptions of their competence and confidence overall at the conclusion of their basic training utilizing the questions articulated in Appendix B.

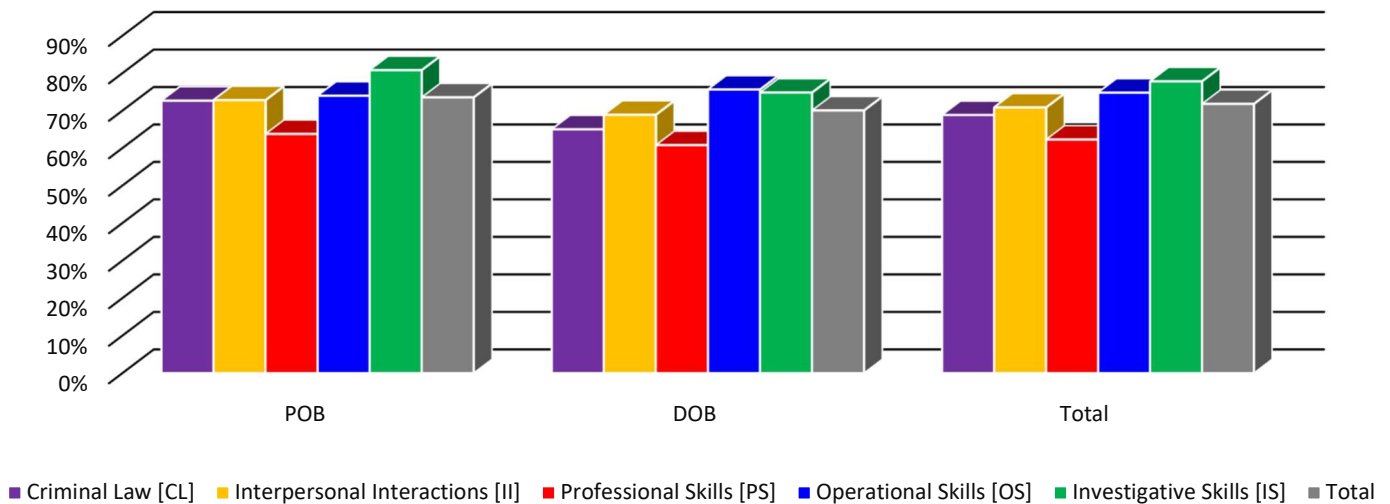
FINDINGS

PRETEST SCORES

The first aspect of data are the mean pretest scores for every OL topic. Students answered 3,988 pretest points (POB 2,342 – DOB 1,645) in 88 topics; averaging 45 points per topic. The mean pretest score was 71.78% (POB 73.53% - DOB 70.04%). When parsed by competency the average pretest score in Criminal Law was 68.83% (POB 72.65% - DOB 65.01%), 70.84% in Interpersonal Interactions (POB 72.80% - DOB 68.88%), 62.27% in Professional Skills (POB 63.77% - DOB 60.77%), 74.79% in Operational Skills (POB 73.96% - DOB 75.62%), and 77.78% in Investigative Skills (POB 80.79% - DOB 74.81%)

PRETEST SCORES BY COMPETENCY

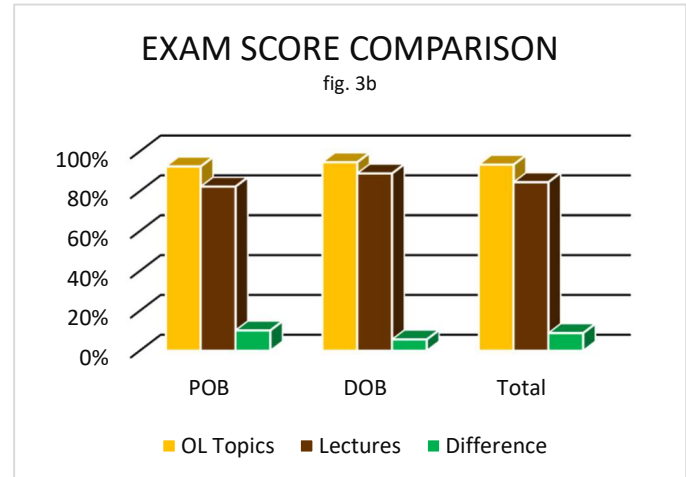
fig. 3a



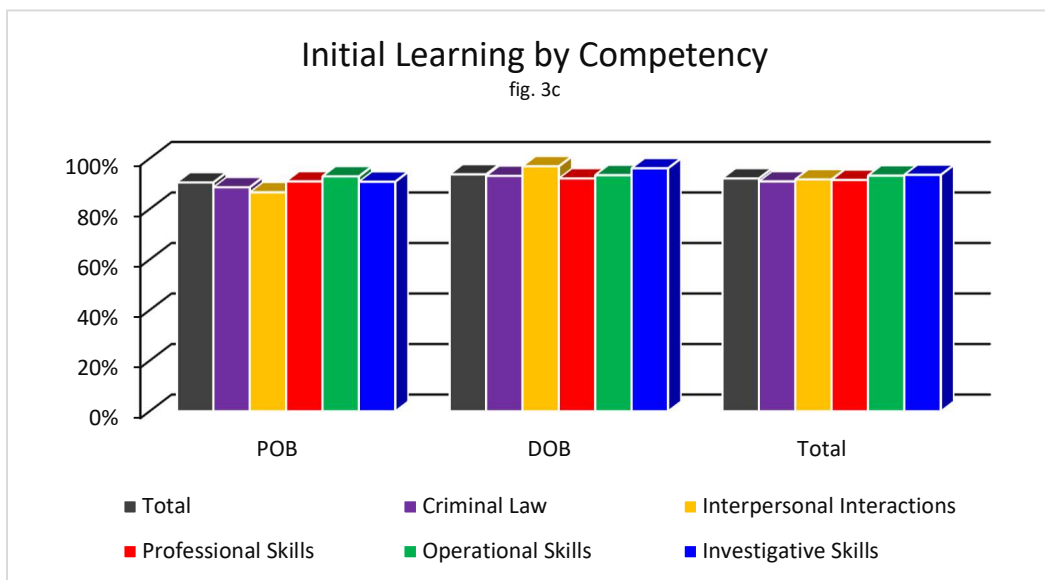


INITIAL LEARNING

The next aspect of data is the “initial learning”. These are the mean scores on the exams taken by the students for each topic. Of the 2,707 possible exam points from OL topics and 556 possible exam points from lectured topics, students averaged 2,527 (93.33%) correct exam points from OL topics (POB 92.44% - DOB 94.56%) and 470 (84.53%) points for lectured topics (POB 82.09% - DOB 88.95%).



