A PRELIMINARY EXAMINATION OF THE EFFECTIVENESS OF THE PROBLEM-

BASED LEARNING DELIVERY MODALITY IN THE WASHINGTON BASIC LAW

ENFORCEMENT POLICE ACADEMY

By

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Abstract

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In 2009 Washington's Basic Law Enforcement Academy (BLEA) transitioned the philosophy and delivery approach for the academy from a long-used Traditional quasi-military lecture-based approach to the Problem-Based Learning (PBL) approach. This study is a preliminary examination of the effectiveness of the PBL delivery modality in BLEA. This thesis addresses the research question: does the PBL delivery modality appear to be more effective than the Traditional modality in preparing recruits to be successful law enforcement officers? This examination entails an assessment of the perceptions which recruits have of the academy, their confidence in their abilities, and their capability to perform job-related tasks. A total of 115 graduates were sampled (four classes) and 53 responded. Descriptive statistics and an analysis of variance were conducted. Results show that the PBL model graduates are not as satisfied with their training as the Traditional model graduates, but the PBL modality appears to be more effective in preparing recruits to be successful law enforcement officers. Implications of these findings and recommendations for the longitudinal study as whole as well as future studies are discussed.

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Chapter I

Introduction

Introduction

The Washington State Criminal Justice Training Commission (CJTC), along with

Washington's Basic Law Enforcement Academy (BLEA), contracted with the Division of

Governmental Studies and Services (DGSS) at Washington State University to conduct an

outcome assessment of the implementation of a Problem-Based Learning (PBL) training model

compared against the Traditional quasi-militaristic model that had been used for years. I am a

Co-Principal Investigator on this project. This thesis entails the use of data collected under the

terms of this contract research project.

Background

Police recruit preparation is vital to our society. Training models in use are being

comparatively evaluated to determine which are most effective at preparing officers to work in

the field. The implementation of PBL within BLEA is being changed over because of a CJTC

belief that training recruits could be more effectively prepared for police work. BLEA has

elected to use this approach because of the criticism surrounding the Traditional method. It is

argued that the Traditional method does not adequately teach recruits how to transfer the

information they learned in the academy to the field (Bradford & Pynes, 1999; Werth, 2009). As

noted in a conversation with the Commander of CJTC, another reason they have decided to

undertake this transition is because this instructional model has been found to be very successful

in other fields of training such as medical education and primary and secondary school education

(Caldwell, 2009). BLEA is one if the first police academies in the United States to adopt the PBL approach for their police training.

The PBL model is different from the Traditional model because it does not use task-relevant scenarios to convey required material. PBL is taught in a way were the problem is influencing the learning. PBL places the responsibility on the individual to apply the learned information and skills to the problem that is presented in order to discover the best possible answer. The role of the teacher for PBL is *interactive,* with emphasis being placed on providing resources, mentoring and evaluating decisions made. The acquired knowledge that the student gains is seen as dynamic and changing with varying experiences (Chief, 2006; Clevland, 2006; Norman, 2008). With respect to the approach implemented by BLEA, it is stated repeatedly that content is the same as the Traditional model but the learning of that content is delivered a different way (Caldwell, 2009; Grant & Mealy, 2001).

The commonly-found Traditional approach that most law enforcement academies use is behavoristic and teacher-centered (Werth, 2009).   The Traditional approach that BLEA used had students learn the information and skills involved primarily in a lecture-based classroom setting. The instructors would tell the recruits exactly what they needed to learn, and the students had to trust that what the instructors were saying was useful. Recruits practiced the same drills repeatedly in order to reinforce the memorization of the information and/or skills. The teacher's role was directive, and the instructional materials were primarily textbooks and workbooks. The trainees would practice with the information and skills and then apply them to a problem brought before them. This type of training evaluates students primarily on their ability to memorize for standardized exams and to match pre-determined responses to tasks. Immediate feedback was

seldom given, and usually was provided long after a recruit completed a simulated situation (Bradford & Pynes, 1999; Gammage, 1963; Grant & Mealy, 2001).

To examine the effectiveness of each delivery approach, the project design called for data to be obtained through a mixed-mode survey methodology. The mixed methods design allows for the gathering of information on the outcomes presented by the Traditional model, on the theory of PBL, and also to determine how well PBL applies to the training of officers in Washington State. The information learned from employing the mixed methods design in this evaluation helps to further the research on PBL as well as improve the training of police officers in Washington State. To do this, information is being collected through surveys and interviews from officers who have recently graduated, from field-training officers, and from police supervisors.

Proposal and Research Questions

While states and localities differ as to the appropriate amount of training as well as the content, duration, and testing approaches in use, there is little dispute regarding the importance of training and preparedness for police officers. However, despite the ubiquitous attention to training in its many forms, very little has been done to validate the delivery of training or to test the efficacy of police recruit training programs. In a desire to provide the most effective training possible, BLEA has changed their training practices to a PBL approach and has asked the Division of Governmental Studies and Services (DGSS) at Washington State University to conduct an evaluation of both the Traditional as well as the PBL academy approaches in hopes that they can continue to provide optimum training for Washington's police officers. Although field training in individual agencies has started to shift to the PBL model (now commonly being

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called PTO - police training officer), BLEA is one of the first academies to make such a dramatic change to their training curriculum.

The contract between DGSS and CJTC has as a goal the use of a five-year longitudinal evaluation study. This timeline precludes use of the completed project for this thesis, so a preliminary study is conducted that compares the preliminary data from Traditional classes and PBL classes. As there is an overlap using the two modalities during the implementation phase (i.e., when PBL was started there were recruits who were still being taught with the Traditional learning modality), the evidence collected will be looked at in two phases: Traditional model to transitional phase, and transitional phase to PBL. The primary purpose of this study is to examine the preliminary impact of the delivery modality of new PBL training versus the Traditional model with respect to impact on officer success. In other words, this study intends to answer the question: "does the PBL delivery modality appear to be more effective than the Traditional modality in preparing recruits to be successful law enforcement officers?" In order to answer this question, the concept of officer success/preparedness must be spelled out to a considerable extent. To do so there are two sources of insight into the criteria of officer readiness in the form of input gathered in a systematic way from the Washington Association of Sheriffs and Police Chiefs (WASPC) and the Board on Law Enforcement Training, Standards, and Education (BLETSE). The criteria guided the development of the PBL curriculum and its learning objectives.

To answer my lone research question three derivative questions will be addressed. First, what are the recruits' "perceptions" of the academy? Second, are graduates "confident" in their abilities? Last, how "capable" are graduates of BLEA vis-à-vis a set of objective benchmarks?

The data analyzed to answer those questions will consist of responses to academy graduates'

surveys, test scores, and mock scene performance scores.

Significance of Study

There is a general view among PBL practitioners that the PBL method is more effective

at preparing individuals for work than a Traditional lecture-based method (Norman, 2008); to

date however, no systematic evaluation has been done on PBL implemented in a police training

academy.   There have been a number of evaluations of PBL in the medical and education field,

but not for police academy training. Additionally, there does not appear to be a single reported

study involving a comparison of the two approaches to basic law enforcement training.

Although PBL appears to be favored because of its approach to building problem solving skills

and promoting critical thinking and collaborative skills, "much remains unknown about the

effectiveness of PBL within a police training environment" (Werth, 2009, p. 3). Therefore, this

study is beneficial adding to the professional knowledge base of both the Problem-Based

Learning and the Traditional training model. It contributes to the understanding of the efficacy

of basic academy training for law enforcement in this country. This evaluation can benefit law

enforcement academies and agencies elsewhere in the country that are contemplating the use of

PBL.   Findings could be found useful leading to improvements in law enforcement recruit

training nation-wide.

Methodology

Due to the fact that the PBL model of training has not been widely implemented or

evaluated in police academies at this time, the current evaluation is exploratory in nature using a

mixed methods design. It carries out a multi-mode triangulated approach to data collection.

Both quantitative and qualitative methods will be used to collect data.   Examples of sources of

qualitative data will be open-ended questions in surveys and interviews conducted with the recruits, FTO's and supervisors. Sources of quantitative data will consist of test scores, exit surveys, six-month out surveys, retention rates and possible tracking of citizen complaints.

The approach taken for this thesis is to conduct a preliminary assessment involving two different sources of data collected from four academy classes. Two of the classes were taught with the Traditional model and the other two classes were trained with the PBL model. The first source of data is composed of graduate exit surveys. The second source of data contains academy test scores and other academy-graded events.

For the overall project a triangulated approach will be used wherein the team working on the project will also be analyzing questionnaires that are administered to Academy Training Officers and agency Supervisors associated with each graduate. Additionally, because of low initial response rate from Traditional model academy graduates, additional classes have been added to the data collection effort. A hybrid survey was created for this added effort. Due to the need to obtain information from officers graduating before the study began and the survey thus being administered to graduates long after their academy experience, the hybrid survey collects information about both the academy and post-academy experiences. Furthermore, as the exit surveys are for "recent" graduates of the academy and hybrid surveys are for older classes of graduates, if time allows and funding is available there will be an analysis of officer task self-evaluation survey's that has the graduate think back to their academy experience once their field experience has matured. Because the project is a longitudinal study and will go on for five years or more, this thesis is confined to a preliminary examination. The analysis will deal only with the graduate exit surveys and the test scores for four classes.

The exit survey administered to the graduates consists of 33 questions sectioned into three areas to obtain information on the general academy experience, the curriculum and instructors, and personal demographics. The general experience questions elicit self-assessments of how well graduates feel the academy prepared them to work in the field. The curriculum and instructor section elicits questions that address the preparedness of trainers along with their mastery of the material. The "about you" personal information questions concerns the graduates' hiring agency, age, gender, level of education, work experience, race, ethnicity, and military service experience.

The academy classes test scores and mock scene scores were provided to the WSU research team by the academy. They include subjects such as an Access final, Domestic Violence, Criminal Law Final, Crisis Intervention, and several others. Some mock scene examples are building search, crisis mock and field interview. The combined number of scored events for both the Traditional as well as the PBL is 64. Both test scores and mock scene scores convey information on assessments, confidence, and capability. They also contain data on improvement, proficiency, and skillfulness.

The surveys which will be administered to the graduates' Training Officers and Supervisors have three sections each. The first section concerns experience, the second covers performance, and the third section is devoted to the Training Officers' and Supervisors' personal information. The first section on experience elicits information on task-relevant questions pertaining to the readiness of the BLEA graduate to complete various law enforcement tasks after having finished the academy. This section is divided into six law enforcement subject areas: patrol, traffic, arrest/investigation, communication, community/public relations and paperwork. The questions address Training Officer and Supervisor perceptions regarding

preparedness and confidence in the graduate. The second section pertains to how the graduate presented him or herself. Based on Training Officer and Supervisor observations of the graduate, the questions elicit opinions of the graduates' potential, competence, and adeptness after having finished the academy. The third section seeks information about the Training Officers or Supervisors. The questions elicit how involved the training officer or supervisor was with the graduate, as well as their personal teaching preferences and background, gender, years of experience, ethnicity, race, and education.

The Officer Task Self-Evaluation Survey, which is to be administered to graduates as they complete their probationary period post-graduation, contains a series of self-evaluation questions focused on the respondent's confidence in their abilities to do standard law enforcement tasks after having completed the academy and having received field experience. There are two sections to this survey. The first section contains questions in regards to experience and the second section is again personal demographics. Just as with the Training Officer and Supervisor survey, the experience section is divided into six law enforcement subject areas. The questions elicit graduates perspectives on how confident and prepared they see themselves after having completed the academy and field training. The personal demographics section is the same as the exit survey, eliciting what gender the graduate is, their ethnicity, race, and their level of formal education.

The "hybrid" post-field training graduate survey, which will be used for individuals who graduated before the study began, is a combination of the original graduate exit survey and the post-probation officer task self-evaluation survey. There are two main sections and a separate demographics section. The main sections are about academy experience and post-academy experience. The academy experience section includes particular questions that are copied from

the experience section of the exit survey, and the post-academy section is comprised of particular questions that are from the officer task self-evaluation survey.

All surveys are confidential, and upon completion of the survey the respondents are asked to place it in the pre-addressed, postage-paid envelope provided. However, if the survey was given at the end of the academy graduates were asked to give their survey to academy staff. To ensure confidentiality and anonymity all identifiers on the survey will be removed prior to reporting results. To assure that participants are giving informed consent to participate in the research, a written statement is provided at the beginning of every survey. If respondents have any questions, contact information is also provided with every survey. A more detailed description of the methodology can be found in chapter three.

Chapter II

Literature Review

Introduction

Police officers are agents of social control. They are also known as law enforcement and peace officers. They generally are responsible for protecting citizens, controlling order by upholding and enforcing laws, and apprehending individuals who violate them. In addition, many believe police officers "are expected to deter crime, to deter immorality, [and] to deter even thoughts or conspiracies to commit crimes" (Manning, 1997, p. 22). As of August 2009, the United States had approximately 900,000 sworn law enforcement officers (Law Enforcement Facts, 2009). In order for officers to accomplish the variety of responsibilities asked of them, training must be required and provided prior to engaging in the field. The training should also be effective as it is a major element of sustaining proficiency in law enforcement agencies.

As each decade passes (some at a more rapid pace than others) expectations change, and with that change so do society's expectations of its service providers take on new scope and content. The police service area has undergone transformations due to adapting to those changing expectations and growing job responsibilities. However, overall police training has been identified in the literature was never quite at the cutting edge to meet those expectations and responsibilities. Some scholars have argued that training for police officers has changed very little over time (Bradford & Pynes, 1999; Werth, 2009). Academies primarily would only alter and increase training when horrific events would occur or new policies were implemented. The Rodney King incident and O.J. Simpson investigation are just two examples of this. Although there was some change in content of the curriculum, the training practices and form of presentation of the material have remained remarkably consistent over the decades.

It also appears that many academies do not assess the effectiveness of current existing curricula. Despite the general lack of change and paucity of needed evaluations, one particular academy, more specifically Washington's Criminal Justice Training Commission, is taking the lead by applying a new learning approach (Problem-Based Learning) to their training as well as cooperating in a comparative evaluation on the new PBL model and the prior Traditional Model.

Training models will be discussed in more detail in the following sections of Chapter II. Chapter II represents an overview of the history of law enforcement and law enforcement training in the United States. It will describe the shift that has occurred in the role of police officers within society and the training that they receive. This will include transformations to academy structure and to the curricula taught within the academy. The chapter will also incorporate a review of the Traditional training model and the PBL alternative. It will conclude with a discussion of Problem-Based Learning in contemporary Police academies.

History of Law Enforcement and Training in the United States

Throughout history, societies have sought protection for their families, possessions, and fellow citizens. The history of policing can be traced back to 1829 with the Metropolitan Police Act and Sir Robert Peel where the British were the first to meet this demand by creating the position of watchmen in London, England (Lentz & Chaires, 2007). They became the first uniformed police force in the world. Influenced by the British system, the United States began a police function by replicating particular aspects from the British's style such as watchmen, sheriffs and constables. Once adopted from the British, policing in the United States evolved through three different eras, the Political (1840-1920), Reform (1920 to late1970s) and Community (1980-present) eras (Kelling & Moore, 1988).

The United State's first full-time organized police force began in 1845 in New York City during the Political era (Williams, 2007, pp. 27-53). The force provided a wide array of services such as patrolling by foot and assisting in soup kitchens. As additional police forces emerged they lacked a central chain of command, therefore were deriving their authority and resources from politicians (Kelling & Moore, 1988). Because of this link with the politicians, agencies were developing at a rapid pace. Much of this was due to politicians wanting to increase their control and expand their own agenda. However, the relationship was shared. Politicians recruited and maintained police officers, while the police would help the politicians in influencing citizens to vote for particular candidates and even at times assisting in the manipulation of elections. During this period the police did not receive any kind of formal training, regardless of the expected and unexpected situations they experienced. There was also apprehension among citizens about officers using physical force instead of their persuasiveness to defuse a situation. Moreover, justice was not always the police officer's primary concern (Kelling & Moore, 1988). It was not until the 1900s that preparing officers for the job became an increasing concern fostering proposals for police officers to have official training. It was in 1908 that Berkeley, California created the first formal police training school. New York City was the next city in 1909 to start formally training new officers, with Detroit and Philadelphia following in 1911 and 1913 respectively (Bopp & Schultz, 1972). For many years officers were recruited informally and training was primarily on-the-job except for those few agencies that provided a school/academy. If an academy was provided, it only lasted for two to three weeks (Roberg & Kuykendall, 1990; Smith, 1960; Yuille, 1986; Chappell, 2008).

The next era for policing was the Reform Era. Taking place in the 1920s until it weakened during the 1970s, the reform era was in "reaction to the political" (Kelling & Moore,

1988, p. 2). Politics and political involvement was the main problem in policing during this time. There was corruption and continuous conflict for control with politicians and the police in tension. To cut the ties and separate the two, attempts to reform were made by some key figures such as August Vollmer, O.W. Wilson, and J. Edgar Hoover (Kelling & Moore, 1988). Police then changed their objectives, structure, and focus to crime control and capturing criminals. A goal of the system and what ended up developing into the foundation of police authority was professionalism and enforcement of the laws. This was performed through a rapid response to calls and preventive patrol.

Additionally, with the development of automobiles, foot patrol became an inefficient means when responding to calls. Personal connections with citizens were weakened because of the growing practice of officers responding to calls from a centralized location and then staying in their patrol vehicles most of the day hardly ever venturing out on foot. Other tasks such as community problems came to be regarded as "social work, and became the object of derision" (Kelling & Moore, 1988, p. 6). It was not discovered until later in the reform period that officers needed to relate to citizens in order to count on them to call when crimes were occurring and to act as witnesses who could testify in court (Kelling & Moore, 1988).

Several achievements were made in regards to training during the Reform Era. Formal training began to arise in many cities across America. At the end of the 1930s the only state that did not have a formalized police force was Wisconsin (Werth, 2009). "These early state forces led the way in implementing progressive training programs, most of which were at least three months in duration" (Bopp & Schultz, 1972, p. 111). Around the 1940s several police agencies started to use community colleges as a place to hold training programs, therefore making training

more formalized and more standardized in nature. However, there were still not any states that had a law requiring such formal training until 1959.

California was the first state to set recruiting and training standards through creating the Peace Officer Standards and Training (POST) Commission. Within approximately ten years, eight other states followed California's lead, and by the 1970s every stated had a training program and had strengthened their recruitment standards and processes. In spite of this, the standards set in place were inconsistent as some agencies went from 10 hours of training to 200 hundred (Bopp & Schultz, 1972). It was in 1972 that the International Association of Chiefs of Police drafted legislation creating the National Training Standards and Goals (Jacoby, 1980). The association felt that aside from "individual intelligence, prior education, judgment and emotional fitness, an officer must receive extensive vocational training" (Commission, 1967). To meet the standards and promote professionalism, many academies adopted a military model fashioning the training after a boot-camp experience with strict emphasis on following orders and responding to the discipline of their superiors (Peak & Glensor, 2000; Yuille, 1986). They also started to use the method of field training to promote recruits to officers (Alpert & Dunham, 1988). Much of the training for routine police work primarily focused on the skills of shooting and arrest procedures while neglecting skills such as human relations (Chappell, 2008). Although the International Association of Chiefs of Police set minimum standards, some of the content and duration requirements were determined by each individual state.   Much of the difference between states was due to the amount of money each state and/or agency had to spend on training for its officers, and as a result of this problems still existed where officers were found to be inadequately prepared but end up being put on the street nonetheless (Chappell, 2008; Trautman, 1986).

Policing began to change again around 1979, and by the 1980's a Community Problem-Solving era in policing practice had emerged.   The goal was to shift policing from focusing on crime control to working with the community in order to solve the underlying problems that allowed crime to fester (Kelling & Moore, 1988). To reduce the gap between police and citizens (paying attention to skills such as human relations), agencies attempted to use such approaches as horse and bike patrols as well as work with the public more often. However, citizen's fear of crime did not decrease and there was little indication that crime control became more effective (Kelling & Moore, 1988; Oliver, 2006; Werth, 2009). Aside from what was being done between the agencies and their corresponding communities, there was an effort by the Commission on Accreditation for Law Enforcement Agencies (CALEA) (established in 1979) to continue to improve the process of preparing recruits for the streets and improving their training. The establishment of the Commission was for the utilization of both agencies and academies. The Commissions first set of standards was published in 1983. For academies to insure that training is acceptable, each state and its police academies can apply for accreditation. Accreditation is a voluntary practice. Academies that choose to participate demonstrate that the professional standards set forth by the CALEA are met. In addition, academies use this to demonstrate their pursuit of excellence showing an effort to provide their communities with better quality law enforcement officers. Furthermore, to supplement classroom training, academies also recognized that formal field training would be extremely beneficial for their recruits. By 1986, approximately two-thirds of academies had a field-training program and were emphasizing hands-on training exercises in collaboration with classroom lectures (McCabe & Fajardo, 2001; Walker & Katz, 2008).

The structure and adequacy of the training received at these academies is a constant issue in the literature. In the 1990's, several officials and scholars concluded, when assessing the content of police training that "no matter what basic training standards are adopted, law enforcement agencies are still not meeting their educational and training objectives" (Champion, 1990; Edwards, 1993, p. 24). Despite the notable improvements and accreditation serving as a source of pride, given the research, there is still much that needs to be done. Teaching advances and program evaluations are two substantial items that could help improve police academies.

Training Transformations and Shaping of the Curriculum

Officers are constantly faced with the risk life or death situations. They may not get a chance to learn from their mistakes. Training needs to be high quality and appropriate preparing officers as well as possible for all of the situations they might encounter (Alpert & Dunham, 1988). Law enforcement training has become longer, covers more topics, and now all states require it by law. As will be demonstrated later through the discussion in the literature of significant negative events, more work needs to be done. When social developments change society, the need for a change in training follows. Re-evaluating, changing and adding new elements to training become a necessity. For instance, in 1959 in New York police recruits only needed to complete 80 hours of training to meet the standard of training rules, and two of those 80 hours were the exam. In contrast, in California the minimum standards were 160 (Gammage, 1963). Officers were encountering more situations that they did not know how to handle. Thus, in the 1960s, it was essential for programs to plan and develop a new curriculum. Once the International Association of Chiefs of Police survey was completed, the need to further develop a curriculum was realized. As a result, a 200-hour basic training program was created serving as a model for police academies all around the country (Alpert & Dunham, 1988). Over the years the

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curriculum grew, and at one point over a three-month period it increased to 500 hours. Academies kept many of the same subject topics, simply adding on hours, and creating a few new ones.