INITIAL LEARNING BY COMPETENCY



Each exam question is related to a competency, allowing us to observe learner performance more holistically. The mean initial learning was 92.12% (POB 90.52% - DOB 93.72%): 90.86% in Criminal Law (POB 88.62% - DOB 93.09%), 91.73% in Interpersonal Interactions (POB 86.59% - DOB 96.88%), 91.48% in Professional Skills (POB 90.91% - DOB 92.05%),

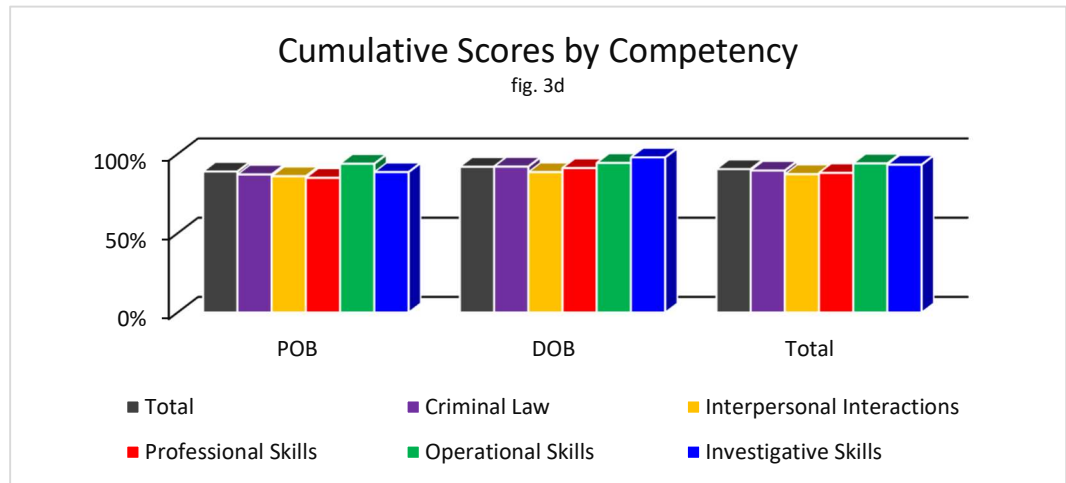
93.16% in Operational Skills (POB 92.91% - DOB 93.42%), and 93.47% in Investigative Skills (POB 90.82% - DOB 96.13%).





RETENTION BY COMPETENCY

Students participated in a cumulative exam near the end of basic training. This exam is designed to measure each of the competencies. The mean scores on the cumulative exam were 90.5% overall (POB 88.99% - DOB 91.99%): 89.6% (POB 87.11% -



DOB 92.13%) in Criminal Law, 87.3% (POB 86.03% - DOB 88.61) in Interpersonal Interactions, 88.1% (POB 85.01% - DOB 91.21%) in Professional Skills, 94.1% (POB 93.91% - DOB 94.35%) in Operational Skills, and 93.3% (POB 88.64% - DOB 97.92%) in Investigative Skills.

TRANSFER BY COMPETENCY

Near the end of basic training, POB students participate in the 12 integrated activities articulated in Appendix C. During these activities they are required to utilize their knowledge and skills to achieve outcomes within the established performance standards. For the study sample during the integrated activities there were 10,471 opportunities for students to demonstrate competence overall: 2,446 in Criminal Law, 1,757 in Interpersonal Interactions, 3,303 in Professional Skills, 1,988 in Operational Skills, and 977 in Investigative Skills. Given the number of POB students this equates to an average of 100 opportunities overall: 24 in Criminal Law, 17 in Interpersonal Interactions, 32 in Professional Skills, 19 in Operational Skills, and 9 in Investigative Skills.

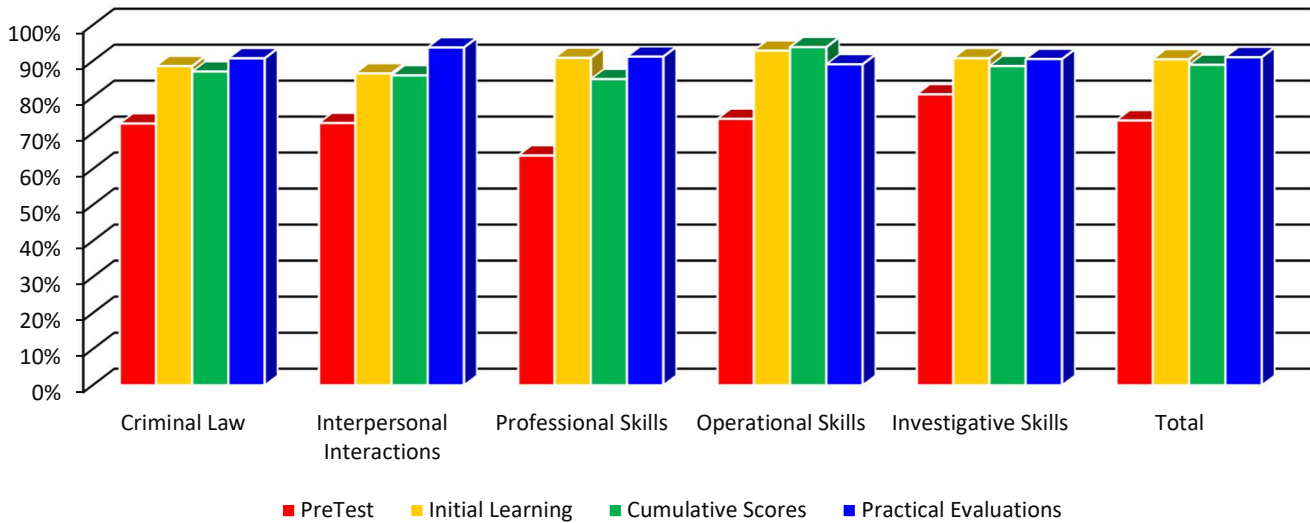
The average score per activity was 90.79%. The lowest score was 4.00% with a mean of 59.16% and the highest score was 100.00% with a mean of 99.60%. The average by competency for all activities was 91.11%: 90.80% in Criminal Law, 93.80% in Interpersonal Interaction, 91.25% in Professional Skills, 89.13% in Operational Skills, and 90.58% in Investigative Skills. In 3 of the 5 competencies, students performed higher during the integration activities than they did in the initial learning phase. The average score during the integration activities increased by 0.61% overall: it increased in Criminal Law by 2.20%, it increased in Interpersonal Interactions by 7.20%, it increased in Professional Skills by 0.35%, it decreased in Operational Skills by 3.77%, and also decreased in Investigative Skills by 0.22%.