In 1973, the National Advisory Commission on Criminal Justice Standards and Goals issued a report addressing problems in training that also provided some recommendations (Edwards, 1993). Yet, even with those recommentdations little was done and only a small number of transformations in post operations were made in the 1970s and 1980s. One of the few changes taking place was in the curriculum; police academies primarily started using a task inventory system created by the United States and the Canadian Armed Forces in order to assist them in determining what police tasks were essential in training. Academies would also compare themselves with others throughout the nation to determine how they were measuring up in what was being offered. During this time the training generally consisted of classroom lectures and role-playing. The role-playing in some cases created problems because different points of view about how an officer should act were possible (Commission, 1970; McCampbell, 1987; Ness, 1991). On the lecture side, minimal attention was being devoted to building the communication skills of officers (Birzer, 1999).

Although it might seem as if reasonable strides were taken to improve police academy training, the motivation to change law enforcement training did not really grow to major proportions until 1989 with the Supreme Court case *City of Canton v. Harris (1989)*. In that case a woman named Geraldine Harris was pulled over for speeding. When the officer approached her and asked for information to issue a citation, she became agitated and refused to provide any information. The officer decided to make an arrest, transporting her to the police station in hopes of calming her down to get the necessary information. Upon her arrest, she fell

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down several times and appeared to be incoherent. The officers asked her if she had a medical condition, but she only answered by asking to see her son immediately. The officer did not send for any kind of medical assistance for her. Mrs. Harris suffered from emotional disorders and needed to be hospitalized. This case set a precedent for agency liability for "deliberate indifference." Deliberate indifference "is a standard of fault that requires a showing that government policy makers acted with conscious disregard for the obvious consequences of their actions" (King, 2005, p. 23). In this case, the court determined that police were not receiving a sufficient amount of training. Failure to provide adequate training could result in an imposition of civil liability for deliberate apathy to a person's constitutional rights (deliberate indifference). In other words, under certain circumstances, a municipality could be held liable for failing to train its employees. This case helped to establish higher standards for police training thoughout the country(Alpert & Smith, 1991; Thomas & Means, 1990).

Several well publicized events of police brutality(e.g., the Rodney King incident) and a shift in the political climate in the 1990's from conventional crime fighting to paying attention to larger scale problems (e.g., racial profiling) caused academies to change their curriculum in response. More hours were devoted to such topics as ethics and cultural diversity in the hopes of reducing police misconduct (Johnson, 2006). During this time as well, the Violent Crime Control and Law Enforcement Act was enacted which provided $6.1 billion to help fight crime. Under this act, $130 million was authorized for "activities to improve law enforcement training and information systems" through the Federal Law Enforcement Assistance Administration (LEAA) (Justice, 1994). Therefore, it had a major effect on the curriculum offered at police academies.

The videotaped beating of Rodney King in 1991was an event that changed police training perhaps more than any other single event. The incident began when police officers tried to pull over Rodney King, an African American male, for speeding and what they believed to be drunk driving. King was on parole and therefore at risk of being sent back to prison. King decided to lead the officers on a brief chase before pulling over. Once the chase ended, there were approximately 21 police officers present, seventeen of whom watched as four of their fellow officers beat King severely. The situation was amplified due to an onlooker, George Holliday, who taped the entire event. Holliday sold a copy of the tape to a local television station, creating a public outcry over police brutality and racism. This event sparked concerns about negligence, producing changes and additions to training in academies across the nation, specifically having to do with racial profiling, drunk driving, and use of physical force practices(Cannon, 1997; Jacobs, 1996).

In 1993, the Waco standoff became another example of the need for changes in police training. The standoff started as an attempt to execute a search warrant on a religious cult community. The Bureau of Alcohol, Tobacco and Firearms (ATF) raided the community because it was a part of an investigation on illegal possessions of firearms and explosives (Waco: The Inside Story, 1995-2007). However, the raid resulted in a great deal of gunfire and then a fifty-one day standoff ending in the destruction of the religious community by government officials and police officers. In the end, seventy-four people died, including four police officers. Although this event was a federal situation due to the primary involvement of the ATF, the Federal Bureau of Investigation (FBI), and military assistance, because many local police officers were involved head police officials across the country concluded that more emphasis

needed to be placed on training protocols as well as on preparation for close-quarter engagement with multi-agency teams (Wright, 1999; Rossenfeld, 2001).

Two years after Waco, in 1995, the public again had an opportunity to scrutinize law enforcement training. This was due to an investigation conducted by the Los Angeles police department in a case involving the football player O.J. Simpson. Simpson was a Hall of Fame football player and movie actor who was suspected of killing his wife and her male friend, Ronald Goldman. Just days after the murders, with over a thousand reporters waiting outside the courtroom, Simpson did not show up to his trial. Fifty miles away law enforcement officers arrested Simpson after chasing him down the interstate while 85 million viewers across the country tried to get a glimpse of Simpson attempting to flee. The investigation highlighted areas that needed improved training because of faulty evidence collection and the media spectacle surrounding such a high profile suspect. It was surprising in light of the media attention that the Rodney King case received that officers were still not getting the training they needed to prepare them for incidents that would receive such large scale public attention (Hunt, 1999; Ness, 1991).

In 1999 yet another event that received widespread attention resulted in a call for change in police training; this was the case of twenty-two year old Amadou Diallo in New York. This case brought awareness of a need for additional training in cultural diversity and racial profiling. Diallo was an immigrant from West Africa. He was standing in front of his home when he was shot and killed by four police officers. They shot 46 bullets, 19 of which hit him. The officers asserted that Diallo looked as if he was reaching for a gun, which in fact was his wallet (Weitzer, 2002, p. 401). He was unarmed and had not committed a crime. Diallo was at the wrong place at the wrong time and matched a generic description that the street crimes unit had - that is, he was a black male (Williams, 2007). Because of this racial profiling case, among others, parts of

the existing academy curriculum such as ethics and integrity or human relations appeared to be a demonstrable area of inadequate attention. Frequently, the area of ethics was integrated into the other topics and because of this instructors were likely to skim over the ethical aspects in favor of other course content (Crank & Caldero, 2000, p. 223). This widely debated incident demonstrated to academies that they needed to either add topics such as race relations to their curriculum. Furthermore, it was recommended that officers train in "communication skills with racial and ethnic groups other than their own" (Walker & Katz, 2008, p. 148).

The tragic events of September 11, 2001 once again highlighted the need for change in police academy training. The series of coordinated suicide attacks caught law enforcement, along with the rest of the nation, substantially off guard. Terrorists hijacked four different planes and then proceeded to crash two of them into the World Trade Center in New York, and one into the Pentagon in D.C., while the fourth crashed in Pennsylvania after the crew and passengers overcame the hijackers. The event killed nearly three thousand people (Commission Report, 2004). Requiring new skills to combat terrorism, the event changed the way law enforcement trains in the area of homeland secuirty(Patrick, 2008; Clark & Newman, 2007). Although the primary responsibilities were placed on the federal government, it was revealed through the events of September 11th that police needed new and additional training in identifying organized crime and actions and especially improving their management of information. It was clear that local and federal police agencies failed to gather, share, and link relevant information. If this capacity is provided, Clarke and Newman (2007), along with other scholars, propose that police departments could more easily work with other public and private officials to identify potential terrorists and protect at risk targets (Kelling & Bratton, 2006; Manning P. , 2006).

Over the period 1950 to 2000 the average length of police academy training tripled (Walker & Katz, 2008). In 2002, the average number of hours a recruit completed in training was 720, hours with an additional 180 hours done out in the field; as a result of September 11th, 2001, about 83% of the nations police academies have responded by implementing enhanced training for organized crime and terrorism (Hickman, 2002).

To fulfill the nearly 900 hours of training required, academies have seven different methods they commonly choose from for developing their curriculum. The most popular is the use of state commission mandates. The second, as continued from the past, is task analysis or in modern terms, needs analysis. The other methods include: subject matter experts, departmental objectives, legislative or regulatory mandates, a law enforcement advisory board, and national experts. The curriculum environment uses a militaristic model and in most academies the minimum education requirement is a high school diploma or GED (Hickman, 2002).

Regardless of how their curriculum was derived and presented, overall some of the content has changed over time and the duration has increased considerably virtually everywhere in the nation. From the 1970's until now, approximately three quarters of the program topics were kept while the other quarter was new. For example, the firearms training went from eight hours to 60 hours, and defensive tactics went from four to 44. Some of the content that was changed and added involves health and fitness, hate crimes/bias crimes, domestic preparedness, problem solving, and computers/information systems (Harris, 1973; Hickman, 2002). At graduation for most academies, they gave exit surveys with the intent being to evaluate personnel (Hickman, 2002). The notion behind this design is noteworthy, however, the intent should be not only evaluate personnel but also the overall academy experience.

Both scholars and police officials agree that officer training is essential as it prepares them to perform the variety of duties asked of them. Furthermore, given the history of these cases described above, the quality of training has become an increasingly important issue. For example, even five years after the Rodney King incident there were still approximately 2,500 claims against the LAPD on use of excessive force (Williams, 2007). Public and academic individuals as well as police officials continue to believe that the training provided year after year, regardless of what changes have been made, is still not addressing all of the needs an officer must meet before going out into the field (Ness, 1991; Edwards, 1993; Ness, 1991). Law enforcement training "has been in a constant state of transition" (Ness, 1991, p. 181) therefore evaluations of the academy experience are essential. The events noted above confirm a need for academies to examine continuously the effectiveness of how their training is implemented, whether the academy is reaching its intended outcomes, or if they need to be looking at different topics and approaches to training.

Traditional Academy Police Training Model

Police training in the USA is dynamic and varies in the content and the number of hours required for graduating and receiving a badge. However, as those changes have occurred the one area that has remained rather consistent (until recently with the PBL model emerging) is the method in which academy training was conducted (Birzer M. L., 2003). The Traditional model expressed as a semi-military system uses a technique that can be described as aggressive and strict (Chappell, 2008). The belief of the Traditional Academy police training methodology is based on three precepts: "it should closely follow the military training model; it is a punishment-centered experience in which trainees must prove themselves; and it helps screen out those who are not up to par" (McCreedy, 1983, p. 32). Along with those precepts, the theory that was

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employed in the Traditional model was the learning theory of Behaviorism. The advantages of behaviorism are that it allows the instructor to set explicit objectives, helping the learner to acquire specific and observable behavioral skills (Birzer & Tannehill, 2001).

"Theoretical scholarship has pointed out that the behavioral and paramilitary training environment has created a warrior-like mentality on the part of the police" (Birzer M. L., 2003, p. 29). The environment mirrored that of agencies recruiting and hiring officers who had a military background. This militaristic approach was a structured environment employing a behavioral and teacher-centered technique where the curriculum concentrated heavily on the mechanical and technical aspects of an officer's duties such as training that was hands on like arrest techniques, defensive tactics (DT) or firearms (Chappell, 2008; Birzer, M.L. , 2003). These applied technical skills were believed to be the 'nuts and bolts' of police work, thus greater emphasis was placed on them than the non-technical attributes of a police officer's duties such as problem solving and communication skills (Alpert & Dunham, 1988). Strict adherence to the fixed curriculum was also highly valued. It was carried out in a very uniform manner in spite of the problematic nature of much of the subject matter that was being addressed.

Under this behaviorist teacher-centered structure, the students (recruits) are viewed as passive recipients of the information presented to them (they have very little input) (Birzer M. , 1999; Bradford & Pynes, 1999). It is reasoned that the students' progress can be measured objectively and precisely within this framework (Birzer M. L., 2003). In other words, the assessment is done though testing and the teacher's role is directive, which is rooted in authority where it is lecture-based having the teacher disseminate information to the students and the students are the recipients of the knowledge being transmitted. This technique is also convenient in that it can be standardized and the teacher can gauge the students' performance in a uniform

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way. Additionally, in this approach the students primarily work alone and the material that is

provided to them is largely set forth in textbooks and workbooks.

Testing the Traditional Training Model

"Training, in its many forms, is the one tool that is necessary for creating and maintaining

the effectiveness of police performance, both individual and organization" (Alpert & Dunham,

1988, p. 49). Regardless of the need for quality training there are numerous disputes and

problems associated with research or lack there-of on training programs. To make an attempt in

answering if the training that is provided in academies is adequate, officials and scholars have

done a number of studies. Although, it appears that some evaluations have been completed, they

seem to be few and far between. The methodologies for testing the effectiveness of training have

primarily consisted of surveys and participant observations. These surveys were largely

descriptive in design and varied in three main ways: task inventory, questionnaires, and

telephone interviews. The task inventory surveys entail use of a list of job tasks. The

respondents were asked to judge the adequacy of the training they felt they received at the

academy by rating it on a scale for each task listed(Ness, 1991; Talley, 1986). Two different

types of questionnaire surveys can be found in the literature. One provided respondents with

some open ended questions and a Likert scale to measure the usefulness and comprehension of

training (Brand & Peak, 1995). The other focused on sensitivity variables that were related to

training objectives and behavioral intentions. The telephone interviews were used because of the

benefit of response rate and being able to form the question and response back to each

respondent. For the participant observations the researcher attended an academy observing,

listening, taking notes, and sometimes participating as a genuine recruit (Harris, 1973; Marion,

1998).

First, in analyzing the literature of studies that used surveys, two respectable task inventories were given, one in 1986 by Richard Talley and the other in 1991 by James Ness. The purpose of both was to collect ratings and measure how effective police recruits felt that the training they received prepared them to perform law enforcement tasks adequately. In Talley's (1986) study, the task inventories were mailed out within one to two years after graduating, with a response received from twenty-seven officers. Ness (1991) mailed his surveys after at least six months from graduating to one-thousand and thirty-six officers. Three-hundred and forty-five became potential respondents with an end response from two-hundred and ten officers. For both studies, the findings were quite interesting. Most (70%) of the officers who responded to Talley indicated that overall the training given prepared them adequately to perform all responsibilities. However, when asked to rate the individual tasks, the training was rated as "less than" effective to prepare them adequately in numerous areas. Ness had a very similar outcome. Out of his 210 responses, 90% of them felt that that academy training adequately prepared them for their tasks, but when rating the tasks individually the reaction was less than adequate in numerous areas. It was concluded through both studies that the content was outdated and more hands-on training would be beneficial, as well as improving the quality of instructors encountered at the academy. Both of these studies suggest that the training provided in the academy did not fully prepare officers and that some type of change was needed (Ness, 1991; Talley, 1986).

Brand and Peak (1995) published another survey-based study of interest. Questionnaires were used to test the usefulness and comprehension of mandated training standards. In order to do this, they had 48 different kinds of performance objective questions to be answered on a five-point Likert scale and three open ended questions. Similar to the previous surveys, they wanted to find out how effective the officers felt the training they received was. The questionnaire was

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mailed to 359 graduates throughout 35 agencies; of those, 185 were returned. Of those received, Brand and Peak found that the officers felt their overall view on academy training was above average as were their ratings on usefulness and comprehension. These researchers concluded that in order to determine the best form of preparation for new officers that are entering law enforcement ongoing research of this kind must be conducted (Brand & Peak, 1995).

The other methodology that was used to test academies' police training was participant observations. Harris (1973) and Marion (1998) both began their studies not wanting to use a theory to prove or disprove the results as they did not want to risk 'fitting the data to the theory' (Harris, 1973). Harris's motive for studying training academies as a participant was because he felt it would be easier to understand the recruits' behavior and attitudes. When entering the academy, he had two main views in mind: help fill the gap in literature regarding police training, especially in a time when social policy was significant and two, since the police were transitioning within training organizations he wanted to be aware and make others aware of the changes. What he found was a considerable need for more research to fill in the gap (Harris, 1973).

Marion felt that Harris's statements were still holding true twenty-five years later in 1998, so she conducted her own participant observation attending an academy as a recruit. Through observing, listening, taking notes and participating throughout the whole process, Marion found that with the particular academy in which she was enrolled, not much needed to be changed. Much different than Harris, she concluded her study by observing that "it is difficult to provide a simple statement of training needs, since different departments provide a diverse set of services… training must be adequate to meet not only the perceived needs of the department, but it must as well take into consideration protection of the public" (Marion, 1998, p. 76). Although

her study was examining only one academy, she argued that the growing transformations have been valuable in providing additional skills and knowledge that at the time was not present for Harris to observe (Harris, 1973; Marion, 1998).

In sum, there have only been a handful of studies evaluating the adequacy of police training. Transformations that were made to training in order to adapt to societal demands have only been given minimal testing and resulted in mixed reviews. The studies that have been completed provide only limited insight into the question of police training adequacy. It is clear that as devastating events occur policies are put into place expanding the curriculum with the hope of preventing future situations. Unfortunately, evaluations are seldom undertaken when this occurs and often times for the few that are, they do not provide the academy with very thorough information. Scholars and officials have provided their research advice, however at this point it has not made "as significant, or at least as coherent, an impression on policing" as they would have liked it to (Bayley, 1998, p. 4).

Apart from the need for more evaluations to be administered in academies it has become apparent to police academies that more recently police agencies are employing a variety of policing models and calling upon a wide range of skills and abilities. Therefore the training officers receive at the academy has come to be increasingly significant making them realize that their training must stay on the forefront of educational technology and teaching techniques. One of those influential techniques emerging is Problem-Based Learning (PBL).

Problem-Based Learning

Medical faculty at Case Western Reserve University in the United States developed PBL during the 1950s. After that time it continued to evolve through innovative medical programs. PBL was created in order to improve medical education by changing the Traditional curriculum

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to an integrated curriculum that would be structured primarily by 'real-life' problems. It was a new strategy to learning aimed at better preparing students for professional practice. With the rapid expansion of healthcare knowledge, medical practitioners felt the need to be at the cutting edge in order to provide optimum care. Although this learning approach was developed in the 1950s it was not familiar to many nor did it gain widespread acceptance until the 1984 medical report from the American Association of Medical Colleges' Panel on the General Professional Education of the Physician and College Preparation for Medicine. In the report, "the panel blamed Traditional medical education programs for this problem and recommended sweeping changes" (Shin, Haynes, & Johnston, 1993). The changes made entailed switching to an active, self-directed PBL approach.

PBL is influenced by cognitive psychology and andragogy (adult learning). It is an inquiry-based approach to problem solving wherein the student learning takes place through the exploration of the problem (Savery & Duffy, 1995). In other words, this approach is problem-driven, using a student-centered method where students are confronted by the problem, engage in independent study, and then return back to the problem. It is the same material presented in a different way. Adaptable to individual needs, PBL is intended to develop and enhance the students problem solving, critical thinking, interpersonal, independent learning skills, and promotes knowledge in the subject matter (Barrows, 2002; Finucane, Johnson, & Prideaux, 1998). PBL emphasizes the larger concepts where it begins with the inclusive overall picture and then focuses upon the individual parts. The teacher's role is interactive where the pursuit of questions and interests is valued as well the knowledge received is seen as dynamic and constantly changing with experiences. This facilitates effective adaptation of material and strengthens the student's skills to integrate new material (Birzer & Tannehill, 2001). Promoting

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active participation, activities are frequent with PBL and the learners are prompted to contextualize their knowledge through organizing the information to the problem's solution. Under this model, for complex problems to be solved it is required by students to understand the specific content as well as be aware of their own thought process. Assessment with PBL is made through student's work, observations, the expression of different points of view, and structured tests.

Aside from the medical field, this learning model has been implemented in other fields of training as well such as conflict resolution training and primary and secondary education. In recent years it has also been put into practice in some police agencies and is now being integrated into a small number of police training academies.

Problem-Based Learning in Policing and Training Academies

Designed originally for medical schools and then implemented into other types of human service-oriented education, PBL highlights critical thinking and problem solving skills that are reflective to the normal complex part of police work. For policing duties, PBL is closely related to both the Community Oriented Policing (COPS) philosophy as well as the Police Training Officer (PTO) program. The way PBL can adapt to using problems that an officer would face mimics their real-work situations. This is because the problems, much like so many life situations, are not always easy and have several different answers. Understanding that every call and situation is not the same, PBL helps officers because it requires them to consider several different solutions. Steven Hundersmark (2009) said in regards to PBL within PTO, the "model encourages problem solving as a means of field training, as opposed to a focus on individual tasks. It moves away from the behaviorist approach to learning that relies on replication of tasks to demonstrate learning. The implementation of a Problem-Based model demonstrates the need

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to change academy curriculum to a constructivist approach to mediate academy learning with field training" (Hundersmarck, 2009).   In addition to this scholar's point of view, there has been research showing that PBL has been effective with both COPS and PTO. Therefore, it would further benefit policing if training Academies adopted this approach.

Academies in Maryland and Saskatchewan, Canada with the Royal Canadian Mounted Police were the first to implement this approach in the mid 1990s with a number of law enforcement agencies in the United States following suit (Cleveland & Saville, 2007; Werth, 2009). The Marin County (CA) Sheriff's Office and Reno (NV) Police Department are a couple examples of agencies that made the change. Now taking the lead to change their approach by implementing PBL into the curriculum in order to "reflect current learning and teaching needs" are several police academies (Clevland, 2006). Those academies leading the way are the Kentucky Department of Criminal Justice Training, the California POST, and now the Washington State Criminal Justice Training Commission (CJTC) (Cleveland & Saville, 2007). However, unlike the others, the Washington CJTC Basic Law Enforcement Academy is one of the first police academies to completely modify the academic curriculum with PBL as the main design rather then adopting PBL for the teaching of some select topics(Grant & Mealy, 2001).

Lieutenant Peg Johnson observed that "new officers must work though a PBL process so that their critical thinking skills are cultivated; they achieve success in their recruit training or academy classes by working though their learning issues and applying known and learned information to new situations" (Chief, 2006). PBL has five sequential steps: ideas, known facts, learning, issues, action plan, and evaluation.   They work in groups when following this process to develop their skills (Chief, 2006). In order to apply PBL to academies, it is understood that there are topics within the police-training curriculum that should still utilize the Traditional

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behaviorist techniques such as firearms, defensive tactics, the EVOC program and physical training. However, the rest of the subjects such as patrol procedures, criminal law, and criminal procedures are integrated just as an officer would have to simultaneously know and apply their knowledge when receiving a difficult call (Grant & Mealy, 2001).