PreTest, Initial Learning, Cumulative & Practical Comparisons

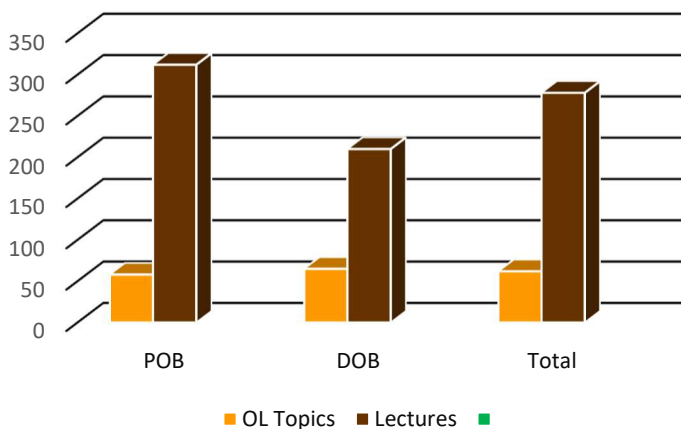
fig. 3f



TIME ON TASK FOR LEARNING ACTIVITIES

TIME ON TASK / TOPIC

fig. 4a



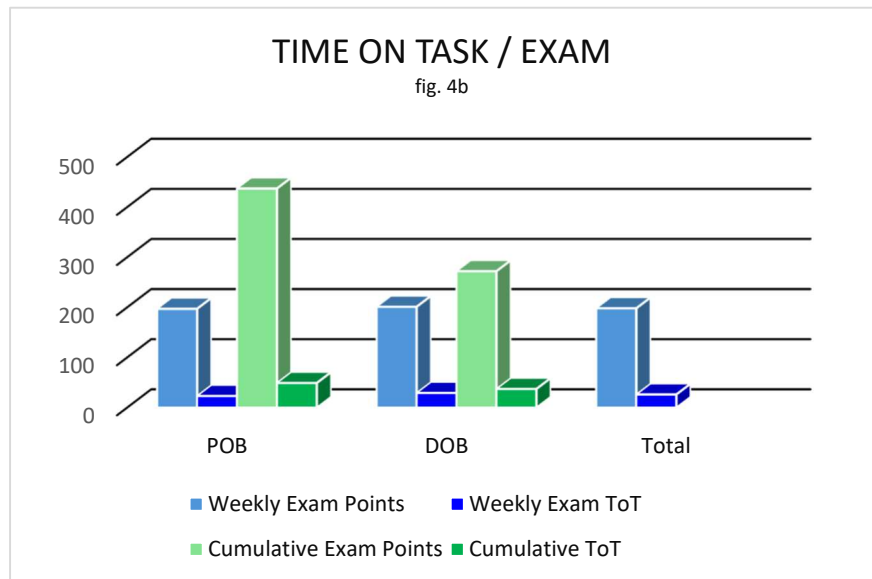
The average time on task is the average amount of time it took students to complete each topic. For lectures, this figure is constant. For OL topics it is the mean amount of time for the class. The total average time on task for all topics was 10,436 minutes (POB 6,559 – DOB 3,877). The total average time on task for the 88 OL topics (POB 48 – DOB 40) was 5,426 minutes (POB 2,809 – DOB 2,617) equating to an average of 62 minutes (POB 58 – DOB 65) per topic. The total average time on task for the 18 lectured topics (POB 12 – DOB 6) was 5,010 minutes (POB 3,750 – DOB 1,260) equating to an average of 278 minutes (POB 313 – DOB 210) per topic.





TIME ON TASK FOR EXAMS

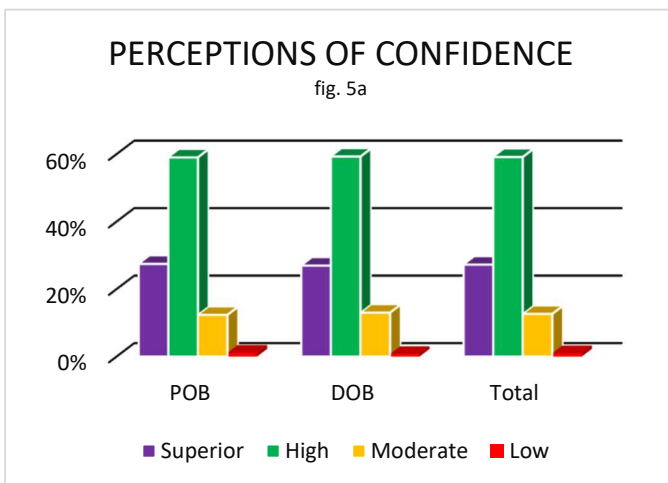
The time on task for exams is the average amount of time it took students to complete each exam. The students took 20 exams (POB 12 – DOB 8) averaging 68 questions (POB 66 – DOB 71) worth 199 points (POB 197 – DOB 201). The average time on task per exam was 26 minutes (POB 23 – DOB 29). The POB cumulative exam was 106 questions worth 437 points. The average time on task was 49 minutes. The DOB cumulative exam was 103 questions worth 272 points. The average time on task was 37 minutes.