Many scholars suggest that there are several reasons as to why PBL would be a good approach for Police Training Academies. Some of those reasons are that it is better for the students as they are more active and engaged rather than being a passive listener memorizing a vast amount of information.   However, the Traditional model is said to be effective as well conveying adequate information on many topics of interest. Yet, with praise comes criticism as there are others who have largely dismissed the Traditional model.   One criticism of the Traditional model is that having students memorizing the information does not lead to a high rate of retention.   Another point of criticism is that accommodations to societal shifts have not been significantly made under this model, and there is a clear need to integrate a more learner-centered approach. That necessity is what helped push the movement to use a new model (Birzer M., 1999; Birzer M.L., 2003; Bradford & Pynes, 1999).

Evaluations have not been completed for police academies utilizing PBL (until now with Washington's CJTC and DGSS), but for the other fields that have adopted PBL evaluation studies have yielded positive findings, along with the documentation of some disadvantages associated with PBL.   For example, in the education field, Sungur and Tekkaya (2006) point out that PBL students had a higher task value, critical thinking, peer learning, metacognitive self-regulation, and use of learning strategies.   In the medical field, those taught using PBL versus the Traditional had significantly higher written exams and practical scores (McParland, Noble, & Livingston, 2004). The disadvantages are said to be primarily curricular; in a given time period

PBL is only able to cover about 80% of what the Traditional approach is able to do (Finucane, Johnson, & Prideaux, 1998; Albanese & Mitchell, 1993; Colliver, 2000). Nevertheless, the overall agreement among PBL practitioners is that this method is more effective at producing prepared individuals for the rigors of their work than the Traditional lecture method (Norman, 2008). As stated by one scholar, "PBL offers a breakthrough option to those who are no longer satisfied with the status quo" (Chief, 2006). Given these findings with the PBL method in other fields, some believe that it is the next best thing to sliced bread for training police officers. In spite of this, with optimism on the part of advocates for change comes pessimism from others who want to stick with the Traditional academy and the "tried and true" methods of training with which they are familiar.

There will be critics on each side of the debate of whether the Traditional model or the PBL model is better at training recruits. Considering there are researchers advocating for both models, assessing the two would significantly contribute to understanding the efficacy of basic academy training for law enforcement in this country. Having said that, to remedy in the shortfall of evaluations and be the first to asses PBL in an academy setting, the Washington State Criminal Justice Training Commission is at the forefront of this effort by asking the Division of Governmental Studies and Services (DGSS) at Washington State University to conduct a study of the two models in order to determine if one is more effective than the other at preparing officers to work in the field. Chapter three is a description of the sample and research methods used to conduct a preliminary examination of the two delivery modalities.

Chapter III

Methodology

Introduction

Policing changed from crime control to working with the community to solve problems that were allowing crime to occur. As policing made modifications, some training academies came to a realization that they need to be adapting their programs accordingly (Kelling & Moore, 1988; Oliver, 2006; Werth, 2009). Research into the needs of a police officer evolved, and with that was the understanding that more officers needed to have strong communication, decision making, critical thinking and problem solving skills. All of these traits are ones which the learning technique PBL is said to possess. Although the PBL learning technique has been used in the medical field since the 1950s and has been adopted in many areas of social services training, it has only been recently implemented for police training.

The focus of policing has changed, and with it so has the need for modifications of new models to train police officers. As previously mentioned, PBL has only been recently implemented into police training and Washington State is one of the few to have their academy make this change. The Criminal Justice Training Commission (CJTC) began implementing the PBL approach for the Washington Basic Law Enforcement Academy (BLEA) in February 2009 (Werth, 2009). The transition to the PBL model was based on the example of successful implementations in other fields of training. A stated goal of the transition was to better teach critical thinking and field-based problem-solving skills, while still conveying the required legal, administrative, policy, and protocol knowledge. CJTC saw the PBL model as an opportunity to 'improve' their teaching to recruits in hopes to improve the recruits' problem solving abilities and facilitate a better transition back to their home agency.

CJTC contracted with Washington State University's Division of Governmental Studies and Services to design and implement a study assessing the PBL approach to training. As very little has been done with police training programs to validate the delivery of training or test curricular efficacy, this transition from the Traditional quasi-militaristic model to PBL provided a unique opportunity to conduct a comparative study of the efficacy of two philosophically distinct delivery mechanisms for BLEA.

The intent of this chapter is to state the purpose of this study and explain the research methods used in gathering and analyzing the data. It is to also illustrate the sample, the collection of the data, an analysis regarding the two delivery modalities in reference to the graduates, and present the limitations associated with the data collected.

Research Framework

The purpose and primary focus for the entire study is about two teaching approaches and their impact on the readiness of BLEA graduates for duty as peace officers. The study involves two components. The first component is made possible through the change in training delivery mechanisms from Traditional to PBL. It will assess the differences in perceptions and academic performance for graduates of the two types of delivery mechanisms provided in the academy. The second component is a longitudinal assessment of the ongoing efficacy of the Basic Law Enforcement Academy. Using the Traditional model academy classes as baseline, the focus will be on academic indicators, recruit perceptions, and field performance in order to provide a continuing assessment of the effectiveness in preparing recruits for duty. In particular, the concentration will be on the recruits who have gone through the PBL model. For the study as a whole, the research design involves a multi-mode triangulated approach. Information is being requested from the BLEA graduate, FTO/PTO, Direct Supervisor, Next level Supervisor, and if

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appropriate the Chief/Sheriff.   This will be accomplished through the use of surveys (which contain both qualitative and quantitative questions), interviews, and test scores.

That being said, although this is what the whole project is to encompass, for the purpose of my thesis the focus will only be on the first component by conducting a preliminary examination of what the study will have to offer. Hereinafter, the remainder of this thesis will only be focused on the preliminary assessment, not that of the whole study.

The purpose of the preliminary assessment is to get an initial idea as to the effectiveness of the Problem-Based Learning Delivery modality in the Washington Basic Law Enforcement Police Academy. Specifically, the study is to examine and compare the effectiveness of the Traditional delivery modality against PBL. To do this graduate exit surveys from four classes as well as the corresponding test scores will be analyzed.   When examining the differences between the two models (Traditional and PBL), observations of possible overlap are taken into account. Particularly, a "Transitional PBL" period as the academy was not able to make a clean break when implementing the new model. In other words, there were still some Traditional students on campus who had not graduated yet when the transition was made to PBL. This is important to observe because it was reported to some recruits in the new PBL class that they were going through a "softer process" than that of Traditional class members.

Data Collection Process and Sample

When CJTC contracted with DGSS in late 2008, there were two Traditional style classes that still needed to graduate. Produced by DGSS, The BLEA Graduate Survey was provided to the two Traditional classes, and since then the BLEA staff continues to administer surveys to each graduating class. From the initial Graduate Survey to date, there have been approximately 14 graduated classes that completed the survey (two Traditional and 12 PBL).   This includes a

follow-up letter and survey that was mailed out in August to try and contact as many missing graduates as possible.

At its inception, when developing the Graduate Survey, specific areas of inquiry, questions, and criteria for this assessment were created in collaboration with representatives of CJTC and BLEA, in consultation with the Board for Law Enforcement Training, Standards, and Education (BLETSE), and through input and feedback from law enforcement organizations in the state. This was done to assure that the information obtained would be found useful and that this BLEA efficacy evaluation applies appropriate measures and assessment criteria. IRB approval has been obtained for the survey. Once the surveys were completed (in the later part of January 2009) they were mailed out individually to the two Traditional classes of graduates and to two PBL classes of graduates. As previously mentioned a follow-up letter and survey was then mailed out to those graduates from the four classes who had not responded.

The next step for the second source of data was to obtain test scores for all graduates who were surveyed. This included scores for both academic and mock exams. The scores were generously provided from the academy, and once they were received the data provided were converted from a Word document report, to Excel, and then SPSS (Statistical Package for the Social Sciences) for data analysis.

For the purposes of the present study, to obtain a preliminary assessment of the two models out of the 14 classes my sample will consist of two classes from the Traditional Style and the two subsequent classes from PBL. Although these samples are from a transitional phase, the data could have the potential to be very useful for the study as a whole. One of the grounds for only looking at the four classes in this preliminary examination is because the sampling process

of mailing out the surveys used was the same.   For the four selected classes, there were 115 graduates. A total of 53 graduates responded to the survey (46%).

Of the responding 53, the final sample was 9% female (n=5) and 91% male (n=48). The Traditional model had 85.7% male (n=18) and 14.3% female (n=3), and PBL had 93.8% male (n=30) with 6.3% female (n=2).   The age of the respondents ranged from 21 to 42, with the age of 23 being the most frequent (13% n=7). The mean age for the Traditional model participants was 29.7%, and 29.2% was the mean age for PBL participants. The Hispanic and Latinos' made up approximately 8% (n=4) of the survey population and 9% (n=5) did not answer. For race, 9% (n=5) failed to answer and the majority of the sample was White at 91% (n=48) with the rest of the categories not selected. The most common highest level of education of participants was receiving some college at 51% (n=27), with completing a four-year degree at 28% (n=15), completing High School at 11% (n=6), some graduate work and holding an advanced degree both at 4% (n=2), and receiving some high school education with 2% (n=1) following. Individually for the Traditional model, the highest level of education was "some college, trade school" and for PBL the highest level of education was "completing a four year degree." The highest percentage of previous experience that Traditional model participants had was less than five years of police patrol experience whereas for PBL participants the highest percentage was the same time but in correctional officer experience. For military experience, the Traditional model had the highest amount of participants with five years or more in the Army and PBL's highest amount experience was also in the Army but in the category of less than five years.   For all of the above demographics see Table 1 (pages 79-82).

Materials

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Survey methodology is appropriate to examine the officer's perceptions of their readiness along with examining the test scores to make a comparison. Confirmed through several different stakeholders, the questions on the survey were believed to provide information that would be useful for the evaluation. The survey was completely voluntary. All of the surveys contain contact information, instructions for submission, specify that it is confidential, and included a stamped envelope for mailing to DGSS.

The Graduate Survey consisted of 33 questions, both qualitative and quantitative, that were sectioned into three areas in order to obtain the best information possible. The first section contained 16 questions on the graduate's general academy experience. The questions in this section asked graduates to make a self-assessment about how well they felt the academy prepared them for work in the field. Examples of questions are "recruit responsibilities and expectations were clearly defined," "the curriculum as a whole was well tailored to my immediate future in patrol," or "overall, the academy was." The second section includes nine questions and pertains to the curriculum and instructors. The questions in this section ask about the graduates' perceptions of the materials, delivery, format and instructors. "With regard to training and discussion about the combat/warrior/tactical side of law enforcement, would you like" and "TAC Instructors had appropriate knowledge and mastery of the subject matter" are just two examples of the questions in this section. The third and last section of the Graduate survey encompasses personal demographic questions. Titled "about you" there are eight questions in this section concerning the graduates' hiring agency, work experience, age, gender, level-of education, race, and ethnicity.

The follow-up letter sent out to all non-respondents from the sampled four classes informs graduates that due to the small class sizes of BLEA, it is critically important that DGSS

hears from as many graduates as possible. It also includes a brief rationale to why the study is

being conducted and how their participation can assist in making the training better for future

recruits. It concludes letting the graduate know that an additional copy of the survey is included

and if they have already completed it to please accept our thank you for participating. There is

no risk to any respondent and the survey has been approved by the Institutional Review Board

(IRB). This approval along the surveys, follow-up letter, interim report, and NIJ REX Form is

attached in the appendences hereto (at pages 111-141).

    After every block (Traditional) or module (PBL) a test was given.   Students are required

to pass all of their written and practical tests with no less than a 70%.   They also only had two

chances to pass or they would automatically fail the academy.   If a student needed to take a re-

test the ASA Academy Supervisor must approve it. For the mock scene testing the students must

demonstrate application of the core job skills during the testing scenarios. The evaluation and

scoring of the recruit is based on how they demonstrated the skill characteristics necessary to do

the job (Student Handbook, 2009). For the sampling classes, combining both the Traditional

with PBL there were 46 scored events.   Of the 46 scored events, 25 were taken by both models.

Individually, both model graduates experienced approximately 35 scored events.

Data Management

    Participant data for both surveys and test scores was stored on a secure database on the

Division of Governmental Studies and Service's server.   The survey data for every respondent

was converted to a SPSS format for statistical analysis. Precautionary measures were taken by

having a number assigned to all surveys in order to prevent the surveys from being entered in

more than once. During the survey, if a respondent had a question they were encouraged to

contact the Principal Investigator Mike Gaffney by phone, e-mail or address. As the survey was

a paper survey, respondents were permitted to stop at any point and also could change their

responses. The tests scores as previously mentioned were converted from a Word file, to Excel,

and then to SPSS for statistical analysis. Due to the tests being obligatory in order to complete

the academy, test scores for both academic and mock scenes were obtained for all recruits who

graduated.

Survey and Test Categorization

Respondents were asked to respond to a series of questions related to experiences they

had at the Academy and were scored in several different events, both academically and

physically. For the surveys there were both qualitative and quantitative questions. The

qualitative questions were categorized into a content analysis and for the quantitative questions

and test scores three categories of disparity and effectiveness were established. The first,

classified as academy differentiation included respondents' "perceptions" from the surveys about

ease, benefit, structure, and preference. The second classification is "confidence" which

included respondent's feedback from the surveys specifically if there was a particular point and

if education played a role. The third classification, "capability" included respondents inclusive

test scores.

For the test scores, as there were several variables they are individually examined as well

as categorized into seven different classifications. The first six classifications: administrative,

defensive tactics, Emergency Vehicle Operator Course (EVOC), firearms, mocks scene, and

certification include scores that were tested on with both models. For example, administrative

will reflect exams that were administered to both the Traditional and PBL models such as patrol

procedures and domestic violence. Defensive tactics will reflect the force and fitness elements of training such as scenario exams and pepper spray. EVOC reflects emergency vehicle operations of training, and firearms reflect the skills an officer must have to operate a weapon. Mock scene will reflect items such as building searches, traffic scenarios, and field interviews and certification reflects items such as Standardized Field Sobriety Testing (SFST) and Blood Alcohol Content (BAC) testing. The sixth classification is "academic." Academic will reflect the graded elements that vary per class. In other words, PBL has modules while the Traditional is blocked into topics; therefore this classification will display all of the tests that could not be matched up.

Data Analysis

Descriptive statistics, a content analysis, and a one-way analysis of variance (ANOVA) were conducted for this preliminary evaluation to make comparisons between the Traditional and PBL classes. However, due to the small response rate the significance is subjective and descriptive statistics were primarily used for the survey analysis. Descriptive statistics are utilized to describe the characteristics of a sample or population and the content analysis was utilized to take written material and make inferences about the sample or population. The ANOVA was utilized to test for the difference between two or more means (Salkind, 2008). Additionally, the confidence interval for cross-modality comparisons is 9.9% at 95% confidence.

Limitations

At this point for the preliminary examination there are significant limitations to the present study. The initial limitation of this preliminary report of the data is the small sample size

and response number. Therefore when data are analyzed in terms of significance, it is only showing the possible potential for the whole study. Similarly, in an attempt to link the survey questions with the test scores it appears that they correspond with each other, but this cannot be fully determined. Another limitation is that when the PBL approach was adopted, there were still Traditional recruits that needed to graduate. Because recruits shared the same campus together, it is possible that negative comments were made about the PBL model such as it being a 'soft process'. Additionally it is hard to tell how much of a role the instructors impacted the recruits' perception. For instance, if the instructors themselves were resisting the change, that could influence how the recruit felt their training was going.   It was also assumed that the instructor name which was provided from BLEA is the instructor who taught the course. Instructor variance could be a possible limitation. In the Traditional model classes, there were three exams where the class experienced a different instructor. With the PBL model it is unknown who the instructors were as names were not provided.   Another limitation is that particular questions did not consider the applicability to everyone. For instance, the military and college environment questions did not take into account those respondents who did not attend college or the military and lastly, when examining the graduate exit survey it is only concerning officers' perceptions of themselves and the academy, where the same thing may not be true for all respondents depending on their individual experiences.

Chapter IV

Findings

Introduction

Prior to the completing the following detailed analysis, to provide CJTC and BLEA with

a project update, an interim report was delivered on March 9, 2010. The report contained a brief

analysis on test scores and a few survey questions. The interim report is attached in the

appendices hereto (pages 120-140). This chapter is a report of preliminary findings of the two

delivery modalities, Traditional and Problem-Based Learning from four classes of the Basic Law

Enforcement Academy. The research is based on Graduates' perceptions though surveys and

their test scores.   For validation an additional analysis was completed utilizing questions from

the graduate exit survey matched with the respondents' corresponding average from all of their

tests scores. The results from the data analysis are reported in this chapter.

Content Analysis of Qualitative Survey Questions

A detailed content analysis was conducted on the Graduate Survey for five questions

eliciting suggestions for improving the academy experience, advice for future recruits, specific

moment they felt confident in their abilities, additional resources that could be provided to be

more successful in the academy, and general comments and feedback.   The following content

analysis explains the coding procedures used and types.   Between the four classes, (Traditional

(n=21) and PBL (n=32)) there was a total of 66 comments made by the Traditional and 118 made

by PBL.   For the Traditional, 18 of the 21 participants responded. This does not include two

who that only responded by putting their agency. With PBL, 27 of the 32 responded. This does

not include four participants' who only responded by putting their agency. Each response was

placed to where it best fit; however, each response could be classified in multiple categories. This allowed for all of the responses to be fully represented. Charts for all of the following qualitative questions can be found in Table 2 (pages 83-84).

Suggestions to Improve the Academy

There are 9 Traditional participants and 20 PBL participants who responded to the question "Do you have any suggestions to improve the general academy experience? Please note them here." Four comments from the Traditional model participants fit into two categories and six comments from the PBL model fit into two categories, with one fitting into all three. As the respondents' comments are suggestions, coding could not be done using a positive or negative angle but as to what in their academy experience they had the most considerable issues with. Focusing on the primary areas of the BLEA experience, the coding structure used consisted of three categories that respondents were providing suggestions in: The Academy, TAC Officers/ Instructors, and Curriculum.

Results of the analysis determined that 55% (n=5) of the Traditional graduates made suggestions about the academy. PBL was just below that with 50% (n=10). For suggestions towards the TAC Officer/ Instructors, 33% (n=3) were made by Traditional participants and 30% (n=6) were made by PBL. PBL had a 5% higher percentage of suggestions given about the curriculum than the Traditional (60% (n=12) versus 55% (n=5). However, one suggestion given by a Traditional model graduate coded as both curriculum and academy is interesting because the individual is not in a PBL class but suggested, "Get rid of the Problem-Based Learning. I did not learn anything from this. It wastes so much time in the classroom. I think it needs to be more physical and more military style because people don't get the stressors that they need to be

prepared for the real world." Nevertheless, as can be observed, the most common category of suggestions was in the Curriculum section.

Examples of comments made about the academy are, "Better food, I realize it may cost more, but it brings a bad feeling to the BLEA experience, more so for recruits who have to stay there." A comment that would include two categories (Academy, and Instructor) is, "Some instructors treated the academy as Para-Military while others did not treat as military environment so the benefit was not as equal as a whole." An example of a curriculum comment is "Less PD and more DT. More mock scenes" or "More real world police work. Noise ordinances, field interviews, social contracts, traffic stops, that kind of stuff." Overall, this could indicate that PBL participants more than Traditional participants believed that the academy has a lot of room for improvement, especially in the category of the curriculum.

Advice for Future Recruits

The question was, "If you could provide advice for a new recruit just starting BLEA on how to maximize the academy experience, what would you advise?" To obtain a more valuable representation of all the comments there were two different types of coding utilized for this open-ended question. One divided up the respondents' advice into categories based on what the graduates appear to be providing advice on/towards. The categories were Instructors, Training/ Studying, Beginning (Advice for before entering BLEA), and General (no specifics). The second coding was based on positive and negative advice for future recruits. Positive advice was recommendations that were intended to help the recruit and the negative advice was recommendations that expressed the respondents' dissatisfaction with BLEA.

There were 83% (n=15) of Traditional respondents that replied to this question and 92.5% (n= 25) of PBL respondents that replied. Of those that commented, for the Traditional

model respondents, 13% (n=2) gave advice about instructors, 47% (n=7) provided advice on training and studying, 7% (n=1) gave advice for prior entry into BLEA, and 33% (n=5) offered advice on general items. No Traditional model comments were represented more than once. PBL had two comments that were represented twice with 24% (n=6) providing advice about the instructors, 52% (n=13) giving advice on training and studying, 16% (n=4) with advice for before BLEA, and 16% (n=4) with advice on general items. As can be observed, the PBL respondents had more specific advice for new recruits than that of the Traditional respondents.

Examples of coded advice from both models about instructors ranged from "Do what TAC's say and don't ask questions unless needed" to "don't take it personally they do it to everybody." Examples of coded advice on training/ studying varied from "Use the outside of class resources fight night, and extra time with firearms instructors and DT instructors" to "take the initiative and begin studying the course manuals on your own." Examples of coded advice used for prior entry into BLEA are "read case law prior to entry into the academy" and "Go over dept. policies before attending. Get into great physical shape. Keep an open mind." Last, examples of the general (no specific) comments are "take things one day at a time" and "perseverance is a virtue."

Analyzing the data based on positive and negative advice, there was not as big of a difference between the two models as the categories. The Traditional respondents gave 87% (n=13) positive advice and 13% (n=2) negative advice. With just one more percentage than the Traditional, the PBL graduates gave 88% (n=22) positive advice, but led with providing the most number of negative advice at 28% (n=7). There were four comments made by PBL model respondents that doubled as containing both positive and negative comments with zero Traditional model comments overlapping. The most common positive comments were about

going above and beyond, and taking advantage of anything and everything that becomes available. The most common negative comments reflected how the TAC instructors treat recruits. The negative advice appeared to be the respondent expressing dissatisfaction with BLEA (mostly instructors, six of the nine negative comments (100% - two Traditional, 57% - four PBL) were in reference to the instructors), and the positive advice appeared to be intended comments to help the recruits.   Examples of the negative advice are: "Don't speak or do anything, the TAC staff will yell and scream at you for no reason" or "I would tell them to be quiet until it is over. Do as you're told." Examples of the positive advice are: "make friends with everyone and ask a lot of questions" or "study the laws and procedures first, then the other stuff." Overall, the results indicate that PBL participants were more likely to provide advice, but when it came to positive or negative advice, there was very little differentiation between the two models. They both provided a high percentage of positive advice. When examining the advice in terms of categories of what the graduates appeared to be providing advice on and towards, the training and study category was the most common for both models. It can be concluded that there is not a significant amount of variation between the advice from the two models, however the PBL participants were more likely to respond.

Specific Moment of Confidence

The next open-ended question in the survey was "if there was a specific event or moment at which you began to feel confident in your abilities please describe." The content analysis of this question yielded three primary grouping areas that graduates felt confident in their abilities: mock scenes, after graduation, and throughout- no specific time. There was 55% (n=10) of Traditional participants that responded to this question and 30% (n=8) of PBL. However, there were two comments from the Traditional model participants that provided a comment that did

not apply to the question. The comments were "the training environment is good for (becoming) knowledgeable but nothing can replace actual experience" and "remember what you learn and apply it."

Of the 55% Traditional participants responding to the question, 30% (n=3) felt confident during the Mock Scenes, 30% (n=3) felt confident not until after graduation, and 20% (n=2) were not specifically basically saying they gained their confidence throughout the academy. For PBL, 75% (n=6) felt confident during the mock scenes, 12.5% (n=1) after graduation, and 12.5% (n=1) throughout the academy. Overall the content analysis of this question indicates that the Traditional model graduates had more of a specific moment they felt confident than PBL. It also reveals that overwhelmingly the graduates became confident during the mock training exercises. However, when comparing the two models the PBL graduates whose moment of confidence was in mock scenes the amount doubled that of the Traditional (75% versus 30%).

Other Resources to Improve the Academy

The question given to graduates was "what other resources are you aware of which you think should be made available to recruits to enhance the academy learning experience." The content analysis for this question yielded three primary grouping areas highlighting improvements that were more focused in the curriculum, general parts of the academy, and outside extras. There were 55% (n=10) of Traditional participants and 44% (n=12) of PBL participants which responded. None of the comments were represented more than once.

The results of the analysis showed that the most common category of resources that graduates focused on was in the curriculum, and when comparing the two models there was an equal percentage of comments (50%, n=5 Traditional, n=6 PBL) in this category. Examples of curriculum comments are "some type of mentor training" and "more mock scenes and patrol beat

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days with simulations. A full day with calls and report writing would be great for learning." For resources that were more focused in the general parts of the academy, the Traditional had 20% (n=2) with PBL having a higher percentage at 33% (n=4). Examples of academy resource comments are "more computer lab space, better internet in the dorms" and "better and cheaper food." The last category coded as outside extras had 30% (n=3) from the Traditional model and 17% (n=2) from the PBL respond towards this category. It was somewhat difficult to classify because all of the responses given by Traditional graduates (3/3) and half of the PBL (1/2) commented saying there needs to be ride-alongs made available, whether it be from a recruits home agency, other departments, or during the course of the academy. As all comments in this category but one suggested ride-alongs and the other comment given by a PBL graduate was having "representatives from their home agencies." The results of the analysis suggest that both types of academy participants equally felt that additional resources should be added within the curriculum though different types of training such as more practice/exposure and ride-alongs.

Other Comments

There were 22% (n=4) of Traditional participants and 41% (n=11) of PBL who responded to the question "if you have other comments or suggestions regarding your experience or the academy, please note them here." Based on the themes that were present, and to obtain a more valuable representation of all the comments there were two different types of coding utilized for this open-ended question. Both of the codes had three categorizations: suggestion, positive and negative comments on experience and the other coding was gratitude, constructive feedback, and criticism.

For the first coding participants were either commenting on their experience or giving suggestions. There was one comment with the Traditional model that fit into two categories and

with PBL there was four comments that fit into two categories. Of the Traditional model

participants 50% (n=2) gave positive comments, whereas 36% (n=4) of PBL provided positive

comments. Examples of positive comments are "I enjoyed the academy. The TAC staff was

either great or horrible. Most of the TAC's worked hard with recruits" and "My take-overall my

experience was good." For the Traditional respondents, the percentage of negative comments

was the same as the positive comments at 50% (n=2), however for PBL respondents there was a

considerable increase in negative comments than positive at 54% (n=6). Nevertheless,

comparing the two, PBL only had a slight increase of negative comments over the Traditional.

Examples of negative comments are "some instructors detracted from the learning experience.

This is the basic academy less time marching and inspections. More shooting, DT driving,

instructions should not be allowed to stay longer than three years. They lose touch with patrol

and forget what it is like" or "we were told to use all the resources available to use but we did not

know what or where those resources were."   On a side note, one factor to consider with this

comment (given by a PBL participant) is that with the PBL model the resources are not handed

directly to the student as they are in the Traditional model.

For the suggestions category, PBL had almost double the amount of suggestions as the

Traditional model. The Traditional had 25% (n=1) versus PBL had 45% (n=5).   Examples of

the suggestions category comments are "not as much PT more responsibility for students to

maintain physical condition. Spent the time on mock scenes" and "I would have liked to have

more time at the range, driving and defensive tactics, and more hands on training."

The second coding consisting of gratitude, constructive feedback, and criticism had four

comments (eight total) for both the Traditional model and PBL that fit into two of the three

categories. The Traditional model led the way in comments of gratitude with 50% (n=2)

opposed to the PBL with 36% (n=4). The constructive feedback between both models was within 5% of each other where the Traditional had 50% (n=2) and PBL had 45% (n=5). As would be expected for an additional comments question compared to the other two categories, the criticism section scored the highest with the Traditional model having 100% (n=4) and the PBL model with 55% (n=6).

Examples of gratitude comments are "I would like to thank Officer [name removed] for a great job as our TAC. He did a great job balancing and implementing the new PBL format" and "Great experience. The academy was tough as it should be. The experience provided me with confidence and the proper mindset to do this job. Staff was great, especially our TAC officers [name removed] and [name removed]." Examples of constructive feedback are "it is my belief the academy should focus on criminal law, criminal procedures, defensive tactics, firearms, and criminal investigation" and "give more practical real world cop stuff. The noise complaints, the trespassing calls, etc. More crim pro too." Examples of criticism are "your fight for life was taken too far. I observed numerous people get unnecessarily injured" and "hopefully PBL will go a lot smoother with future classes." Overall, the results of the analysis indicate that PBL participants were more likely to provide additional comments to assist in the evaluation. The results also suggest that when comparing the two models there were more positive comments with the Traditional model, yet PBL provided more suggestions. Analyzing the results in terms of gratitude, constructive feedback, and criticism, the most suggestive category is criticism where the Traditional model had a significant amount more of criticism than PBL.

Academy Differentiation

Descriptive statistics were conducted with all of the quantitative graduate exit survey questions. Excluding the question "at what point in your academy experience did you begin to feel confident in your ability to function in your position after graduation and perform the duties of a peace officer? Please circle the week which best represents that point from your experience" as it will be analyzed later, the other questions were analyzed in terms of their frequency, mean, and standard deviation. The grouping of this segment is to identify the "preference" variation between the two delivery modalities in terms of ease, benefit, structure and preference insinuating which delivery approach appears to be more effective. Charts for all of the following quantitative questions can be found in Table 3 (pages 85-87).

There were six questions that utilized the scale of strongly disagree to strongly agree where 1 represented strongly disagree and 5 represented strongly agree. For easier comparison, the strongly agree were computed with the agree category and the strongly disagree was computed with the disagree category. For the responsibilities and expectations question although variation was minimal the results suggest that Traditional model graduates over PBL graduates perceived that they were more clearly defined (81% Traditional / 78.2% PBL). The average response from the Traditional graduates was 4.19 and PBL was 3.97. Additionally, 42.9% of the Traditional graduates found their assignments and projects more useful than that of PBL (28.1%). As would be expected considering the Traditional model graduates found their assignments and projects to be more useful, they also believed more than the PBL graduates that their reading assignments and group work was valuable (52.4% versus 40.6% Reading assignments, and 85.7% versus 56.2% Group Work). The mean for reading assignments was 3.52 Traditional, 3.22 PBL and for group work, the mean for the Traditional model graduates was 4.05 and PBL was 3.50. **When questioned if the curriculum as a whole was well tailored**

to their immediate future in patrol, 76.2% (n=16) of Traditional graduates agreed while

only 28.1% (n=9) of PBL agreed. The PBL graduates were more neutral (46.9%) than

disagreeing (21.9%) with the statement. The mean for Traditional was 3.71 and PBL 3.03.

Overall, based on the perceptions of these five questions for both Traditional and PBL graduates

the results suggest that recruits benefit and prefer the structure more of the Traditional model.

The next question sought to answer the perception of the structure of the academy as to if

the graduates believe it felt more like a college environment or military training. The results

suggest that overwhelmingly for both models that it felt more like military training than it did a

college environment. Only 23.8% (n=5) Traditional model graduates and 28.2% (n=9) PBL

graduates agreed that it was similar to college. In considering what the graduates believe the

academy ought to be like on a scale from Para-Military to Community College, the results

indicate that the Traditional strongly believe that it should be Para-Military whereas the PBL

graduates believe it should be balanced, however a little more military than community college.

Following with the environment of the academy to obtain more specifics as to what

graduates would like to see less or more of, the question regarding the combat, warrior, tactical

side of law enforcement, 42.9% (n=9) of the Traditional graduates would like about the same and

38.1% (n=8) would like quite a bit more. For PBL graduates, 46.9% (n=15) would like a little

more and 34.4% (n=11) want it to stay the same. In regards to the customer service side of law

enforcement, both Traditional and PBL model graduates believe it should stay about the same

(42.9% Traditional and 43.8% PBL), but 37.5% (n=12) of PBL model graduates would like a

little less of the customer service. The results of these two questions suggest that the Traditional

model structure is found to be acceptable with some participants suggesting that additional time

with tactics and combat training may be beneficial. The PBL model structure is found to be

adequate as well, with participants suggesting the training could use a little more tactics and combat with less customer service.

For comparison, it was also essential to see how the models differed when it came to perceptions of ease of the academy. The question was asked on a scale of too hard to too easy. The results reveal that 90.5% (n=19) of Traditional model graduates believe it was just right with 9.5% (n=2) believing it was too easy, and 78.1% (n=25) of PBL graduates believing it was just right, with 3.1% (n=1) indicating it was too hard and 15.6% (n=5) indicating that the academy was too easy. Although there is not a large distinction between the two modalities as graduates from both perceive that it is was neither too hard nor too easy, but when indicating that the academy was too easy there were more PBL graduates.

Respondents were also asked if there was one particular learning approach that contributed most to their acquisition of skills and knowledge. The answers were originally coded as to the category selected, however it was found that several participants were checking more than one box. For that reason a re-coding was completed identifying each individual category as a yes or no. There was not a large differentiation between the two models and the results suggest that the learning approach which contributed the most to both model graduates was a hands-on approach. For PBL and Traditional, the mock scene approach was the second most common.

Confidence

Descriptive statistics were utilized on the question "at what point in your academy experience did you begin to feel confident in your ability to function in your position after graduation and perform the duties of a peace officer? Please circle the week which best

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represents that point from your experience" It was analyzed in terms of its average, frequency of weeks, and if education played a role. The question from the content analysis regarding if there was a specific event or moment of confidence will also be touched upon. The grouping of this segment which will assist in the indication of what modality appears to be more effective is to identify the variation between both modalities and if the graduate is more confident in their abilities with one approach than the latter. Charts for this section can be found in Table 4 (pages 88-89).

The most common answer of which week the graduates began to feel confident for both modalities was "not yet" (15.6% PBL and 14.3% Traditional). This is supported in the content analysis where 50% (n=5) of the Traditional and 25% (n=2) of the PBL graduates stated that there was not a specific moment. However, the mean indicates that the average week graduates felt confident in their abilities was week 15 for PBL and week 14.5 for Traditional. The results suggest that although there is variation between both modalities where the Traditional appeared to be confident a half a week sooner, it is insignificant. When considering if education played a role in the confidence, of the respondents that indicated "not yet" as point of confidence, two of them had a high school education and lower, four of them had some college or trade school and two had a college education of four years or higher. Of the respondents who felt confident, although it is not significant, the graduates with a high school education appeared to be confident during week 14.8. The respondents who had some college or trade school appeared to be confident in the earliest week of 13.50 and surprisingly those with four years or higher of education were not confident until week 14.35.

Capability

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The next classification was capability. This section is to identify the potential of the graduates, therefore suggesting if one model is more effective at producing competent officers. Data were analyzed with an analysis of variance for every exam. Additionally for comparison of the two delivery modalities, the mean aggregate total for each category was analyzed. For exams that all students received the same grade it is mentioned in the category analysis but is not included as they are only a pass fail and will not assist in the comparison of the two models. In total there were 115 students. This section is divided into seven different categories. The categories consist of administrative, defensive tactics, EVOC, firearms, mock scenes, certification, and academic. Charts for this section can be found in Table 5 (pages 90-104). The administrative aggregate reflects the combined mean score for all four administrative exams for the two Traditional classes the two PBL classes. The defensive tactics category reflects the aggregate mean scores for all six graded defensive tactic elements for the two types of classes. The EVOC category reflects the aggregate mean score for the two graded exams for the two types of classes. The firearms category reflects the aggregate mean sore for five graded firearm elements for the two types of class. The mock scene aggregate reflects the combined mean score for all four mock scenes for both types of classes. The certification category reflects the combined mean scores for four graded certification elements for the two types of classes. The academic category is comprised of all the exams that both models could not be match up on. Each model had 10 exams. The mean cumulative score is taken from all of the exams and an aggregate score is displayed for comparison of the two models.

Administrative

Categorized as administrative, there were four exams: ACCESS, Criminal Law Final, Domestic Violence, and Patrol Procedures. The ACCESS final was not significant and had a

mean of 96.81 for Traditional students and 96.15 for PBL. The Criminal Law Final mean for the

Traditional model was 84.94 and for PBL it was 90.01. This relationship was significant at

$F(1,113) = 14.935, p < .01$. For the Domestic Violence Final, the Traditional model mean was

90.38 and the PBL model mean was 92.80. The relationship was significant at $F(1,113) = 7.012$,

$p < .01$. The Patrol Procedure final was also significant at $F(1,112) = 26.091$, $p < .01$ with the

mean for the Traditional model at 90.39 and PBL at 85.32. In comparing the Traditional model

from the PBL using all four exams, the aggregate mean for the administrative category for the

Traditional model is a score of 90.6 and 91.34 for PBL. Therefore, although it is not significant,

the PBL model did approximately .74 percentage points on average better than the Traditional

model.

Defensive Tactics

There are six exams categorized as defensive tactics (DT). The DT exams consist of:

Dynamic Simulation #1, Dynamic Simulation #2, Pepper spray, DT Final Skills, DT Final

Written, and PAT First Test.   For the purpose of comparison between the two academy types,

two of the exams (DT Final Skills and PAT First Test) will not be included in the analysis

because they are pass/fail exams and everyone received the same score. The mean score for the

Dynamic Simulation #1 for the Traditional model was 84.15 and PBL was 85.03.   For the

Dynamic Simulation #2 exam, the mean for Traditional was 86.02 and PBL was 88.46. Both

simulation #1 and #2 were insignificant. However, the Pepper spray and DT final written exam

were significant.   For the Pepper Spray defensive tactic exam, the mean for Traditional model

was 84.90 and PBL was 93.72 $F(1,113) = 53.677$, $p < .01$. The DT final written exam had a

mean of 92.59 for the Traditional model and 88.14 for the PBL model $F(1,113) = 26.435$, $p <$

.01. The average score of all four tests for first traditional class was 88.99 and for the second

traditional class it was 85.11. Therefore, the Traditional model had an average of 87.05 for

defensive tactic exams. For PBL the average score on all four exams for the first PBL class was

91.94 and the second PBL class was 88.16. This resulted in the PBL model classes having an

average of 90.06. Found to be significant $F(1,113) = 4.430$, p < .05, the results of this analysis

on defensive tactic exams signify that the PBL model on average did approximately 3.01

percentage points higher than the Traditional model students.

Emergency Vehicle Operator Course (EVOC)

In the EVOC course, there were two exams administered. The first one was a written exam

and the second one was a practical exam. Similar to the Skills Exam in the defensive tactics, the

EVOC Practical exam was a pass or fail course. For the Written Exam although it was not

significant, the Traditional model aggregate score was a 91.63 and the PBL model aggregate

score was 91.27.   The results of the aggregate score are non-significant yet indicate that the

Traditional model was approximately on average .36 percentage points higher than the PBL

model.

Firearms

The firearms category consisted of a mid-term practical exam, mid-term skills exam, mid-

term written exam, low light exam, and a final practical exam.   The mean score for the firearms

mid-term practical which was not significant was 83.58 for the Traditional model and 85.86 for

the PBL. For the mid-term skills exam which was also not significant had a mean of 97.07 for

the Traditional Model and 97.15 for the PBL. Although this exam was included, it must be noted

that all students received a score of either 95 or 100. The firearms mid-term written exam was

significant $F(1,113) = 25.163$, p < .01 and had mean scores of 91.41 for the Traditional model

and 95.84 for the PBL model.   For the low light exam, which was also found to be significant at

$F(1,113) = 6.416$, p < .05, the Traditional model had a mean of 86.90 and the PBL model had a mean of 91.10. The final practical exam which was not significant had mean scores of 86.99 for the Traditional model and 87.05 for PBL. The average score of all five tests for the first Traditional class was 88.71 and for the second class it was 89.61. Therefore, the Traditional model had an average of 89.16 for firearms exams. For PBL the average score on all five exams for the first class was 91.19 and for the second class it was 91.44. This resulted in the PBL model classes having an average of 91.32. Found to be significant $F(1,113) = 6.880$, p < .05, the results of this analysis on firearm exams signify that the PBL model did approximately on average 2.16 percentage points higher than the Traditional model students.

Mock Scene

Building search, crisis mock, field interview, and traffic mock are the four exams which make up the mock scene category. The building search and crisis mock exams were not significant. The mean score for the building search of the Traditional model was 81.91 and for PBL it was 84.8. The mean score of the crisis mock was 89.50 for the Traditional model and 90.32 for PBL. For the field interview mock scene, the mean score of the Traditional model was 84.55 and 89.82 for PBL $F(1,113) = 7.728$, p < .01. The traffic mock scene was also significant at $F(1,112) = 9.408$, p < .01 with a mean score of 82.05 for the Traditional model students and 87.54 for PBL model students. The average of all four mock scene exams give the Traditional model and aggregate exam score of 84.61 and the PBL model an aggregate exam score of 88.05. This result is significant, with PBL scoring on average approximately 3.44 percentage points higher than the Traditional model students.

Certification

There were two types of certification exams that the students took. One was the Standardized Field Sobriety Testing (SFST) and the other was Blood and Alcohol Content test (BAC). Each type of testing had a practical and a written exam. The practical exams for both types will not be included in the analysis as they were pass/fail exams and everyone received the same score. The mean score for the SFST written exam was 94.05 for the Traditional model and 97.02 for the PBL model $F(1,132) = 8.749$, p < .01. The mean score for the BAC written exam was 95.74 for the Traditional model and 93.42 for the PBL $F(1,112) = 9.067$, p < .01. The average score for the first Traditional class was a 93.98 and for the second Traditional class the average score was a 95.70. This resulted in the Traditional model having an aggregate score of 94.84 for the certification exams. Under the PBL model, the first class had an average score of 93.95 and the second class had an average score of 96.78. Therefore, the PBL model had an aggregate score of 95.36 for the certification exams. The results are not significant however the PBL model did on average approximately .52 percentage points higher than the Traditional model.

Academic

There were ten tests for both models that were not able to be matched up due to the Traditional model students being tested in topic categories and PBL model students being tested in modules. The following analysis is comprised of the mean cumulative score from all of the exams and an aggregate score is displayed for purposes of the category and a general comparison of the two models (See Table 3 Capability-Academic). Under the PBL model there was a pre-reading exam and the other nine were all modules. The modules ranged from sex crimes, traffic, property crimes, and suspicious activity to disturbances. The aggregate average of all ten exams for the PBL model was 91.5. The Traditional model exams ranged from criminal investigation

mid-term and final, traffic written mid-term and final, to drugs that impair driving.   The

aggregate average of all ten exams for the Traditional model was 87.9. Significance could not be

established, however when examining the top ten average scores, seven of the top ten were from

the PBL model, and three were from the Traditional. Although the exams were different, they

provide the same function determining competency. Therefore, when comparing the aggregate

totals from the two types of approaches, the PBL model had a higher percentage score than did

the Traditional model.

Separate from the categories, to make an additional comparison between the two

modalities examining capability, an average is computed from all of the tests for every student.

Charts for this analysis can be viewed in Table 5 (Student Ranking). The results indicate an

aggregate average of 87.95 for the Traditional model and 89.86 for the PBL model. The

outcome is significant and indicates that PBL is 1.91 percentage points higher than the

Traditional model for the average of all tests $F(1,112) = 14.123$, $p < .01$.

Validation

Integrating test scores with survey questions allows for the analysis of how perceptions of

the academy match up with survey results. To identify how those perceptions were compared to

their receiving test scores, an average was computed of all test scores for every student.   The

student's average was matched up to their corresponding survey.   Analyzed against three survey

questions using the aggregated mean score received from ANOVA, it can be seen if the

perceptions are consistent with the test score. There were only six graduates who completed the

survey that could not be matched up to test scores. Two of them were from the Traditional

model and four of them were from PBL. Charts for the following questions with corresponding test scores can be found in Table 6 (pages 105-110).

The first analysis is with the question "Overall, the academy was: too hard, just right, or too easy." From the Traditional model there were 17 participants who responded with "just right." Their aggregate mean score was an 87.88.   There were two Traditional participants with a response of "too easy." Their aggregate mean score was a 92.37. Under the PBL model, there was one participant who responded with "too hard." The average for all test scores for this individual was an 87.56. There were 21 participants who responded with "just right" with a mean score of 89.19 and five participants who perceived the academy as "too easy" receiving a mean score of 91.25. The results indicate that for both the Traditional and PBL models the perception of difficulty level corresponded with the aggregate test scores.