STUDENT PERCEPTIONS OF LEARNING DURING TRAINING

While we recognize student evaluations are not a valid source of information for analyzing the effectiveness of training; they can provide valuable insight into the perceptions of students. Specifically, our surveys are designed to elicit students perception of their own confidence, competence, and value they place on each OL topic. The four potential answers for each question have been categorized as Low (A), Moderate (B), High (C), and Superior (D).

80.34% of the time, students (POB 81.99% - DOB 78.03%) indicated either superior or high on the questions. 19.66% of the time students (POB 18.01% - DOB 21.97%) indicated either moderate or low on the questions.



The first question elicited student perception of their confidence in utilizing what they learned. 86.38% of students (POB 86.49% - DOB 86.23%) indicated their confidence was either superior (27.25% | POB 27.46% - DOB 26.95%) or high (59.14% | POB 59.03% - DOB 59.28%). 13.62% of students (POB 13.51% - DOB 13.77%) indicated their confidence was either moderate (12.63% | POB 12.36% - DOB 13.01%) or low (0.99% | POB 1.15% - DOB 0.77%).

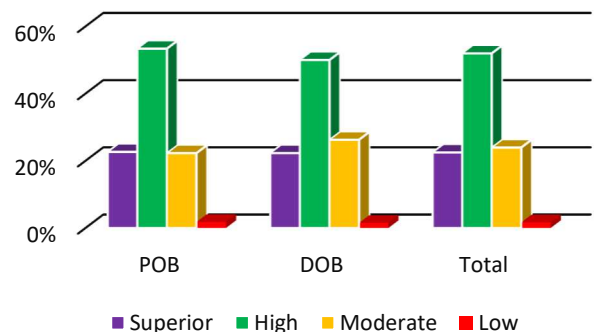




The second question elicited student perception of the competence in understanding the concepts. 74.42% of students (POB 75.97% - DOB 72.25%) indicated their understanding was either superior (22.47% | POB 22.62% - DOB 22.27%) or high (59.14% | POB 59.03% - DOB 59.28%). 25.58% of students (POB 24.03% - DOB 27.74%) indicated their understanding was either moderate (23.92% | POB 22.26% - DOB 26.24%) or low (1.66% | POB 1.77% - DOB 1.50%).

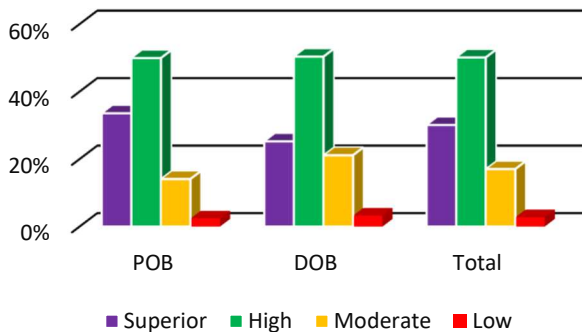
PERCEPTIONS OF COMPETENCE

fig. 5b



PERCEPTIONS OF VALUE

fig. 5c



The final question elicited student perception about the value of the concepts in performing their job. 80.23% of students (POB 83.51% - DOB 75.62%) indicated the concepts were either of very high (30.11% | POB 33.56% - DOB 25.25%) or high (50.12% | POB 49.94% - DOB 50.37%) value. 19.77% of students indicated the concepts were either of moderate (17.03% | POB 14.10% - DOB 21.14%) or low (2.74% | POB 2.39% - DOB 3.23%) value.

STUDENT PERCEPTION OF COMPETENCY

POB and DOB students also complete a final survey near the end of their basic training designed to elicit their perceptions about the training overall and their ability to use what they have learned in the work environment. There are 11 questions that are common between POB and DOB. 98.66% of the time (POB 98.96% - DOB 98.11%) students indicated favorably or very favorably on questions. 4.70% of the time (POB 6.25% - DOB 1.89%) students indicated somewhat unfavorably or very unfavorably on questions.

The first question elicited student perception of their performance in relation to their expectations. 98.66% of students (POB 98.96% - DOB 98.11%) indicated they either exceeded (15.44% | POB 15.62% - DOB 15.09%), met (38.93% | POB 43.75% - DOB 30.19%), or exceeded or met (44.29% | POB 39.58% - DOB 52.83%) their own performance expectations. 4.70% (POB 6.25% - DOB 1.89%) indicated they either failed to meet (1.34% | POB 2.08% - DOB 0.00%), or met or failed to meet (3.36% | POB 4.17% - DOB 1.89%) their own performance expectations.





The second question elicited student perception of the difficulty of their basic training. 83.22% of students (POB 82.29% - DOB 84.91%) indicated the training was sufficient while 17.45% (POB 18.75% - DOB 15.09%) indicated the training was either not sufficient (10.74% | POB 11.46% - DOB 9.43%) or challenged them very little (6.71% | POB 7.29% - DOB 5.66%). No one indicated the training was too challenging for them.

The third question elicited student perception about the impact of their basic training on their ability to do their job. 95.97% of students (POB 96.87% - DOB 94.34%) indicated training either greatly improved (45.64% | POB 46.87% - DOB 43.40%) or improved (50.34% | POB 50.00% - DOB 50.94%) their ability to do their job. 3.36% (POB 3.12% - DOB 3.77%) indicated training either severely hindered (0.67% | POB 1.04% - DOB 0.00%) or hindered (2.68% | POB 2.08% - DOB 3.77%) their ability to do their job.

The fourth question elicited student perception about their ability to make legally reasonable decisions at work. 97.31% of students (POB 95.83% - DOB 98.11%) indicated they were either very able (57.05% | POB 56.25% - DOB 58.49%) or able (40.27% | POB 39.58% - DOB 41.51%) to make legally reasonable decisions. 2.68% (POB 4.17% - DOB 0.00%) indicated they were either not able (0.67% | POB 1.04% - DOB 0.00%) or somewhat able (2.01% | POB 3.12% - DOB 0.00%) to make legally reasonable decisions.

The fifth question elicited student perception about their ability to professionally manage conflict and achieve shared meaning of thought when interacting with people at work. 97.31% of students (POB 96.87% - DOB 98.11%) indicated they were either very able (68.46% | POB 66.67% - DOB 71.70%) or able (28.86% | POB 30.21% - DOB 26.41%) to professionally and effectively manage conflict at work. 2.68% of students (POB 3.12% - DOB 1.89%) indicated they were somewhat able to manage conflict. No one indicated they were unable to manage conflict at work.

The sixth question elicited student perception about their ability to control people during physical conflicts at work. 96.64% of students (POB 95.83% - DOB 98.11%) indicated they were either very able (58.39% | POB 54.17% - DOB 66.04%) or able (38.25% | POB 41.67% - DOB 32.08%) to control people. 3.36% (POB 4.17% - DOB 1.89%) indicated they were either somewhat able (2.68% | POB 3.12% - DOB 1.89%) or not able (0.67% | POB 1.04% - DOB 0.00%) to control people.

The seventh question elicited student perception about the influence of their basic training on their ability to be decisive. 85.91% of students (POB 81.25% - DOB 94.34%) indicated the training was either very influential (44.97% | POB 42.71% - DOB 49.06%) or influential (43.62% | POB 41.67% - DOB 47.14%). 11.41% of students (POB 15.62% - DOB 3.77%) indicated the training was either somewhat influential (9.40% | POB 12.50% - DOB 3.77%) or not influential (2.01% | POB 3.12% - DOB 0.00%).

The eighth question elicited student perception about the influence of their basic training on their ability to solve problems. 85.91% of students (POB 81.25% - DOB 94.34%) indicated the training was either very influential (41.61% | POB 41.67% - DOB 41.51%) or influential (44.29% | POB 39.58% - DOB 52.83%). 14.09% of students (POB 18.75% - DOB 5.66%) indicated the training was either somewhat influential (12.08% | POB 15.62% - DOB 5.66%) or not influential (2.01% | POB 3.12% - DOB 0.00%).





The ninth question elicited student perception about the influence of their basic training on their ability to maintain emotional control. 75.84% of students (POB 71.87% - DOB 83.02%) indicated the training was either very influential (43.62% | POB 45.83% - DOB 39.62%) or influential (32.21% | POB 26.04% - DOB 43.40%). 24.16% of students (POB 28.12% - DOB 16.98%) indicated the training was either somewhat influential (14.76% | POB 16.67% - DOB 11.32%) or not influential (9.40% | POB 11.46% - DOB 5.66%).

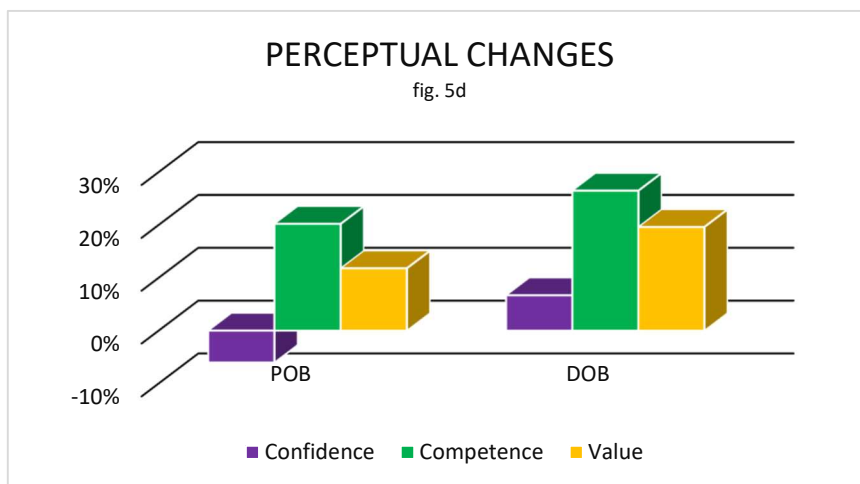
The tenth question elicited student perception about the influence of their basic training on their ability to think and act objectively. 89.26% of students (POB 84.37% - DOB 98.11%) indicated the training was either very influential (52.35% | POB 44.79% - DOB 66.04%) or influential (36.91% | POB 39.58% - DOB 32.08%). 10.74% of students (POB 15.63% - DOB 1.89%) indicated the training was either somewhat influential (8.06% | POB 12.50% - DOB 0.00%) or not influential (2.68% | POB 3.12% - DOB 1.89%).

The eleventh question elicited student perception about the influence of their basic training on their ability to continue learning. 93.96% of students (POB 93.75% - DOB 94.34%) indicated the training was either very influential (62.42% | POB 60.42% - DOB 66.04%) or influential (31.54% | POB 33.33% - DOB 28.30%). 6.04% of students (POB 6.25% - DOB 5.66%) indicated the training was either somewhat influential (5.37% | POB 5.21% - DOB 5.66%) or not influential (0.67% | POB 1.04% - DOB 0.00%).

Question #7, #8, #9, and #10 are related to the student's confidence in their ability, question #4, #5, and #6 are related to the student's perception of their competence, and question #3 and #11 are related to their perception of the value of the training. When compiled together they provide a final comparison against the topic survey.

84.90% of students (POB 80.47% - DOB 92.92%) indicated superior (POB 43.75% - DOB 49.06%) or high (POB 36.72% - DOB 43.87%) confidence while 15.10% of students (POB 19.53% - DOB 7.08%) indicated moderate (POB 14.32% - DOB 5.19%) confidence. 97.09% of students (POB 96.18% - DOB 98.74%) indicated superior (61.30% | POB 59.03% - DOB 65.41%) or high (35.79% | POB 37.15% - DOB 33.33%) confidence while 2.91% (POB 3.82% - DOB 1.26%) indicated moderate (2.46% | POB 3.12% - DOB 1.26%) or low (0.45% | POB 0.69% - DOB 0.00%) competency. 95.29% of students (POB 95.31% - DOB 95.24%) indicated a superior (54.21% | POB 53.65% - DOB 55.24%) or high (41.08% | POB 41.67% - DOB 40.00%) value in the training while 4.71% (POB 4.69% - DOB 4.76%) indicated a moderate (4.04% | POB 3.65% - DOB 4.76%) or low (0.67% | POB 1.04% - DOB 0.00%) value.