The next analysis for comparison examined the aggregate of respondent test scores with responses to the week in which they began to feel confident.   Although the response rate is low, the results are interesting. Examining from the first week to the response of "not yet", for Traditional students, the respondent which indicated their point of confidence was in the first week receive an average test score of 86.6 and the two respondents which indicated "not yet" received an aggregate score of 92.38.   For the PBL model, the first point of confidence was in week four and the respondent received an average score of 89.10.   As the weeks progressed until the 18th week, the aggregate score of the respondents increased. From the 18th week to the response of "not yet" the scores decreased. For example, at the 17th week, the aggregate test score was 92.66 and for those who responded to "not yet" the aggregate the score was 87.43. Based on aggregate test scores and point of confidence, the results indicate that PBL perceptions were noticeably closer in corresponding with the test scores than the Traditional model.

The third question used for analysis was if "recruit responsibilities and expectations were clearly defined." In the earlier analyses of this question the results suggested that the Traditional model felt they were more clearly defined. Therefore when analyzed for comparison with the aggregate respondent test score, the presumption is that the more the Traditional model graduates agree the aggregate test score should increase. The presumption of the PBL model is that it should be similar to the Traditional but not as substantial. Keeping in mind the small sample size, the results indicate that for the Traditional model those who responded with "neutral" had an aggregate test score of 86.41. For those participants who responded with "agree," their aggregate mean test score was an 88.74, and those who responded with "strongly agree" had an aggregate mean test score of 88.69. This suggests that the perceptions of Traditional graduates are consistent with the test scores. For PBL model graduates, there was one response with "disagree" who receive a 94.04 mean test score, two participants who responded with "neutral" receiving an aggregate mean test score of 92.12, 17 participants who responded with "agree" receiving an aggregate mean score of 89.03, and six participants who responded with "strongly agree" receiving an aggregate mean test score of 89.94. The results suggests that unlike the Traditional model students, the PBL graduates who were neutral received a higher score than those who agreed with expectations being clearly defined and those that strongly agreed. The aggregate test score increased but not considerably or to the point of the neutral respondents. This indicates that for the Traditional model graduates the perception of expectations being clearly defined corresponds with the aggregate test scores, and for the PBL model graduates it is contrary to the agree category but corresponds from agree to strongly agree. In other words, when examining with aggregate test scores, the Traditional model graduates had a better perception of their expectations being defined than that of the PBL model graduates.

Summary

This chapter has presented the research findings regarding the two delivery modalities used by the Washington State Criminal Justice Training Commission to prepare law enforcement officers.   For each category of the analysis (academy differentiation, confidence, capability, and validation) a comparison of each model and the results were described.   The final chapter will discuss the implications of the results and will conclude with suggestions for future research.

Chapter V

Summary and Discussion

Introduction

In the previous chapter, categories of disparity and effectiveness between the two delivery modalities were established and a greater understanding of Problem-Based Learning in a policy academy was uncovered. A summary and discussion of the research findings are presented in this chapter along with implications of the results. This chapter concludes the thesis and it's intended to recommend police academy evaluations for the future.

Although this is only a preliminary examination of the effectiveness of the Problem-Based Learning delivery modality, this thesis addressed the research question "does the PBL delivery modality appear to be more effective than the Traditional modality in preparing recruits to be successful law enforcement officers?" Using the inquiries of what are the recruits "perceptions" of the academy, if the graduates are more "confident" in their abilities and how "capable" the graduates appear to be, the findings of this thesis suggest that the PBL model does not produce as satisfied graduates as the Traditional model, but they are performing at a higher level when they complete their academy training.

Summary and Discussion of the Research Findings

According to the research on PBL, the approach has yielded positive findings and it is believed by many practitioners that it is more effective at preparing individuals for the rigors of police work. However, evaluations have not been completed for police academies utilizing PBL until now with Washington's CJTC and DGSS. The study described here examined three key assessments: perceptions, confidence levels, and test determined capability. The application of

these assessments is used to determine if one delivery modality appears to be more effective in preparing recruits to be successful law enforcement officers. Although this study represents only a preliminary examination, the significance shows possible potential for the study as a whole.

#1 Academy Differentiation- "Perceptions" of the Academy

In receiving perceptions of the academy from the graduates, qualitative and quantitative questions were posed in an exit survey. The questions addressed the ease of the academy, benefit, and structure.   There are noteworthy differences as well as similarities between the perceptions of the graduates from the two approaches.   Overall the graduates of the PBL model thought there was more room for improvement than the Traditional model graduates, but they were also more likely to provide comments on how to improve and advice for future recruits. Equally for both models the advice that was provided was primarily positive and fell in the categories of training hints and study suggestions. Additionally, when both models gave comments on resources needed to improve the academy they equally felt that curricular enhancements were the major need. It is possible that there was a "transitional" effect when the academy switched over approaches, causing the PBL graduates to feel as if the academy is somehow inadequate and could be developed better.

The Traditional model graduates appear to be more pleased with their academy experience than the PBL model graduates. For instance, the Traditional model graduates felt that their responsibilities and expectations were more clearly defined and their assignments and projects were more useful, and the reading and group work were all more valuable than did the PBL graduates. The Traditional model graduates' overall satisfaction was also higher than the PBL model graduates, finding their training more tailored to their immediate future in police patrol work. The adequacy, design and ease of the academy structure was perceived mutually

for both approaches as they thought the difficulty was just right, it was organized more like a military unit than a community college setting, and they preferred a hands-on approach to learning. As expected, the Traditional model graduates reported that they felt the academy should be Para-military in culture, keeping the same balance of combat, warrior, tactical, and the customer service side of law enforcement training. The PBL model graduates reported that it should be balanced between the two, but would prefer a little more of a military environment than community college and thus a little less of the customer service side of law enforcement.

#2 "Confidence" – How "Confident" they are in their Abilities

Overall, based on the results from survey questions the Traditional model graduates were more confident in their abilities than the PBL model graduates. When calculating the average week the Traditional model graduates felt confident, they were a half a week earlier than the PBL model graduates. However, the graduates from both approaches were apprehensive about their abilities as the most common answer for both model graduates was "not yet" for which week the graduates began to feel confident in their abilities. It can be concluded through graduate perceptions that the Traditional model produces confident graduates marginally sooner than PBL.

#3 "Capability" – Potential that the Graduates Have

The capability of the graduates from each approach was revealed through their test scores. The results varied by type of test, but the overall finding was that the PBL model produces more capable officers. Of the 25 matched (i.e., present in both types of academies) tests, 20 of them were analyzed as the others were pass/fail exams. Of the 20 exams (both written and practical), the Traditional model had a higher average on only four of them; the PBL model graduates had a higher mean on 16 of the 20 exams. Of the 16, on eight exams scores

were significantly higher for PBL graduates. Arranged into seven categories- administrative, defensive tactics, EVOC, firearms, mock, certification, and academic- the PBL model graduates had a higher aggregate mean on six of them. The only category the Traditional model had a higher aggregate mean was EVOC, with .36 percentage points (not statistically significant). Three of the six were statistically significant. The academic category significance could not be tested as the exams could not be matched up. Regardless of this, overall the PBL model graduates exceeded the performance of the Traditional model graduates to a considerable extent.

Conclusion

Based on the aforementioned results, to explicitly answer my research question of "does the PBL delivery modality appear to be more effective than the Traditional modality in preparing recruits to be successful law enforcement officers" the answer is generally yes. In this preliminary examination the delivery modality which appears to be more effective in preparing recruits to be successful law enforcement officer is the PBL model. Although the graduates appear to be somewhat doubtful in their abilities and not as satisfied as the Traditional model graduates they performed markedly better on the skills and knowledge tested in both types of academies.

Study Implications

The initial implications of this preliminary examination will allow the Washington CJTC to refine BLEA operations, enhance the PBL instructional activities, and apply corrections in course material delivery to improve the short term efficacy of the academy. The implications of the larger study underway would ultimately depend upon the findings reported in longitudinal follow-ups with academy graduates and their supervisors, but could provide insight to the

appropriate mix of Traditional and non-Traditional methodologies, factors which impact police officer performance in the field, and ways in which the processes of academy and field training may be improved for the benefit of the profession and society. Comparing the Traditional approach to the "new" PBL approach is potentially very impactful in the field of law enforcement training and would be of interest to every law enforcement training facility in the country.

Future Research

This thesis assists in building the knowledge base of PBL applications in police academies; however useful this study might be, currently there is still much that remains unknown about the utility of the PBL model for police recruit training. Recommendations for future research need to address the limitations of this preliminary examination. First, this study is intended to offer but a peak at what the study as a whole is to encompass. To continue the whole study, two National Institute of Justice (NIJ) grant applications were sent. The first application was rejected and the weaknesses obtained from that review were applied to improve the second application. The NIJ REX form from the second application is attached in the appendices (page 141). The limitation of the small sample size and response number inhibits the ability to generalize the findings. The broader study will include a larger and more diverse sample, as should other evaluations of training academy outcomes.   It is also important for the study as a whole as well as other future evaluation studies to make sure the response items are applicable to everyone. In an attempt to improve the accuracy of the findings, the future study will also be analyzing the perceptions of training officers and supervisors. In doing so, the future research on this topic should also consider the impact that the training officers have on recruit

perception and experience. Furthermore, it should be the goal of all police training academies to evaluate periodically how effective their training approach is through systematic longitudinal studies of the type described here being undertaken in partnership between the CJTC and DGSS.

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Table 1

Demographics of Sample Study

Gender		*n*	Percent
Traditional	Male	18	85.7
	Female	3	14.3%
PBL	Male	30	93.8%
	Female	2	6.3%
Total	Male	48	91%
	Female	5	9%

Age At Time of Graduation		*n*	Percent
Traditional	21.00	1	4.8
	22.00	1	4.8
	23.00	3	14.3
	24.00	1	4.8
	25.00	1	4.8
	26.00	1	4.8
	27.00	1	4.8
	28.00	2	9.5
	29.00	1	4.8
	31.00	2	9.5
	33.00	1	4.8
	34.00	1	4.8
	36.00	1	4.8
	37.00	1	4.8
	40.00	1	4.8
	41.00	1	4.8
	42.00	1	4.8
	Total	21	100.0
PBL	23.00	4	12.5

24.00	4	12.5
25.00	2	6.3
26.00	2	6.3
27.00	1	3.1
28.00	4	12.5
29.00	2	6.3
30.00	2	6.3
31.00	1	3.1
32.00	1	3.1
33.00	1	3.1
34.00	2	6.3
36.00	3	9.4
37.00	1	3.1
39.00	1	3.1
41.00	1	3.1
Total	32	100.0

Age At Time of Graduation	Mean
Traditional	29.7
PBL	29.2

Ethnicity		*n*	Percent
Traditional	Hispanic or Latino	2	9.5%
	Not Hispanic or Latino	17	81%
	Did not Respond	2	9.5%
PBL	Hispanic or Latino	2	6.3%
	Not Hispanic or Latino	27	84.4%
	Did not Respond	3	9.4%
Total	Hispanic or Latino	4	8%
	Not Hispanic or Latino	44	83%
	Did not respond	5	9%

Race		n	Percent
Traditional	White	20	95.2%
	Missing	1	4.8%
PBL	White	28	87.5%
	Missing	4	12.5%
Total	White	48	91%
	Missing	5	9%

Highest Level of Education		n	Percent
Traditional	Some High School	1	4.8%
	Completed High School	1	4.8%
	Some College, Trade School	11	52.4%
	Completed 4 year Degree	6	28.6%
	Some Graduate Work	2	9.5%
	Hold An Advanced Degree	0	0%
PBL	Some High School	0	0%
	Completed High School	5	15.6%
	Some College, Trade School	16	50%
	Completed 4 year Degree	9	28.1%
	Some Graduate Work	0	0%
	Hold An Advanced Degree	2	6.3%
Total	Some High School	1	2%
	Completed High School	6	11%
	Some College	27	51%

Completed 4 year Degree		15	28%						
Some Graduate Work		2	4%						
Hold An Advanced Degree		2	4%						

Previous Experience	Trad. None	PBL None	Trad. 6mo. or less	PBL 6 mo. or less	Trad. Less than 1 Year	PBL Less than 1 year	Trad. Less than 5 years	PBL Less than 5 years	Trad. 5 years or more	PBL 5 years or more
Police Patrol Experience	66.7%	71.9%	4.8%	12.5%	4.8%	3.1%	14.3%	0%	4.8	0%
Correctional Officer Experience	81%	62.5%	0%	3.1%	0%	3.1%	9.5%	18.8%	4.8%	3.1%
Security/ Loss Prevention	76.2%	62.5%	0%	9.4%	4.8%	3.1%	9.5%	9.4%	0%	3.1%
Law Enforcement Support Experience	81%	87.5%	0%	0%	0%	0%	4.8%	0%	4.8%	0%
Law Enforcement Explorer Program	81%	87.5%	0%	0%	4.8%	0%	0%	0%	0%	0%
Emergency Response Experience	76.2%	75%	0%	6.3%	0%	0%	9.5%	6.3%	9.5%	3.1%
Other Law Enforcement Background	76.2%	65.6%	0%	3.1%	4.8%	3.1%	4.8%	9.4%	4.8%	0%
Navy	52.4%	71.9%	0%	0%	0%	0%	4.8%	0%	4.8%	0%
Marine	57.1%	62.5%	0%	3.1%	0%	0%	4.8%	3.1%	4.8%	3.1%
Army	57.1%	68.8%	0%	3.1%	0%	0%	0%	6.3%	19.0%	0%
Air force	52.4%	71.9%	0%	0%	0%	0%	4.8%	0%	0%	4.8%
National Guard	57.1%	71..9%	0%	0%	0%	0%	0%	0%	4.8%	0%
Reserves	57.1%	68.8%	0%	0%	0%	0%	4.8%	3.1%	4.8%	0%

Table 2

Content Analysis Charts

Responses	Traditional	PBL
Comments	66	118
Responders	20/21	31/32
Suggestions to Improve the Academy	18/21 (not including 2 they only responded putting agency) 50%(n=9)	27/32 (not including 4 as they only responded putting agency) 74% (n= 20)
Advice for New Recruit beginning Academy	83% (n=15)	92.5% (n=25)
Specific Moment Felt Confident in Abilities	55% (n=10)	30% (n=8)
Other Resources should be made available	10 (55%)	44% (n=12)
General/ Other Comments	22% (n=4)	41% (n=11)

Suggestions to Improve the Academy

	Traditional- 50% (n=9)(4 comments were doubles)	PBL- 74% (n=20) (6 comments were doubles, 1 fit into all)
Academy	5 = 55%	10 = 50%
TAC Officer/ Instructors	3= 33%	6 = 30%
Curriculum	5= 55%	12= 60%

Advice for New Recruit

	Traditional- 83% (n=15)	PBL- 82.5% (n=25) (4 were doubles with pos/negative and 2 doubles with categories)
Positive Advice	13 = 87%	22 = 88%
Negative Advice	2 – 13%	7 = 28%
Instructors	2 = 13%	6 = 24%
Training/ Studying	7 = 47%	13 = 52%
Beginning (advice for before enter BLEA)	1 = 7%	4 = 16%

General (No Specific)	5 = 33%	4 = 16%

Specific Moment Felt Confident in Abilities

	Traditional- 55% (n=10)	PBL- 30% (n=8)
Mock	3 – 30%	6- 75%
After Graduation	3 – 30%	1 – 12.5%
Throughout- Not specific	2 – 20%	1 – 12.5%
Provided Comments That really don't apply- "the training environment is good for knowledgeable. But nothing can replace actual experience" and remember what you learn and apply it."	2 – 20%	

Other Resources that should be Made Available

	Traditional – 55% (n= 10)	PBL – 44% (n= 12)
Curriculum	5 – 50%	6 – 50%
General Parts of Academy	2 – 20%	4 - 33%
In the Academy Outside Extra (such as agencies) Involvement/training	3 – 30% (All are Ride-along)	2 – 17% (1 is Ride-along)

General/Other Comments

	Traditional - 22% (n=4) (Pos, Neg, Sug-1 double) (Grat, Con. Feedback, Criticism – all 4 doubles)	PBL- 41% (n=11) (Pos, Neg, Sug- 4 doubles) (Grat, Con. Feedback, Criticism- 4 doubles)
Positive (On experience)	2 – 50%	4 – 36%
Negative (On Experience)	2 – 50%	6 – 54%
Suggestion	1 – 25%	5 – 45%
Gratitude	2 – 50%	4 – 36%
Constructive Feedback	2 – 50%	5 – 45%
Criticism	4 – 100%	6 – 55%

Table 3

Academy Differentiation

Traditional (n=21), PBL (n=30)

	n	Traditional Agree	*n*	PBL Agree	*n*	Traditional Neutral	*n*	PBL Neutral	*n*	Traditional Disagree	*n*	PBL Disagree
Responsibilities and Expectations Clearly Defined	17	81%	25	78.2%	3	14.3%	3	9.4%	1	4.8%	2	6.3%
Assignments And Projects were Useful	9	42.9%	9	28.1%	10	47.6%	15	46.9%	2	9.5%	8	25%
Reading Assignments were Valuable	11	52.4%	13	40.6%	8	38.1%	12	37.5%	2	9.5%	7	21.9%
Group Work was Valuable	18	85.7%	18	56.2%	3	14.3%	9	28.1%	0	0%	5	15.7%
Curriculum as a Whole was Well	16	76.2%	9	28.1%	3	14.3%	15	46.9%	2	9.6%	7	21.9%
Overall academy – similar to college	5	23.8%	9	28.2%	4	19%	5	16.6%	9	57.2%	18	56.2%

	Traditional Mean	PBL Mean	Traditional Std. Deviation	PBL Std. Deviation
Responsibilities and Expectations Clearly Defined	4.19	3.97	.873	.765
Assignments And Projects were Useful	3.38	3.03	.740	.861
Reading Assignments were Valuable	3.52	3.22	.814	.832
Group Work was Valuable	4.05	3.50	.589	1.07
Curriculum as a Whole was Well	3.71	3.03	.902	.795
Overall academy – similar to college	2.52	2.61	1.03	1.01

Overall Academy Was

	n	Too Hard	*n*	Just Right	*n*	Too Easy	Mean	Standard

	n		n		n		Mean	Standard Deviation
Traditional	0	0%	19	90.5%	2	9.5%	2.09	.300
PBL	1	3.1%	25	78.1%	5	15.6%	2.12	.427

Experience You Think Ought to Be

	n	Para-Military	n	Balanced	n	Community College	Mean	Standard Deviation
Traditional	13	61.8%	5	23.8%	3	14.3%	1.71	.532
PBL	10	22%	19	59.4%	2	6.3%	1.87	.432

With Regard to Training and Discussion Would you like:

	A Little Less				About The Same				A Little More				Quite A Bit More			
	n	Trad.	n	PBL	n	Trad.	n	PBL	n	Trad.	n	PBL	n	Trad.	n	PBL
Combat Tactical	1	4.8%	0	0%	9	42.9%	11	34.4%	3	14.3%	15	46.9%	8	38.1%	6	18.8%
Customer Service	5	23.8%	12	37.5%	9	42.9%	14	43.8%	7	33.3%	4	12.5%	0	0%	2	6.3%

	Traditional Mean	PBL Mean	Traditional Standard Deviation	PBL Standard Deviation
Combat Tactical	3.85	3.84	1.01	.723
Customer Service	3.09	2.87	.768	.870

Learning approach most contributed to acquisition of skills and knowledge

		n	Yes	n	No	Mean
Group Work	Traditional	1	4.8%	20	95.2%	1.95
	PBL	2	3.1%	31	96.9%	1.96
Individual	Traditional	0	0%	21	100%	2.0
	PBL	0	0%	32	100%	2.0
Hands On	Traditional	15	71.4%	6	28.6%	1.28
	PBL	22	68.8%	10	31.3%	1.31
Lecture	Traditional	1	4.8%	20	95.2%	1.95

	PBL	4	12.5%	28	87.5%	1.87
Mock	Traditional	10	47.6%	11	52.4%	1.52
	PBL	12	37.5%	20	62.5%	1.62

Table 4

Confidence

Week at Which Felt Confident

		n	Percent
Traditional	1.00	1	4.8
	5.00	1	4.8
	10.00	1	4.8
	12.00	2	9.5
	13.00	2	9.5
	15.00	2	9.5
	16.00	1	4.8
	17.00	2	9.5
	18.00	2	9.5
	19.00	1	4.8
	Not Yet	3	14.3
PBL	4.00	1	3.1
	8.00	1	3.1
	10.00	2	6.3
	12.00	4	12.5
	14.00	3	9.4
	15.00	4	12.5
	16.00	4	12.5
	17.00	2	6.3
	18.00	3	9.4
	19.00	2	6.3
	Not Yet	5	15.6

	Mean
Traditional	14.5
PBL-	15.2

Specific Point Felt Confident and School Level Cross-tabulation

	School Level			
	High school or Lower	Some College or Trade School	4 yr or higher	Total

| Specific Point Felt Confident | Not Yet | 2 | 4 | 2 | 8 |

|	N	Mean	Std. Deviation	Std. Error
High School or Lower	5	14.8000	1.30384	.58310
Some College or Trade School	19	13.4211	4.87984	1.11951
4 yr or higher	17	14.3529	3.79047	.91932
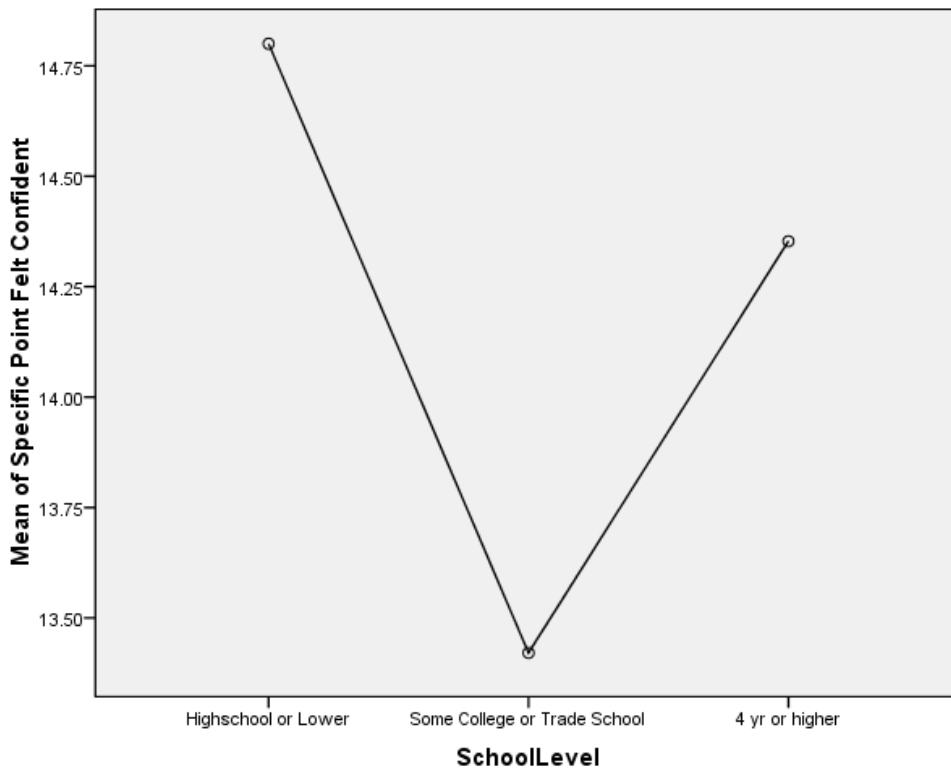
Table 5