When compared with the topic surveys perceived confidence decreased for POB students from 86.49% to 80.47% but increased for





DOB students from 86.23% to 92.92%. Perceived competence increased for POB students from 75.97% to 96.18% and also for DOB students from 72.25% to 98.74%. The perceived value of the training also increased for POB students from 83.51% to 95.31% and for DOB students from 75.62% to 95.24%.

OBSERVATIONS & DISCUSSION

The findings are significant. The pretest averages were higher than expected, however so were the percentages of students who had received training before beginning basic training, particularly for POB students. It is not uncommon, as the data indicated, for DOB students to have worked as a detention officer under a temporary Wyoming Peace Officer Standards and Training (POST) certification prior to basic training. It has traditionally been less common for POB students to have done so. The majority of POB students (51.67%) have participated in or completed a formal field training program prior to arriving for basic training. We speculate this is the reason for a pretest average of 71.78%.

The data indicated a significant 8.78% (POB 10.35% - DOB 5.61%) average increase in initial learning exam scores from topics delivered by OL versus those delivered by lectures. What is more significant is the average time on task distinctions between the delivery methods. OL topics required on average 77.85% less time (POB 81.28% - DOB 68.85%) than lectures. While there are significantly more OL topics in the study than lectures, the average number of exam points per topic are nearly identical (OL 30.76 – Lecture 30.88).

Another notable data point regarding time on task was the average amount of time spent on exams. While this data didn't compare the two delivery methods, it does show students are able to achieve higher scores while taking relatively little time per question. The average time on task per exam point was 7.8 seconds (POB 7.2 – DOB 8.4) and per exam question was 22.8 seconds (POB 21.6 – DOB 24.6). This data in combination with reports from most of the students that they repeatedly experienced a circumstance where they "read the question and immediately recognized the answers" as opposed to having to "remember" them suggests explicit memory recall is occurring on exams, including the cumulative exam near the end of basic training.

The data indicated no significant drop in retention or transfer. The average cumulative exam score was 90.49% (POB 88.99% - DOB 91.99%). Compared with the initial learning exam scores, there is an average decrease of 1.63% (POB 1.53% - DOB 1.73%). The two outliers are POB Professional Skills which decreased by 5.90% and DOB Interpersonal Interactions which decreased by 8.27%. For POB, the average practical evaluation score was 91.11%. Compared with the initial learning exam scores there is an average increase of 0.59%. Interpersonal Interactions increased the most at 7.21% and Operational Skills decreased the most at 3.78%.

Finally, student perceptions of their confidence and competence is a bit baffling. The perception of training being valuable increased for both POB and DOB throughout basic training, as did the perception of competence. This was also true for DOB students regarding their perceived confidence; however POB student confidence dropped significantly despite their actual performance and their perceived competence.





CONCLUSIONS

Based on the data it appears topics delivered with the OL delivery method achieved higher initial learning exam scores in far less time than topics delivered by lecture with no significant shortfall in retention or transfer. If confirmed, utilizing the OL delivery methods would create the opportunity to reallocate curriculum time from learning activities to practical and integration activities. Based on prior observations of this, since 2020 we have been able to reallocate 51 curriculum hours in the Peace Officer Basic course from learning activities to practical and integration activities without increasing the overall length of the course.





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APPENDICIES

APPENDIX A. ONLINE LEARNING (OL) TOPIC SURVEY FOR EACH TOPIC

1. How able are you to put what you've learned into practice in your work? Choose the one option that best describes your current readiness.
 - a. I am still unclear about what to do, and/or why to do it.
 - b. I need more guidance before I know how to use what I learned.
 - c. I need more experience to be good at using what I learned.
 - d. I can be successful now in using what I learned (even without more guidance or experience).
2. Now that you've completed the learning experience, how well do you feel you understand the concepts taught? Choose one.
 - a. I am still at least somewhat confused about the concepts.
 - b. I am now somewhat familiar with the concepts.
 - c. I have a solid understanding of the concepts.
 - d. I am fully ready to use the concepts in my work
3. Regarding the topic taught, how motivated will you be to use these concepts/skills in your work? Choose one.
 - a. I will make this a Priority – But a low priority when I get back to my day-to-day job.
 - b. I will make this a Moderate Priority when I get back to my day-to-day job.
 - c. I will make this a High Priority when I get back to my day-to-day job.
 - d. I will make this One of my Highest Priorities when I get back to my day-to-day job.





APPENDIX B. COMMON FINAL SURVEY QUESTIONS FOR POB AND DOB

1. Select the statement that best represents your performance generally during your basic course?
Choose one.
 - a. I consistently exceeded my own performance expectations.
 - b. I consistently met my own performance expectations.
 - c. I consistently failed to meet my own performance expectations.
 - d. I consistently met or exceeded my own performance expectations.
 - e. I consistently met or failed to meet my own performance expectations.
2. Select the statement that best represents your perception of the difficulty of your basic course?
Choose one.
 - a. The training was too challenging for me.
 - b. The training sufficiently challenged me.
 - c. The training did not sufficiently challenge me.
 - d. The training challenged me very little.
3. What impact do you believe your basic training will have on your ability to do your job generally?
 - a. Severely hinder.
 - b. Hinder.
 - c. Improve.
 - d. Greatly improve.
4. How able do you believe you will be in making legal decisions at work that are reasonable?
 - a. Not able.
 - b. Somewhat able.
 - c. Able.
 - d. Very able.
5. How able do you believe you will be in managing conflict, acting in a professional way, and achieving shared meaning of thought when interacting with people at work?
 - a. Not able.
 - b. Somewhat able.
 - c. Able.
 - d. Very able.
6. How able do you believe you will be in physically controlling other people in a physical conflict at work?
 - a. Not able.
 - b. Somewhat able.
 - c. Able.
 - d. Very able.
7. How influential was your basic training in your ability to be decisive?
 - a. Not influential.
 - b. Somewhat influential.