Capability

Administrative Exams

		N	Mean	Maximum
Access Final	Traditional	58	96.8103	100.00
	PBL	57	96.1404	100.00
	Total	115	96.4783	100.00
Crim Law Final	Traditional	58	84.9483	95.00
	PBL	57	90.0000	100.00
	Total	115	87.4522	100.00
Domestic Violence Final	Traditional	58	90.3793	98.00
	PBL	57	92.8070	100.00
	Total	115	91.5826	100.00
Patrol Procedure	Traditional	58	90.3966	98.00
	PBL	56	85.3214	98.00
	Total	114	87.9035	98.00
Averages	Traditional	58	90.6336	96.75
	PBL	57	91.0760	97.75
	Total	115	90.8529	97.75

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Access Final	Between Groups	12.905	1	12.905	.473	.493
	Within Groups	3085.791	113	27.308		
	Total	3098.696	114			
Crim Law Final	Between Groups	733.642	1	733.642	14.935	.000
	Within Groups	5550.845	113	49.123		
	Total	6284.487	114			
Domestic Violence Final	Between Groups	169.433	1	169.433	7.012	.009
	Within Groups	2730.532	113	24.164		
	Total	2899.965	114			

Patrol Procedure	Between Groups	733.845	1	733.845	26.091	.000
	Within Groups	3150.094	112	28.126		
	Total	3883.939	113			
Averages	Between Groups	5.627	1	5.627	.313	.577
	Within Groups	2030.767	113	17.971		
	Total	2036.393	114			

Class	Access Mean	Criminal Law mean	Domestic Violence Mean	Patrol Procedures Mean	Averages
637	96.67	85	89.04	89.56	90.0675
638	96.94	84.9	91.55	91.13	91.13
639	93.67	84.27	90.6	81.59	87.5325
640	98.97	96.37	95.26	89.99	95.1475
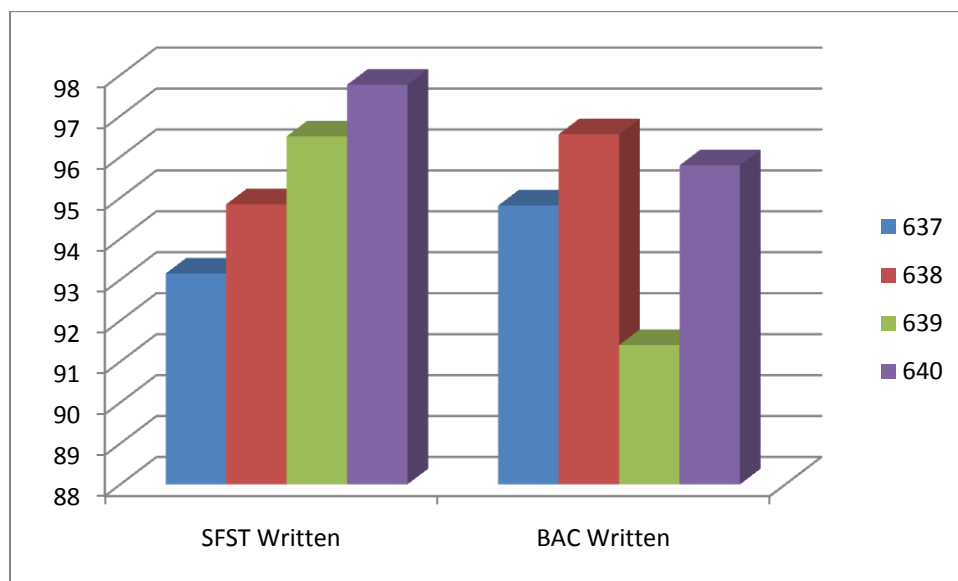
	Class	Average	Administrative Aggregate
Traditional	637	90.07	
			= 90.6
	638	91.13	
PBL	639	87.53	
			= 91.34

640   95.15
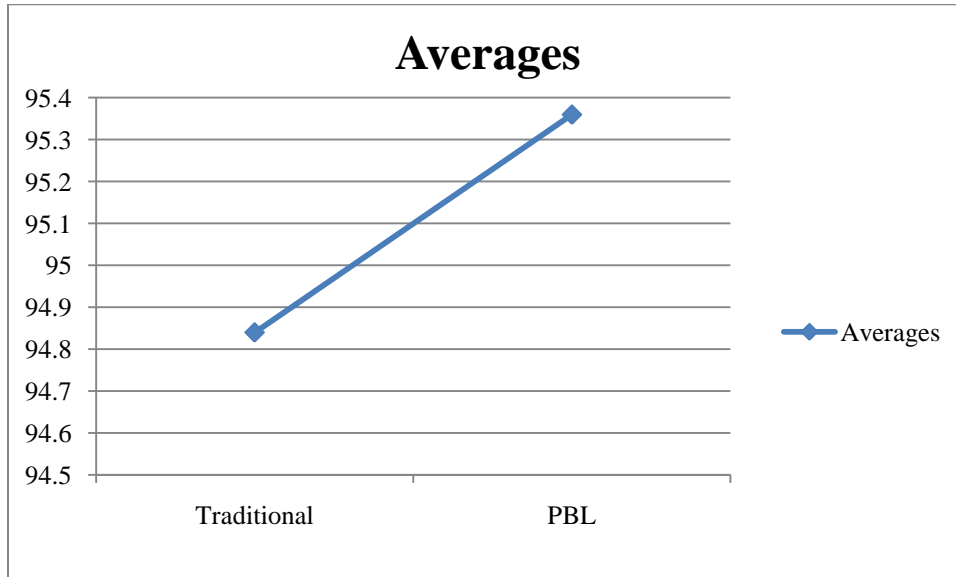
Averages

Defensive Tactic Exams

		N	Mean	Minimum	Maximum
Averages	Traditional	58	86.9138	77.25	96.75
	PBL	57	88.8377	77.75	97.50
	Total	115	87.8674	77.25	97.50
DT Final written	Traditional	58	92.5862	80.00	98.00
	PBL	57	88.1404	76.00	96.00
	Total	115	90.3826	76.00	98.00
Pepper Spray	Traditional	58	84.8966	70.00	97.00
	PBL	57	93.7193	83.00	100.00
	Total	115	89.2696	70.00	100.00
Dynamic Simulation 2	Traditional	58	86.0172	70.00	100.00
	PBL	57	88.4561	70.00	100.00
	Total	115	87.2261	70.00	100.00
Dynamic Simulation 1	Traditional	58	84.1552	70.00	100.00
	PBL	57	85.0351	70.00	100.00
	Total	115	84.5913	70.00	100.00

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
averages	Between Groups	106.410	1	106.410	4.430	.038
	Within Groups	2714.005	113	24.018		
	Total	2820.415	114			
DT Final written	Between Groups	568.219	1	568.219	26.435	.000
	Within Groups	2428.946	113	21.495		
	Total	2997.165	114			
Pepper Spray	Between Groups	2237.755	1	2237.755	53.677	.000
	Within Groups	4710.888	113	41.689		
	Total	6948.643	114			
Dynamic Simulation 2	Between Groups	170.999	1	170.999	1.667	.199
	Within Groups	11593.123	113	102.594		
	Total	11764.122	114			
Dynamic Simulation 1	Between Groups	22.258	1	22.258	.213	.646
	Within Groups	11835.533	113	104.739		
	Total	11857.791	114			

Class	Dynamic1	Dynamic2	Pepper Spray	DT Final Written	Average
637	88.81	85.37	90.26	91.52	88.99
638	80.1	86.58	80.23	93.52	85.1075
639	96.03	89.47	96.07	86.2	91.9425
640	83.93	87.33	91.14	90.3	88.175

	Class	Average	DT Aggregate
Traditional	637	88.99	
	638	85.11	= 87.05
PBL	639	91.94	
	640	88.18	= 90.06
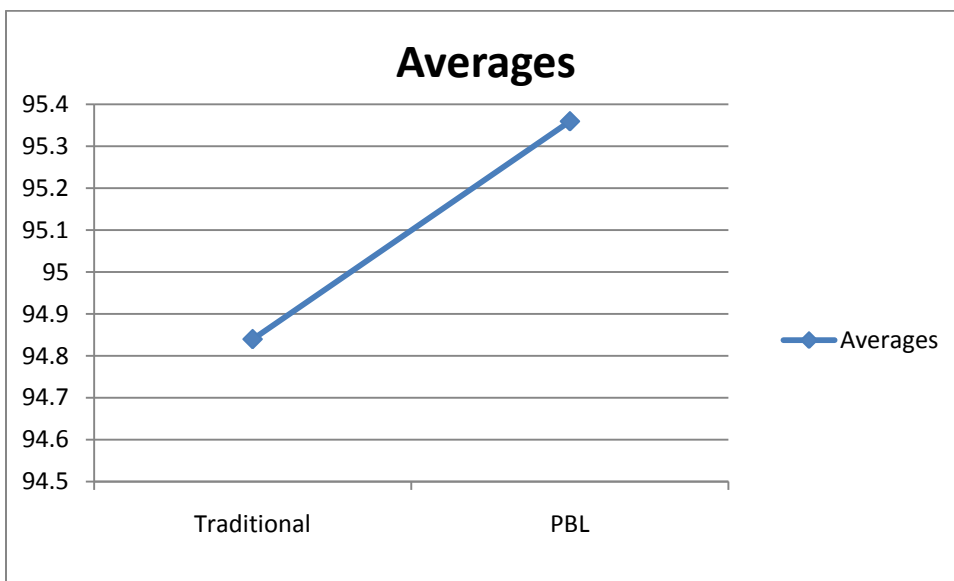
Emergency Vehicle Operator Course Exam

	Class	EVOC Written Exam Average	EVOC Aggregate
Traditional	637	91.31	
			= 91.63
	638	91.95	
PBL	639	90.26	
			= 91.27
	640	92.28	

ANOVA	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.106	1	8.106	.334	.564
Within Groups	2739.241	113	24.241		
Total	2747.347	114			

EVOC Written Exam

Average
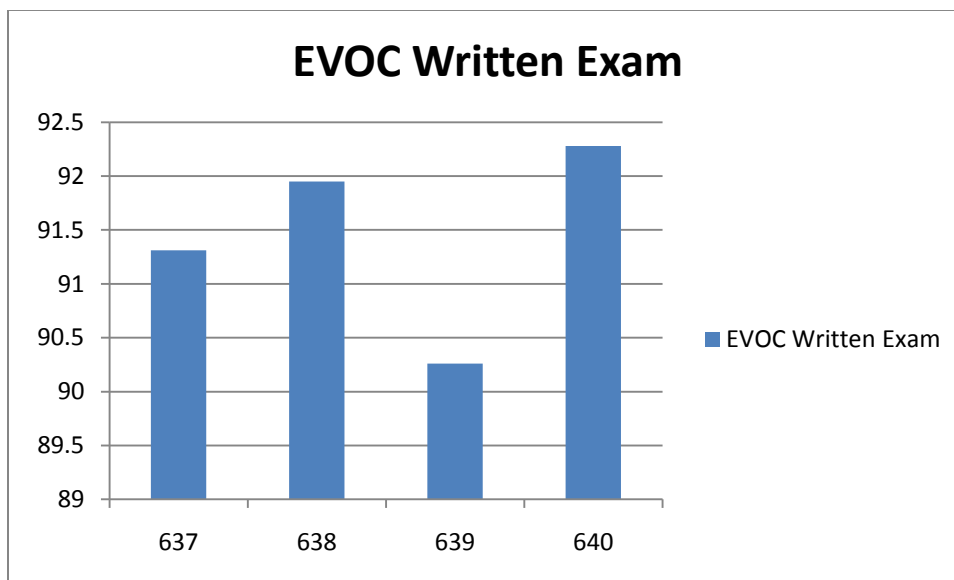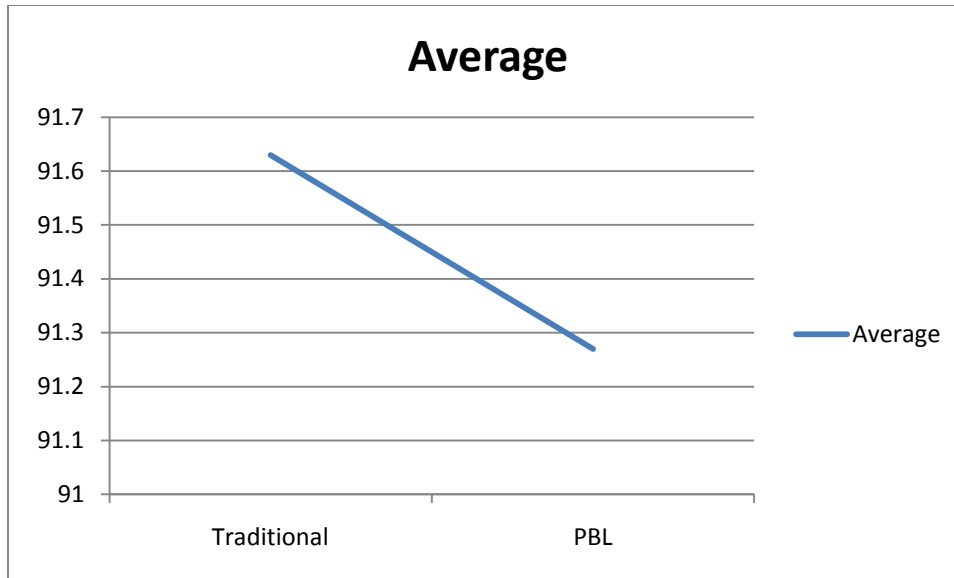
Firearm Exams

		N	Mean	Minimum	Maximum
Firearms Midterm Practical	Traditional	58	83.5759	70.00	96.20
	PBL	57	85.8575	70.00	96.60
	Total	115	84.7068	70.00	96.60
Firearms Midterm Skills	Traditional	58	97.0690	80.00	100.00
	PBL	57	97.1053	90.00	100.00
	Total	115	97.0870	80.00	100.00
Firearms Midterm Written	Traditional	58	91.4138	76.00	100.00
	PBL	57	95.8421	86.00	100.00
	Total	115	93.6087	76.00	100.00
Lowlight Practical	Traditional	58	86.9047	70.00	100.00
	PBL	57	91.1040	70.00	100.00
	Total	115	88.9861	70.00	100.00
Final Practical	Traditional	58	86.9969	70.00	98.69
	PBL	57	87.0505	70.00	98.69
	Total	115	87.0235	70.00	98.69
Averages	Traditional	58	89.1920	78.80	98.21

PBL	57	91.3919	82.91	98.04
Total	115	90.2824	78.80	98.21

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Firearms Midterm Practical	Between Groups	149.663	1	149.663	2.611	.109
	Within Groups	6476.944	113	57.318		
	Total	6626.607	114			
Firearms Midterm Skills	Between Groups	.038	1	.038	.002	.961
	Within Groups	1749.093	113	15.479		
	Total	1749.130	114			
Firearms Midterm Written	Between Groups	563.743	1	563.743	25.163	.000
	Within Groups	2531.648	113	22.404		
	Total	3095.391	114			
Lowlight Practical	Between Groups	506.962	1	506.962	6.416	.013
	Within Groups	8928.233	113	79.011		
	Total	9435.195	114			
Final Practical	Between Groups	.083	1	.083	.001	.972
	Within Groups	7714.064	113	68.266		
	Total	7714.147	114			
Averages	Between Groups	139.122	1	139.122	6.880	.010
	Within Groups	2285.122	113	20.222		
	Total	2424.244	114			

Class	Mid-Term Practical	Mid-Term Skills	Mid-Term Written	Low Light	Final Practical	Averages
637	82.16	97.04	92.52	87.15	84.7	88.714
638	84.81	97.1	90.45	86.69	88.99	89.608
639	84.94	97.17	97.37	90.63	85.84	91.19
640	86.25	96.72	94.21	91.64	88.39	91.442
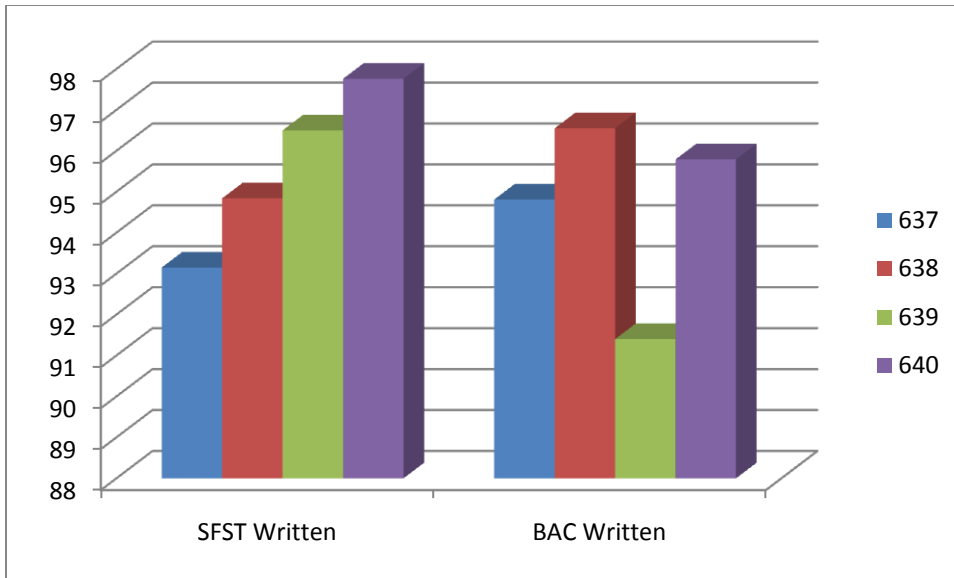
	Class	Average	Administrative Aggregate
Traditional	637	88.71	
			= 89.16
	638	89.61	
PBL	639	91.19	
			= 91.32
	640	91.44	
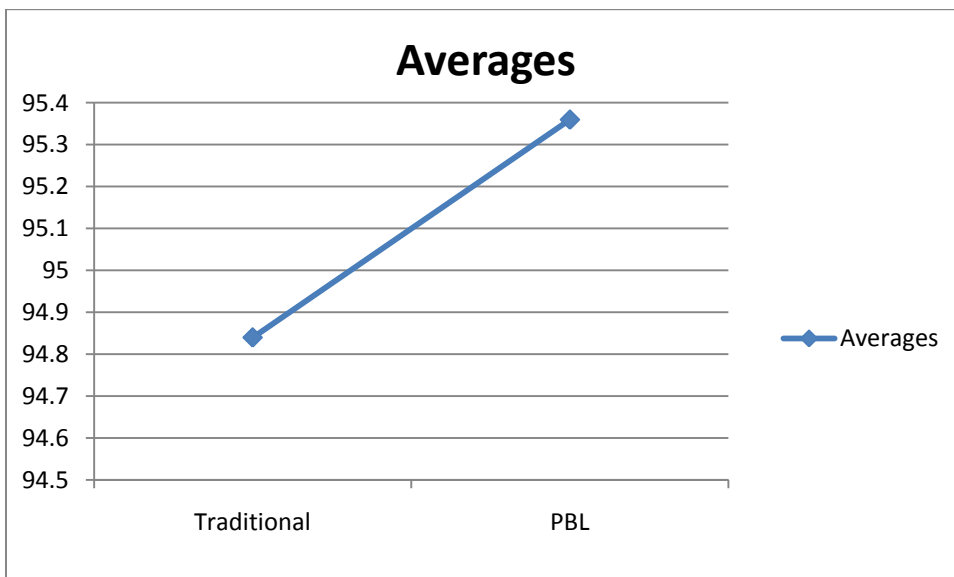
Mock Scene Exams

		N	Mean
Building Search	Traditional	58	81.9138
	PBL	52	84.8077
	Total	110	83.2818
Crisis Mock	Traditional	58	89.5000
	PBL	56	90.3214
	Total	114	89.9035
Field Interview	Traditional	58	84.5517
	PBL	57	89.8246
	Total	115	87.1652
Traffic Mock	Traditional	58	82.0517
	PBL	56	87.5357
	Total	114	84.7456
Averages	Traditional	58	84.5043
	PBL	57	88.2602
	Total	115	86.3659

		Sum of Squares	df	Mean Square	F	Sig.
Building Search	Between Groups	229.618	1	229.618	2.184	.142
	Within Groups	11354.646	108	105.136		
	Total	11584.264	109			
Crisis Mock	Between Groups	19.224	1	19.224	.204	.653
	Within Groups	10578.714	112	94.453		
	Total	10597.939	113			
Field Interview	Between Groups	799.270	1	799.270	7.728	.006
	Within Groups	11686.590	113	103.421		
	Total	12485.861	114			
Traffic Mock	Between Groups	856.849	1	856.849	9.408	.003

	Within Groups	10200.773	112	91.078		
	Total	11057.623	113			
Averages	Between Groups	405.544	1	405.544	12.171	.001
	Within Groups	3765.104	113	33.320		
	Total	4170.649	114			

Class	Building Search	Crisis Mock	Field Interview	Traffic Mock	Averages
637	83.85	93.89	82.48	84.37	86.1475
638	80.23	85.68	86.35	80.03	83.0725
639	81.28	91.76	91.7	87.72	88.115
640	88.07	88.78	87.74	87.33	87.98
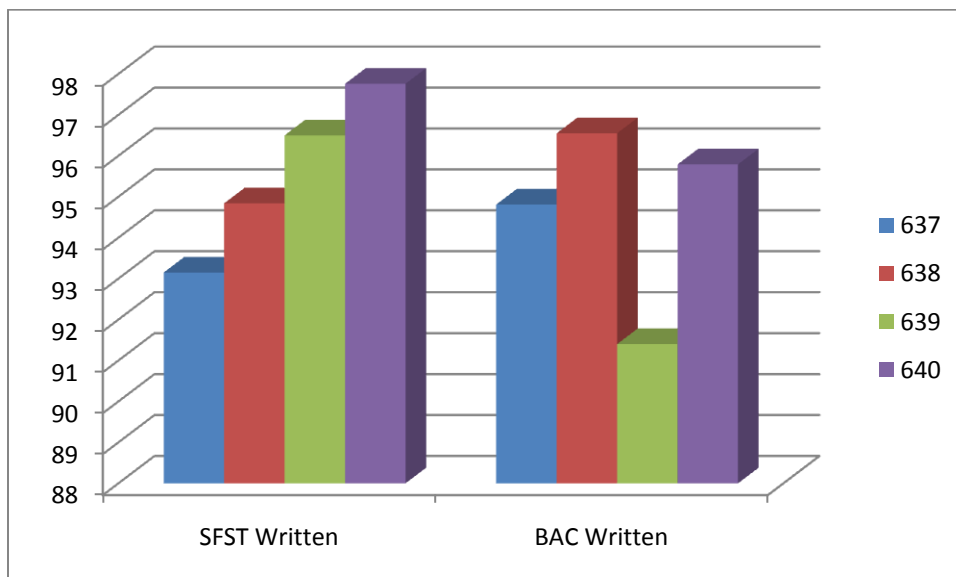
	Class	Average	Administrative Aggregate
Traditional	637	96.15	= 84.61
	638	83.07	
PBL	639	88.12	= 88.05
	640	87.98	
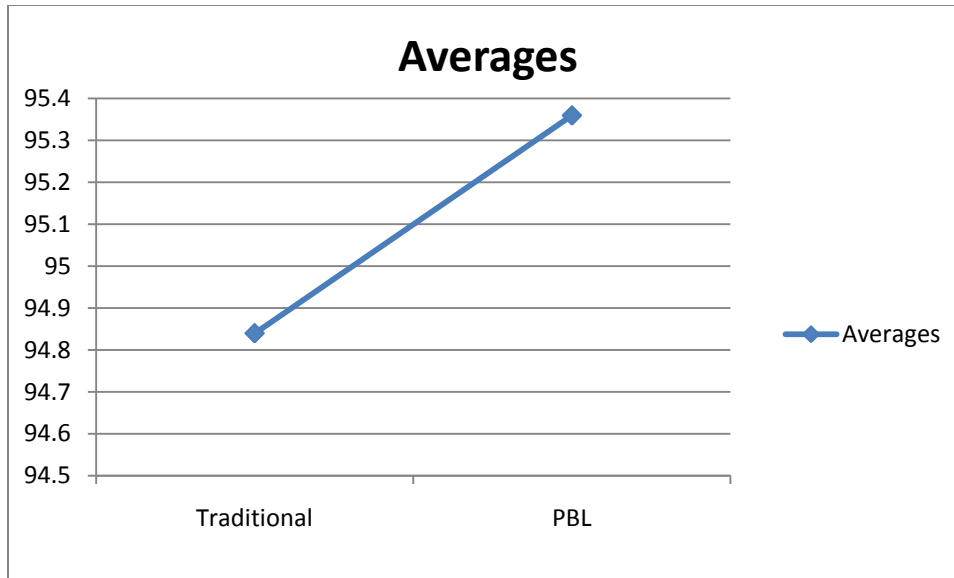
Certification

		N	Mean
SFST Written	Traditional	58	94.0517
	PBL	57	97.0175
	Total	115	95.5217
BAC Written	Traditional	58	95.7414
	PBL	57	93.4211
	Total	115	94.5913
Averages	Traditional	58	94.8966
	PBL	57	95.2193
	Total	115	95.0565

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
SFST Written	Between Groups	252.868	1	252.868	8.749	.004
	Within Groups	3265.827	113	28.901		
	Total	3518.696	114			
BAC Written	Between Groups	154.776	1	154.776	9.067	.003

	Within Groups	1929.015	113	17.071		
	Total	2083.791	114			
Averages	Between Groups	2.995	1	2.995	.189	.664
	Within Groups	1787.388	113	15.818		
	Total	1790.383	114			

Class	SFST Written	BAC Written	Averages
637	93.15	94.81	93.98
638	94.84	96.55	95.695
639	96.5	91.4	93.95
640	97.76	95.79	96.775
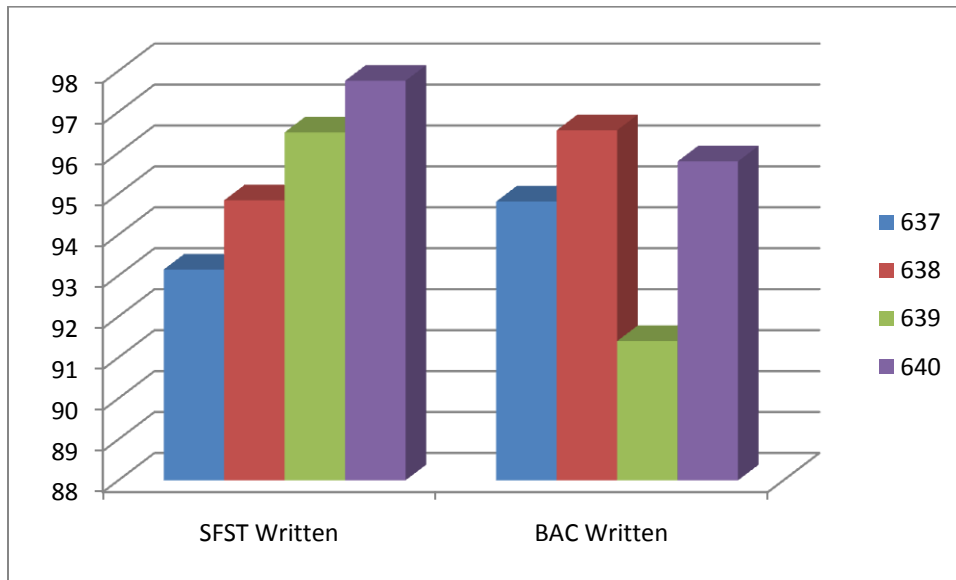
	Class	Average	Administrative Aggregate
Traditional	637	93.98	
	638	95.70	= 94.84
PBL	639	93.95	
	640	96.78	= 95.36
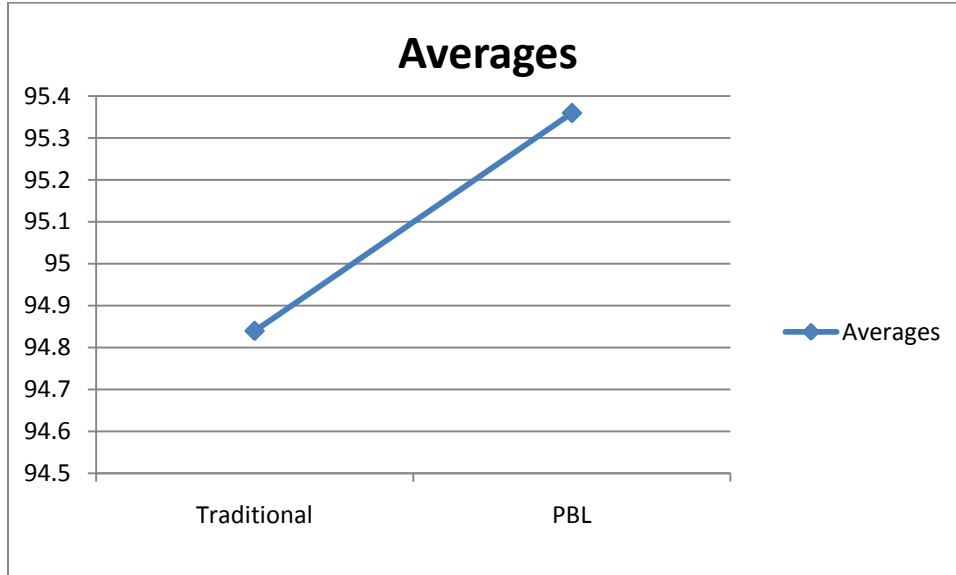
Averages

Academic

PBL	Pre-Reading Exam	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8	Module 9
639	85.4	90.13	89.93	90.03	90.07	89.2	89.77	90.63	87.93	98
640	76.33	95.07	92.35	94.34	93.62	95.48	95.04	93.44	98.07	96.93
Averages	80.865	92.6	91.14	92.185	91.845	92.34	92.405	92.035	93	97.465

Trad.	Comprehensive	Written Mid-term	Written Final	Criminal Investigation Mid-term	Criminal Investigation Final	Crim Law Mid-term	Crisis Intervention	Traffic Written Mid-term	Traffic Written Final	Drugs That Impair Driving
639	83.11	81.93	84.22	87.85	85.44	84.63	93.7	92.16	91.48	91.3
640	80.58	88.9	87.74	88.81	85.29	90	95.23	78.47	92.18	96.77
Averages	81.845	85.415	85.98	88.33	85.365	87.315	94.465	85.315	91.83	94.035

	Traditional	PBL
Aggregate	87.989	91.588

Student Ranking

	N	Mean
Traditional	58	87.9499
PBL	56	89.8587
Total	114	88.8876

ANOVA	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	103.805	1	103.805	14.123	.000
Within Groups	823.204	112	7.350		
Total	927.009	113			
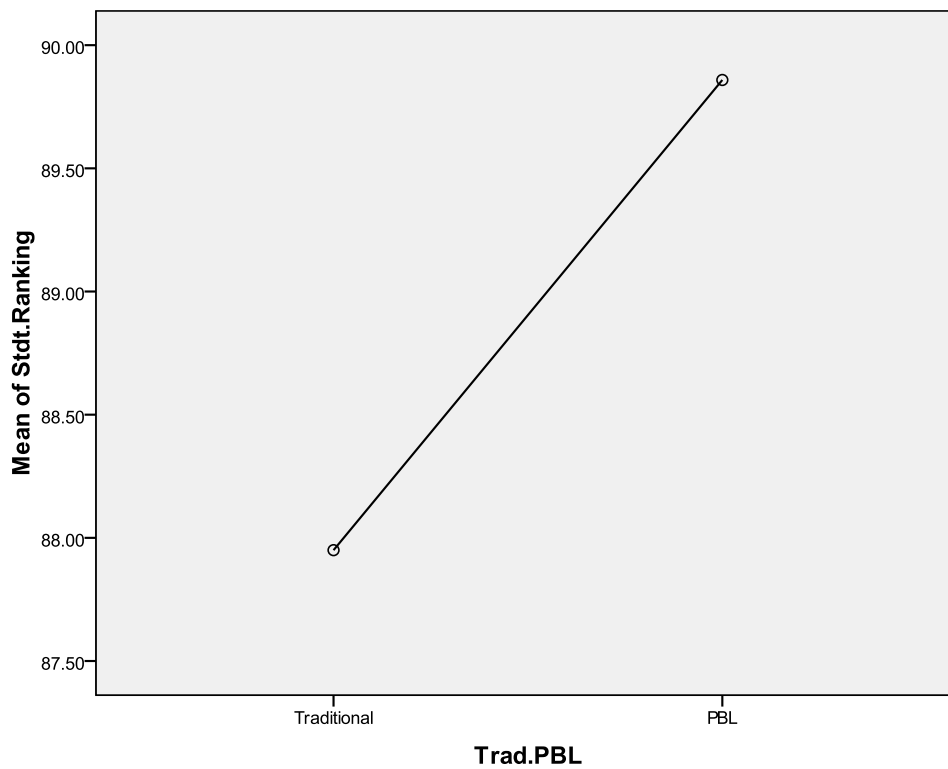
Table 6

Validation

"Overall the Academy Was" with "Test Score Average"

		N	Mean	Maximum
Traditional	Just Right	17	87.8809	90.84
	Too Easy	2	92.3755	94.97
	Total	19	88.3541	94.97
PBL	Too Hard	1	87.5590	87.56
	Just Right	21	89.1878	94.04
	Too Easy	5	91.2546	93.59
	Total	27	89.5102	94.04

		Sum of Squares	df	Mean Square	F	Sig.
Traditional	Between Groups	36.149	1	36.149	7.470	.014
	Within Groups	82.270	17	4.839		
	Total	118.419	18			
PBL	Between Groups	21.205	2	10.603	1.313	.288
	Within Groups	193.761	24	8.073		
	Total	214.966	26			

Traditional or PBL: Traditional

Traditional or PBL: PBL
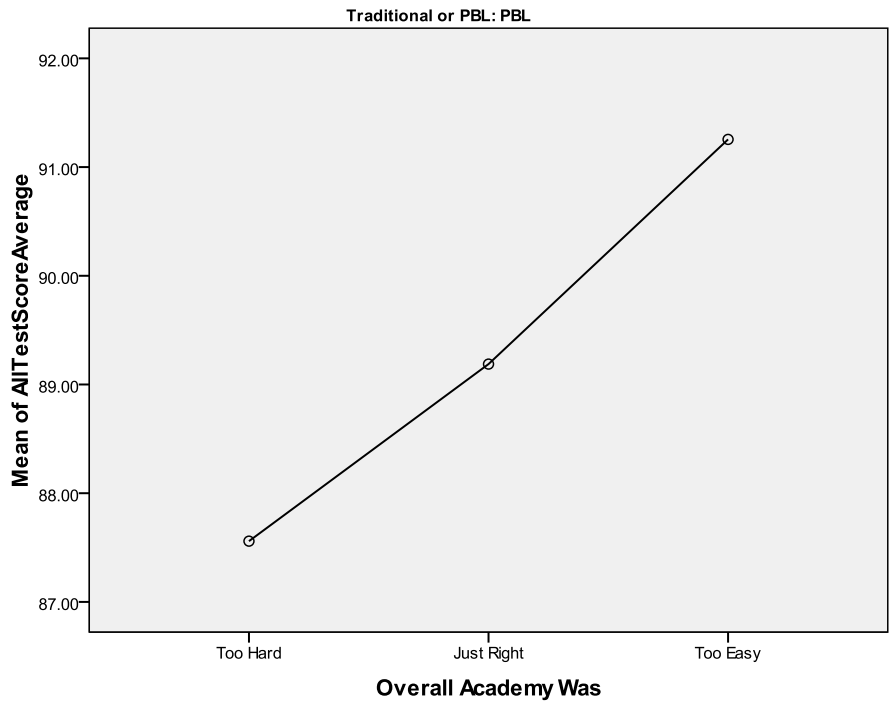
"Point of Confidence" with "Test Score Average"

		N	Mean
Traditional	1.00	1	86.6250

	5.00	1	90.8440
	10.00	1	90.4700
	12.00	2	87.8655
	13.00	2	86.5240
	15.00	2	85.8310
	16.00	1	89.6850
	17.00	2	89.9680
	18.00	2	85.8605
	19.00	1	89.7860
	Not Yet	2	92.3765
	Total	17	88.4859
PBL	4.00	1	89.1080
	8.00	1	91.5390
	10.00	2	89.0655
	12.00	3	87.8430
	14.00	3	87.8157
	15.00	2	89.2380
	16.00	4	92.5633
	17.00	2	92.6650
	18.00	3	90.9990
	19.00	1	87.6200
	Not Yet	5	87.4326
	Total	27	89.5405

Traditional or PBL: Traditional

Traditional or PBL: PBL
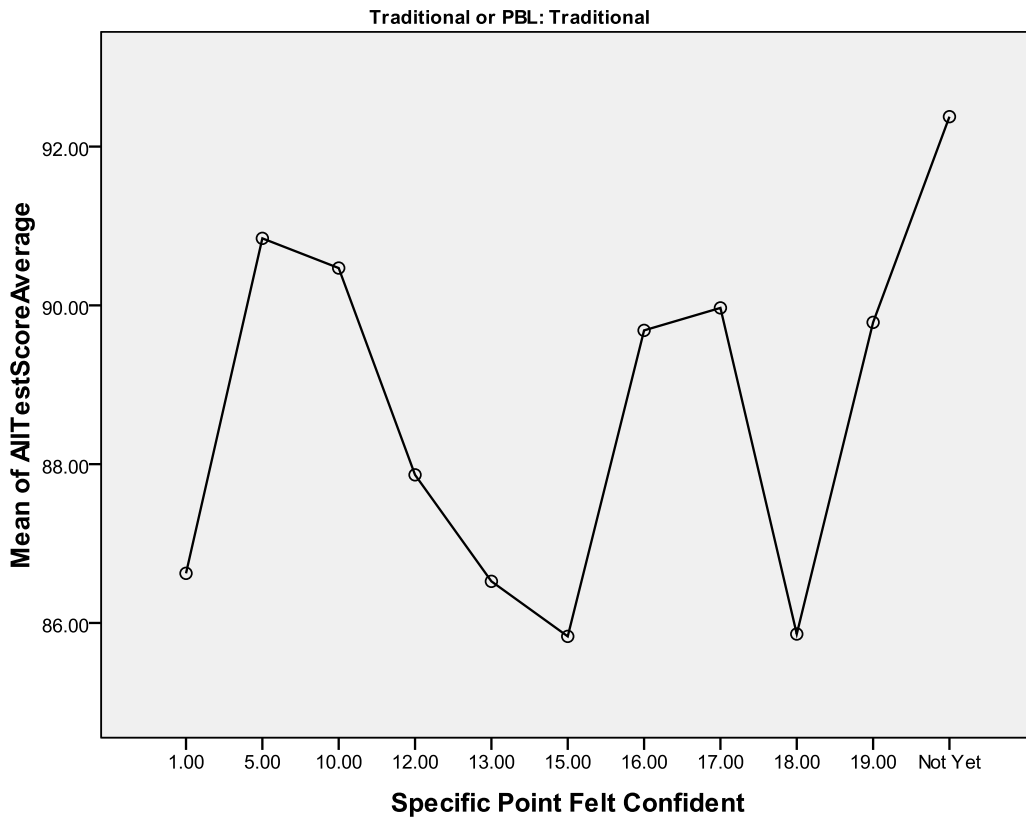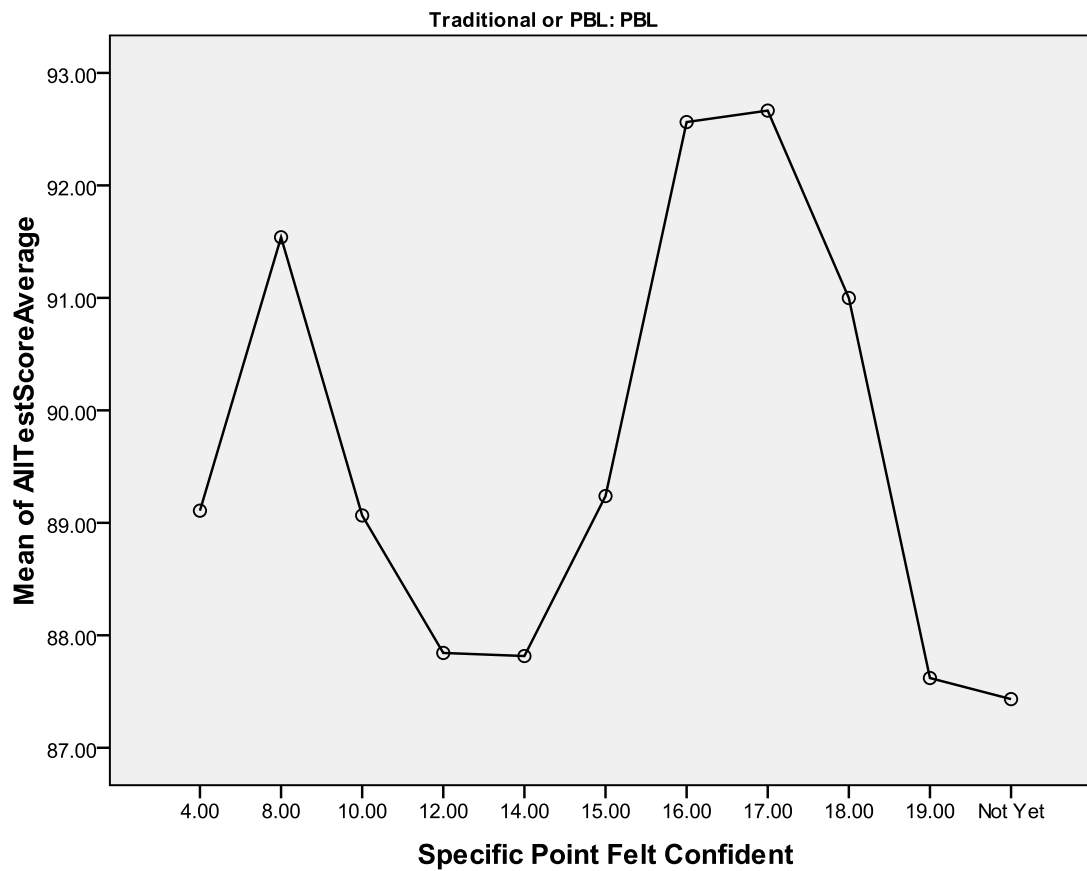
"Responsibilities and Expectations Clearly Defined" with "Test Score Average"

Traditional or PBL		N	Mean	Maximum
Traditional	Neutral	3	86.4127	86.63
	Agree	8	88.7410	90.84
	Strongly Agree	8	88.6951	94.97
	Total	19	88.3541	94.97
PBL	Disagree	1	94.0420	94.04
	Neutral	2	92.1200	93.59
	Agree	17	89.0306	93.18
	Strongly Agree	6	89.9435	93.94
	Total	26	89.6717	94.04