- c. Influential.
 - d. Very influential.
8. How influential was your basic training in your ability to solve problems?
- a. Not influential.
 - b. Somewhat influential.
 - c. Influential.
 - d. Very influential.
9. How influential was your basic training in maintaining emotional control?
- a. Not influential.
 - b. Somewhat influential.
 - c. Influential.
 - d. Very influential.
10. How influential was your basic training in your ability to think and act objectively?
- a. Not influential.
 - b. Somewhat influential.
 - c. Influential.
 - d. Very influential.
11. How influential was your basic training in your ability to continue learning and growing in law enforcement?
- a. Not influential.
 - b. Somewhat influential.
 - c. Influential.
 - d. Very influential.





APPENDIX C. 12 POB PRACTICAL INTEGRATION ACTIVITIES

1. Activity #1: Unknown Risk Building Search / Burglary In-Progress

This circumstance involves the officers conducting an unknown risk building search in response to a business alarm after hours. The alarm company for the building is the reporting party. There are several businesses located inside a commercial building. Officers may encounter the burglary suspect in close proximity to and walking away from the scene. The suspect is carrying a backpack containing a small deposit bag with money and a laptop taken from the scene. The actor will have a small prying tool and screw driver partially exposed on their person.

2. Activity #2: Unknown Risk Traffic Stop / Welfare Check / Unattended Death

This circumstance involves the officers conducting an unknown risk traffic stop on a motorist who is traveling 42 mph in a 30 mph zone. The driver is emotionally distraught because he hasn't been able reach a longtime friend. The friend has a history of cardiovascular disease, has had 2 previous heart attacks, and said he was feeling "a little under the weather" when they last spoke the evening prior. If the officers obtained the required information from the driver and proceed to a welfare check, they will find the friend is deceased. A preliminary investigation will reveal some evidence of illness and no evidence of criminality.

3. Activity #3: Unknown Risk Traffic Stop / Building Search / Drug Investigation

This circumstance involves the officers conducting an unknown risk traffic stop on a motorist who failed to signal prior to turning. The driver is initially complaint until the officer returns to the patrol vehicle. Once the officer is seated in the patrol vehicle the driver exits the vehicle and runs into a nearby building. If the officers pursue, they will conduct a building search, locate the driver, and take them into custody. The driver has an active Wyoming Arrest Warrant for Failure to Appear on a DUS. The driver also has a misdemeanor quantity of white crystalline in a clear jeweler's bag in his pants pocket.

4. Activity #4: High Risk Building Search / Domestic Violence in Progress / High Risk Traffic Stop

This circumstance involves the officers receiving a report that a person is threatening to kill his brother in an apartment complex. The responding officers conduct a high risk building search. During the building search they observe a person who appears to be deceased, another person exit the building, get into a vehicle, and leave. The officers are told the person's brother shot the man and ran out of the building with a gun. The suspect gets into a vehicle and flees. If the officers pursue they will conduct a high risk traffic stop on the suspect, and make a probable cause determination.

5. Activity #5: Custody Dispute / Unknown Risk Traffic Stop

This circumstance involves the officers responding to a custody dispute. Officers arrive and make contact with an ex-husband outside the residence. The ex-husband explains that he has court ordered custody of his 8 year old daughter beginning at 0800 today and his ex-wife is refusing to allow him to





have her. The ex-wife confirms their daughter is supposed to go with the ex-husband but was ill with a fever. The ex-wife refuses to allow officers to enter the house to check on the daughter. Once the ex-husband realized he's not going to get the daughter he get into his vehicle and recklessly speeds away a short distance, then stops. The officers should recognize they have no authority to enter the house or force a custodial exchange. They should then conduct an unknown risk traffic stop on the ex-husband and make a probable cause determination for careless or reckless driving.

6. Activity #6: Rolling Aggravated Domestic Violence / High Risk Traffic Stop

This circumstance involves the officers responding to an aggravated domestic violence call in a vehicle. The driver has reportedly been seen forcing his wife into a vehicle at knifepoint. The officers are given a description of the vehicle and its last known location. After the officers locate the vehicle they should conduct a high risk traffic stop. Immediately after the vehicle comes to rest, the female passenger exits the vehicle and begins running toward the officers for help. The driver also exits the vehicle, is not complying with commands, and begins walking toward the officers. The officers will make a use of force determination.

7. Activity #7: Shots Fired / Homicide Investigation

This circumstance involves a team of officers responding to a "shots fired" call. Upon arrival they observe a person who appears to have been shot several times and is deceased. An eye witness saw the deceased man arguing with a suspect she knows and wrestling over a backpack. The witness provides the name and address of the suspect. The witness stated as the man ran past her he pointed the gun at her and told her "not to tell anyone". After the scene has been secured, if the officers proceed to the suspect's address they will see a backpack matching the description provided by the witness in a garbage can. The apartment manager confirms that the suspect lives at that location. No one answers the door and there doesn't appear to be anyone home. Officers should take the available information and draft a search warrant for the suspect's house and an arrest warrant for the suspect.

8. Activity #8: Warrant Service / Arrest

This circumstance involves executing the search warrant drafted in the previous activity. Upon knocking and announcing the suspect opens the door and is compliant. Officers should only conduct searches and seizures within the scope of the warrant.

9. Activity #9: Disturbance / Mental Health Crisis

This circumstance involves officers responding to a report of a man standing in front of house with a knife in his hand yelling. Upon arrival they observe a person standing front of a house yelling that he is going to kill himself and "wants the whole world to see". There are also bystanders filming the man. The bystanders do not interfere but refuse to leave or stop filming. The person does not retreat into the house or advance on officers unless an officer attempts to tase or spray him, in which case he will immediately rush at the officer and attempt to stab them. If the officer closes distance, the man will repeatedly attempt to stab the officer. The person has committed no crime, there is no indication of criminal activity, and no indication of anyone inside the house. The person will provide his name and





date of birth if asked. If the officer requests information from dispatch, they will advise the man has a known history of mental illness. If asked the man will tell the officer there is no one else in the house. If asked the man will inform the officer that he found out this morning his wife has been cheating on him for the last year. After she left, he decided to kill himself so she would find him when she goes home and people would record it so she would be able to watch it.

10. Activity #10: Unknown Risk Traffic Stop

This circumstance involves officers conducting an unknown risk traffic stop on a motorist for failing to stop at a posted stop sign. The driver is compliant, overly polite, and there are no indications of other criminal activity. The officer should make a charging decision and complete the traffic stop.

11. Activity #11: First Amendment Auditor

This circumstance involves officers responding to a report of two men filming and acting suspiciously outside the front lobby of the Academy. Upon arrival the officers observe two people standing outside the front entrance, one of which appears to be filming on their cellphone. When the other person notices the officers they immediately begin demanding their names and badge numbers, they demand to know why the officers are there, and who called them. The subjects refuse to provide any identifying information and claim they are journalists getting documentation for a story. There is no indication of any criminal activity, the subjects are not in a restricted area and are not hindering the operation of the Academy. The officers should conclude there is no crime and provide accurate information to the subjects regarding the limits of their freedom of movement in public buildings.

12. Activity #12: Verbal Dispute

This circumstance involves officers responding to a third party report of yelling between a man and woman in an apartment. The complainant reported that the neighbors next to him have been yelling at each other for about 15 minutes. He has not heard any other noises coming from the apartment. When officers knock on the door a man answers and invites them in. The officers observe a woman standing in the room. There are no indications of physical violence. Both the man and his wife inform officers that they were arguing because the man had purchased a new \$28,000 fishing boat the day prior without telling his wife and she had found out about it just prior to the argument. Both parties deny any physical contact or threats of violence. There are no indications of criminal activity or prior abuse. The officers should make a determination whether it is safe for both parties to remain in the home. If they ask, both parties will deny the need for either to leave. The officers should conclude there is no indication of any criminal activity nor any indication it is unsafe for the man and his wife to remain together in the house.





APPENDIX D. WLEA COMPETENCIES AND PERFORMANCE STANDARDS

We define a competency as a set of information, principles, tactics and strategies associated with a general law enforcement function. We have developed 5 competencies. A performance standard is an objective measure of performance used to determine if the learner has accomplished the function of the competency.

Criminal Law [CL]

The Criminal Law competency consists of information and principles pertaining to law. The function of this competency is to interact with people in a manner that is legally reasonable and within the Constitutional and Statutory role of the officer.

1. **Legal Limitations.** While engaged in training activities the learner acts within the relevant Constitutional and Statutory limitations of their authority.
2. **Individual Rights.** While engaged in training activities the learner acts within the Constitutional and Statutory rights of people.
3. **Legal Objectives.** While engaged in training activities the learner acts with the exclusive intent of achieving the relevant Constitutional and Statutory objectives of their role.

Interpersonal Interactions [II]

The Interpersonal Interactions competency consists of information, principles, tactics and strategies pertaining to engaging with other people. The function of this competency is to interact with people objectively in a dignified, influential and effective manner.

1. **Shared Meaning.** While engaged in training activities the learner achieves shared meaning of thought when interacting with people.
2. **Conflict Management.** While engaged in training activities the learner effectively manages conflict when interacting with people.
3. **Community Service.** While engaged in training activities the learner interacts with people in a manner that preserves their dignity and reflects the best interests of the community.

Professional Skills [PS]

The Professional Skills competency consists of information, principles, tactics and strategies pertaining to the quality of the officer's work performance. The function of this competency is to perform in a highly competent, non-discriminatory manner that reflects the established ethical standards of the law enforcement profession.

1. **Ethics.** The learner is punctual and prepared, self-disciplined, physically and emotionally composed, and demonstrates honor, integrity, resolve, teamwork and leadership.
2. **Critical Thinking.** While engaged in training activities the learner makes objective, non-discriminatory and valued judgments.





3. **Problem Solving.** While engaged in training activities the learner accurately identifies and prioritizes needs and solutions and creatively develops and implements processes to achieve those solutions.
4. **Professional Responsibility.** While engaged in training activities the learner objectively accounts for risk as opposed to acting recklessly.
5. **Professional Growth.** The learner engages in activities that enhance their professional knowledge and physical attributes relevant to their role.
6. **Wellness.** The learner takes actions in an effort to care for their own physical, mental and emotional wellness.

Operational Skills [OS]

The Operational Skills competency consists of information, principles, tactics and strategies pertaining to enforcing the law and providing for the public welfare. The function of this competency is to safely and effectively adapt and apply relevant concepts in any official circumstance to enforce law or provide for the public welfare.

1. **Controlling Tools & Skills.** While engaged in training activities the learner safely carries and handles controlling tools and effectively utilizes controlling tools and skills.
2. **Controlling Individuals.** While engaged in training activities the learner safely and effectively takes and maintains physical control of people.
3. **Controlling Circumstances.** While engaged in training activities the learner safely and effectively takes and maintains physical control of circumstances.
4. **Vehicle Operations.** While engaged in training activities the learner safely and effectively operates emergency vehicles.
5. **Information Processing.** While engaged in training activities the learner accurately recognizes, retrieves, utilizes and disseminates factual information.





Investigative Skills [IS]

The Investigative Skills competency consists of information, principles, tactics and strategies pertaining to discovering the details of an event. The function of this competency is to safely and effectively adapt and apply relevant concepts in any official circumstance to discover, analyze and accurately report the facts and circumstances associated with an event.

- 1. Evidence Gathering.** While engaged in training activities the learner accurately identifies and effectively collects information and items related to an event.
- 2. Evidentiary Analysis.** While engaged in training activities the learner analyzes and accurately determines the evidentiary value of items and information related to an event.
- 3. Investigative Conclusions.** While engaged in training activities the learner accurately determines and reports the facts and circumstances associated with an event.

*Safely. Objectively accounted for risk and took reasonable steps to mitigate that risk.

*Effectively. Achieved a legal objective without violating any Performance Standards.