Traditional or PBL: Traditional

Traditional or PBL: PBL
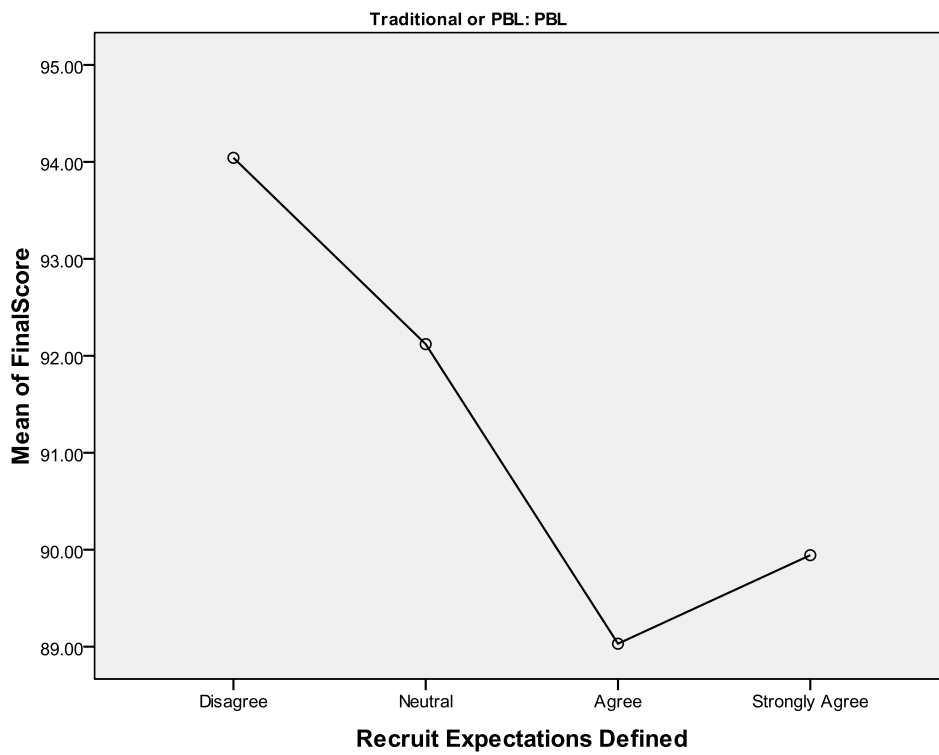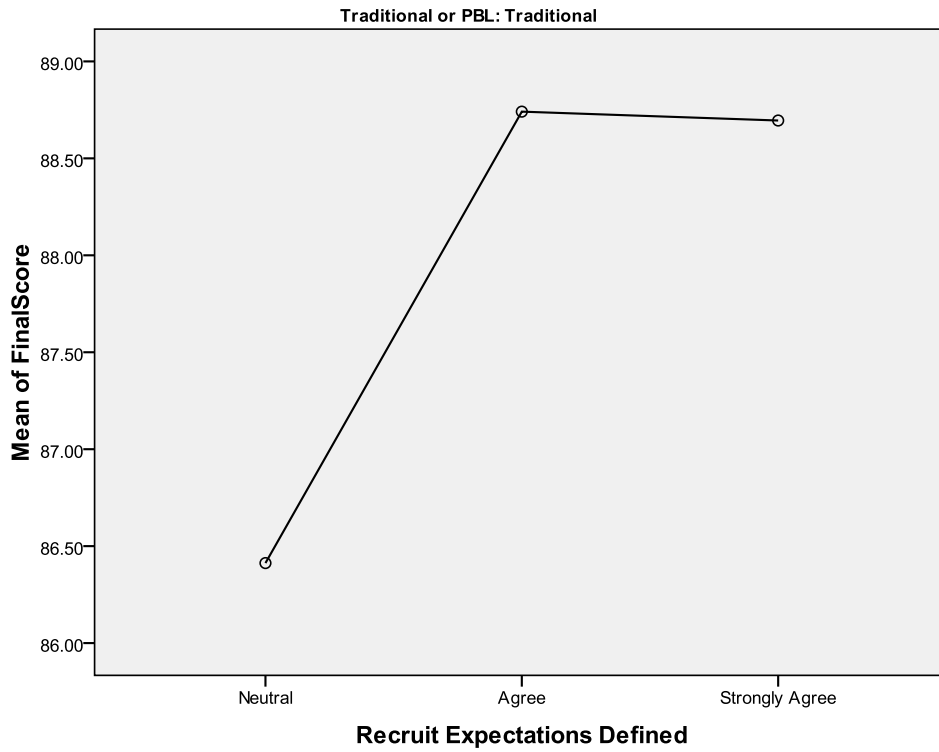
Appendix

Appendix 1

Graduate Survey

Post-BLEA Graduate Survey

Thank you for taking the time to complete this survey – which is being administered by the Division of Governmental Studies and Services at WSU. This questionnaire is an essential element of a project implemented by the Criminal Justice Training Center and Basic Law Enforcement Academy staff to improve and evaluate BLEA. Your feedback to this questionnaire will be processed and analyzed by researchers from Washington State University to provide metrics and trends which will inform and support this effort.

Instructions:

- This survey is **confidential**. Completed questionnaires will be mailed directly to WSU researchers in the envelope provided. They will compile summary statistics for use by BLEA staff, but will not share the completed questionnaires or the raw data.

- *Answer on this form.* Where circles are provided for your answer, make marks inside the circle for the answer which best fits your response.

- Read each of the questions and all of the answer choices carefully.

- If you wish to provide additional information on a question, need additional room, or have constructive comments, use the back of the page.

- Upon completion of the survey, place your questionnaire in the envelope provided, seal it, and place it in the mail or return it to BLEA staff. Your survey will be forwarded to WSU for processing.

If you have questions regarding this survey, or the evaluation project, please contact Michael Gaffney, Associate Director, WSU Division of Governmental Studies and Services. PO Box 644870, Pullman WA 99164-4870. 509 335-3329. mjgaffney@wsu.edu.

Post-BLEA Graduate Survey

General Experience
In this section we are interested in obtaining your feedback about the Academy, your experience as a participant in the academy, and any suggestions for improvement. Please completely fill in the box which best corresponds to your response to each question.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Recruit responsibilities and expectations were clearly defined.	☐	☐	☐	☐	☐
2.	Test materials were covered in class.	☐	☐	☐	☐	☐
3.	Instructors used class time effectively.	☐	☐	☐	☐	☐
4.	Written assignments and projects were useful.	☐	☐	☐	☐	☐
5.	Reading assignments were valuable.	☐	☐	☐	☐	☐
6.	Group work was valuable.	☐	☐	☐	☐	☐
7.	The amount of outside-class work (homework) was appropriate.	☐	☐	☐	☐	☐
8.	Adequate study materials were provided.	☐	☐	☐	☐	☐
9.	The curriculum as a whole was well tailored to my immediate future in patrol.	☐	☐	☐	☐	☐
10.	Overall, the academy was:	☐ too hard	☐ just right	☐ too easy		

The following two questions are designed to assess both your *experience* and your *preference* on the question of Academy culture and atmosphere. The two goals of encouraging participatory learning and fostering a sense of discipline, awareness and professionalism must be balanced. Please give us your input on this balance by answering below:

11. The <u>overall</u> Academy training experience felt more similar to that of a college environment rather than a Para-Military training. Please mark on the line to represent your best answer.

◆—————————————————————————————————◆
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

12. Please mark on the line below the point which best describes the balance that you think the Academy experience *ought to be.*

◆—————————————————————————————————◆
Para-Military Environment   Balanced   Community College Environment

13. Do you have any suggestions to improve the general academy experience? Please note them here or on the back of this sheet if you need additional space.

_____
_____
_____
_____
_____

113

14. If you could provide advice for a new recruit just starting BLEA on how to maximize the academy experience, what would you advise?

_____
_____
_____
_____
_____
_____

15. At what point in your academy experience did you begin to feel confident in your ability to function in your position after graduation and perform the duties of a peace officer? Please circle the week which best represents that point from your experience.

Week: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 Not Yet

16. If there was a specific event or moment at which you began to feel confident in your abilities, please describe.

_____
_____
_____
_____
_____

Curriculum and Instructors
In this section we would like to obtain your perceptions of the materials, delivery format and instructors for the Academy. Please mark the square which best corresponds to your response to each of the following:

17. With regard to training & discussion about the *combat/warrior/tactical* side of law enforcement, would you like:

☐	☐	☐	☐	☐
Quite a bit Less	A little Less	About the Same	A little More	Quite a bit More

18. With regard to training & discussion about the *customer service* side of law enforcement, would you like:

☐	☐	☐	☐	☐
Quite a bit Less	A little Less	About the Same	A little More	Quite a bit More

Post-BLEA Graduate Survey

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
19. TAC Instructors actively involved students in the learning experience.	☐	☐	☐	☐	☐
20. Outside Instructors actively involved students in the learning experience.	☐	☐	☐	☐	☐
21. TAC Instructors had appropriate knowledge and mastery of the subject matter.	☐	☐	☐	☐	☐
22. Outside Instructors had adequate knowledge and mastery of the subject matter.	☐	☐	☐	☐	☐
23. Instructors created a positive/safe learning environment.	☐	☐	☐	☐	☐

24. Which learning approach most contributed to your acquisition of skills and knowledge during the academy?

☐ Group work   ☐ Individual work   ☐ Hands-on practice   ☐ Lecture   ☐ Mock scenes

25. What other resources are you aware of which you think should be made available to recruits to enhance the academy learning experience?

_____
_____
_____

About You
In this section we would like to know about you, your background and your experience prior to entering the Academy.

26. To what agency will you be assigned after BLEA graduation? _____

27. What was your Age at time of graduation? _____

28. What is your Gender?   ☐ Female   ☐ Male

29. Please indicate your highest level of education.

( )   Some high school   ( ) Completed high school

( )   Some college, trade school   ( ) Completed 4-year degree

( )   Some graduate work   ( ) Hold an advanced degree

30. Prior to entering the Academy how much previous experience did you have in each of the following?

	None	6 Mos or less	Less than 1 yr	Less than 5 yrs	5 Yrs or more
Police patrol	☐	☐	☐	☐	☐
Correctional Officer	☐	☐	☐	☐	☐
Security / loss prevention (non-police)	☐	☐	☐	☐	☐
Law enforcement support (dispatcher, etc.)	☐	☐	☐	☐	☐
Law enforcement explorer program	☐	☐	☐	☐	☐
Emergency Response (Fire, EMS, etc.)	☐	☐	☐	☐	☐
Other law enforcement background	☐	☐	☐	☐	☐

(Please explain) _____

Military:

	None	6 Mos or less	Less than 1 yr	Less than 5 yrs	5 Yrs or more
Navy	☐	☐	☐	☐	☐
Marine	☐	☐	☐	☐	☐
Army	☐	☐	☐	☐	☐
Air Force	☐	☐	☐	☐	☐
National Guard	☐	☐	☐	☐	☐
Reserves	☐	☐	☐	☐	☐

31. What ethnicity or racial origin do you consider yourself? Mark all that apply.

Ethnicity: ( ) Hispanic or Latino   ( ) Not Hispanic or Latino

_____

Race: ( ) American Indian or Alaska Native   ( ) Black or African-American

( ) Asian   ( ) Native Hawaiian or other

( ) White   ( ) Pacific Islander

32. Graduating Class _____.

33. Name _____.

Other Comments: If you have other comments or suggestions regarding your experience or the academy, please note them here.

_____
_____
_____
_____
_____

Thank you for providing your candid and constructive input to assist us with our effort to provide the most effective academy training possible.

Appendix 2

Graduate Follow-Up Letter

WASHINGTON STATE UNIVERSITY

Division of Governmental Studies and Services
Department of Political Science and Criminal Justice
WSU Extension

July 23, 2009

Dear Basic Law Enforcement Academy Graduate,

Some time ago you were sent a survey by the Washington State Criminal Justice Training Center which asked you to provide information on your experiences in the Basic Law Enforcement Academy. That survey is being administered by the Division of Governmental Studies and Services at WSU on behalf of CJTC to evaluate the Basic Law Enforcement Academy. As you might have heard, the Criminal Justice Training Commission along with the Basic Law Enforcement Academy adopted a new method for conducting BLEA. This new approach -- called Problem-Based Learning (PBL) – was adopted with the belief that it will produce graduates who are better prepared for duty. It is very important that we hear from as many recent graduates from BLEA as possible so that we have the best information available to conduct that evaluation.

As we have not yet received a response from you, we would like to offer you this second opportunity to provide information on your experience. Because of the small size of BLEA classes, it is critically important that we hear from as many recent graduates as possible. Your response to the survey will help build our understanding of BLEA, the possible impacts of the PBL approach, and potential mechanisms for improving the BLEA experience.

For your convenience we have included an additional copy of the survey and would very much appreciate you taking the time to complete it. Your responses will be processed and analyzed only by researchers from Washington State University. This study has been reviewed and approved by the WSU Institutional Review Board (IRB) and meets all of its requirements for the protection of respondent privacy and confidentiality. If you have any questions or concerns regarding this survey, you can call the WSU IRB at (509) 335-3668.

If you have already completed and returned the survey, please accept our sincere thanks for your assistance. If not, please complete it as this survey assists us in our effort to assist CJTC in providing the most effective academy training possible.

Sincerely,

Christina M. Sanders
Western Washington Project Manager
Division of Governmental Studies & Services
Cell: 360-480-5978   cmsanders@wsu.edu
www.dgss.wsu.edu

PO Box 644870, Pullman, WA 99164-4870
509-335-3329 • Fax: 509-335-2362 • dgss@wsu.edu • www.dgss.wsu.edu

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Appendix 4

IRB Approval

MEMORANDUM

TO: Michael Gaffney, Christina Sanders and Myla Moody

FROM: Patrick Conner, Office of Research Assurances (3005)

DATE: 7/22/2009

The IRB staff have evaluated the proposed amendment to the Exempt study, "Pilot Program Evaluation of the Washington Basic Law Enforcement Academy" IRB #10869) and have determined that the amended study procedures remain exempt from IRB review under 45 CFR 46.101 (b) (1) and 45 CFR 46.101 (b) (5).

The study procedures have been amended to include:

* The addition of 3 additional survey instruments.

* The addition of Myla Moody as Co-Investigator

You may conduct the study, as amended above, without further IRB oversight. Your department shall maintain oversight of the project.

Further changes will require that a new Request for Amendment form be completed and submitted to the IRB.

If you have questions, please contact the Institutional Review Board at (509) 335-3668. Any revised materials can be mailed to Office of Research Assurances (Campus Zip 3005), faxed to (509) 335-6410, or in some cases by electronic mail, to irb@wsu.edu.

Review Type: Amendment
Review Category: Exempt
Date Received: 7/21/2009
OGRD No.: 111370
Agency: NW ACAD COMPUTING CN

Thank You,

Institutional Review Board
Patrick Conner
Office of Research Assurances

Appendix 5

Interim Report

Interim Report
Longitudinal Study of the Efficacy of the Basic Law Enforcement Academy
Washington State University, Division of Governmental Studies and Services
Project Team:
Michael Gaffney, JD
Christina Sanders, MPA
Myla Moody, BA
David Makin, MA

March 8, 2010

Background

The Washington State University *Division of Governmental Studies and Services* (DGSS) has been operating under contract with the Washington Criminal Justice Training Commission (CJTC) for approximately one year. The purpose of that contract is the design and phased implementation of a study of the Basic Law Enforcement Academy to assess the adoption by that agency of the Problem Based Learning (PBL) approach to recruit training. This study involves two primary components, both designed to assess the effectiveness of the Basic Law Enforcement Academy (BLEA) in preparing new recruits for service as peace officers in the state. The first element is comparative in nature, takes advantage of the "natural experiment" created by the change in training delivery mechanisms, and will assess differences in academic and field performance for graduates of the two types of academy. The second element is longitudinal in nature, and will document the academic and field performance of recruits as the PBL model approach is fully implemented and matures. Although both elements of the project involve the study of training, curriculum and delivery modalities, the primary focus for the entire study is on delivery approaches and their impact on the readiness of BLEA graduates for duty as peace officers.

The *Division of Governmental Studies and Services* (DGSS) is jointly sponsored by WSU Extension and the College of Liberal Arts to promote the Land Grant mission of the University. DGSS works with faculty from diverse disciplines, departments and colleges to provide expertise and capacity for a varied mix of services conducted on a grant and contract basis. DGSS provides applied social science research (mail and online surveys, field interviews, observation studies and focus groups), program evaluation research, technical assistance (consultation, assessments, data analysis), and training for government entities and non-profits throughout the Northwest. DGSS is affiliated with or has provided training for the Northwest Area Foundation, the Northwest Municipal Clerks Institute, the Western Regional Institute for Community Oriented Public Safety (WRICOPS), and the Natural Resources Leadership Academy (NRLA). DGSS delivers this broad array of services through cooperative agreements, contracts and grants.

DGSS has extensive experience in grant and contract management, and has the personnel and organizational structure to manage complex and demanding projects.

Founded more than forty years ago, DGSS has conducted a wide range of research projects. These have included citizen surveys conducted for cities such as Spokane, Vancouver, Port Angeles, Walla Walla, Pasco, Boise, and Nampa, as well as statewide surveys carried out for the Washington State Patrol. Other survey projects include employee surveys for state and local governments, including most recently Jefferson County, Kittitas County, Skagit County, the Seattle and Spokane Police Departments and the Oregon Department of Transportation. Recent program evaluation projects include the Washington State Patrol's Anti-Biased Policing Project, the Spokane County Property Crimes Task Force, and the Washington Statewide Automated Victim Notification (SAVIN) Program. Many of these projects have involved assessment of organizational strengths, facilitation of organizational change or planning efforts, and assisting with improvement of communication, employee satisfaction and institutional development. A more detailed description of DGSS activities and services can be found on the DGSS website: www.dgss.wsu.edu.

Problem Based Learning

The transition to the PBL model for the Basic Law Enforcement Academy (BLEA) was based on the example of successful model implementations in other fields of training (e.g. primary and secondary educators and clinical medical education). It must be noted that the transition to PBL is not a reflection of a gross inadequacy of the previous (traditional) training model. The traditional training model has been proven to convey information and to develop many job-related skills effectively, but has not been without significant criticism (see. Walker & Katz, 2002; Thibault et al., 1998; More & Wegener, 1996). As noted by Max Kamien, when discussing the transition within the medical profession to train within PBL, "*Medical schools [which fail to implement educational reform] will continue to graduate doctors who are, on the whole, largely adequate, but who could be so much more*" (Kamien, 1993, p. 226). CJTC saw the PBL model as an opportunity to "upgrade" their teaching to recruits in hopes of improving the recruits' problem solving abilities and facilitating a better transition back to their agency.

A primary stated goal of the transition was to better teach critical thinking and field-based problem-solving skills, while still conveying the required legal, administrative, policy, and protocol knowledge. As agencies employ more sophisticated policing models, the importance of training becomes increasingly significant (Champion & Hooper, 2003). In addition, with a transition within the law enforcement community to embrace the problem-oriented policing model (Reitzel et al., 2005) and the philosophical elements of community-oriented policing (Bayley, 1994), it has become even more important that academy training and in-service training stay on the forefront of educational techniques (Haberfeld, 2002). The Problem-Based Learning model seeks to refocus learning upon core job tasks (relevancy), enhance critical-thinking and problem-solving skills, and promote active participation and interaction between students and instructors (engagement). It is believed that this type of training facilitates more effective assimilation of material; and enhances participants' ability to integrate new material (Birzer & Tannehill, 2001; Shin, Haynes, & Johnson, 1993). Among the reported benefits arising from the PBL approach, as adapted from Finucane, Johnsons, and Prideaux's (1998) article "*Problem-based learning: its rationale and efficacy,*" are the following: <u>For the Student</u>: Acquisition of knowledge that is better retained, more usable in a field context, and better integrated across different areas of knowledge (e.g., law, psychology, communication, criminology, forensics).

<u>For the Institution</u>: To provide a learning method that is student-centered, motivating for the student, relevant to a career in law enforcement, adaptable to student needs, and which develops students' innovative problem solving and critical thinking to promote students' interpersonal skills and ability to work as team members, to develop students' independent, self-directed critical thinking and learning skills, and to encourage students' sensitivity to community interactions.

While evaluations assessing the efficacy of problem-based learning in other fields have yielded positive findings, several possible disadvantages have also been identified. Most noted of those disadvantages is the reported limited reach of the curriculum. Initial research has noted that PBL curriculum is able to cover approximately 80% of what a traditional curriculum is able to cover in the same time period (Finucane, Johnson, & Pridaeux, 1998; Ablanese & Mitchell, 1993; Colliver, 2000; Albanese, 2000). In addition to the resource requirements of PBL, it takes some period of time for instructors to become familiar with teaching within this model The learning curve phase of PBL adoption can increase stress on both staff and students (Finucane, Johnson, & Pridaeux, 1998; Berkson, 1993).

Academic research into the efficacy of PBL has produced generally positive reports concerning the superiority of the PBL approach in the field of medical training (see: Norman & Schmidt, 2001; Albanese and Mitchell, 1993; Berkson, 1993; and Vernon and Blake, 1993). The efficacy of PBL is difficult to evaluate because it takes years to accomplish and even then often relies more on anecdotal information than on rigorously collected performance and attitudinal data (Mennin & Martinez-Burrola, 1984; Vernon & Blake 1993). The levels of enthusiasm expressed by administrators, staff, and recruits regarding a change towards PBL can have a direct impact on both success and the reliability of long-term evaluation efforts (Wolf, 1993). Knowing this, it is often recommended that PBL evaluations be longitudinal and employ a mixed-methods approach to data gathering. A quasi-experimental matched-sample experimental design is required, to be able to determine the efficacy of the PBL model implemented by CJTC. As was noted within the medical community during their transition into PBL, an important step in the evaluation process is viewing the transition as an opportunity to address best training practices, identify problem areas, and uncover how staff may overcome those training limitations (Dean, Barratt, Hendry, & Lyon, 2002).

Evaluation Project Design

The first element of this study involves a "natural experiment" and an opportunity for systematic comparison of recruit performance and perceptions – along with other indicators – under two quite different curriculum delivery approaches. This natural experiment exists because of a transition implemented by CJTC marking a change in the delivery of Basic Law Enforcement Academy (BLEA) training from a "traditional" lecture-based approach to the new PBL delivery method. This transition, which was fully effective in early 2009, provides a unique opportunity for comparative study and evaluation.

The second element of this study involves a longitudinal assessment of the ongoing efficacy of the Basic Law Enforcement Academy. Using an assessment of the last three pre-transition "traditional" model academy classes as a baseline, DGSS will be tracking basic

performance indicators, recruit perceptions and other data to provide a continuing external assessment of the effectiveness of BLEA in preparing new recruits for duty. Both elements, and the methodology used to accomplish this study, are described in more detail below. Preliminary assessments and observations stemming from the data collected to date are also provided.
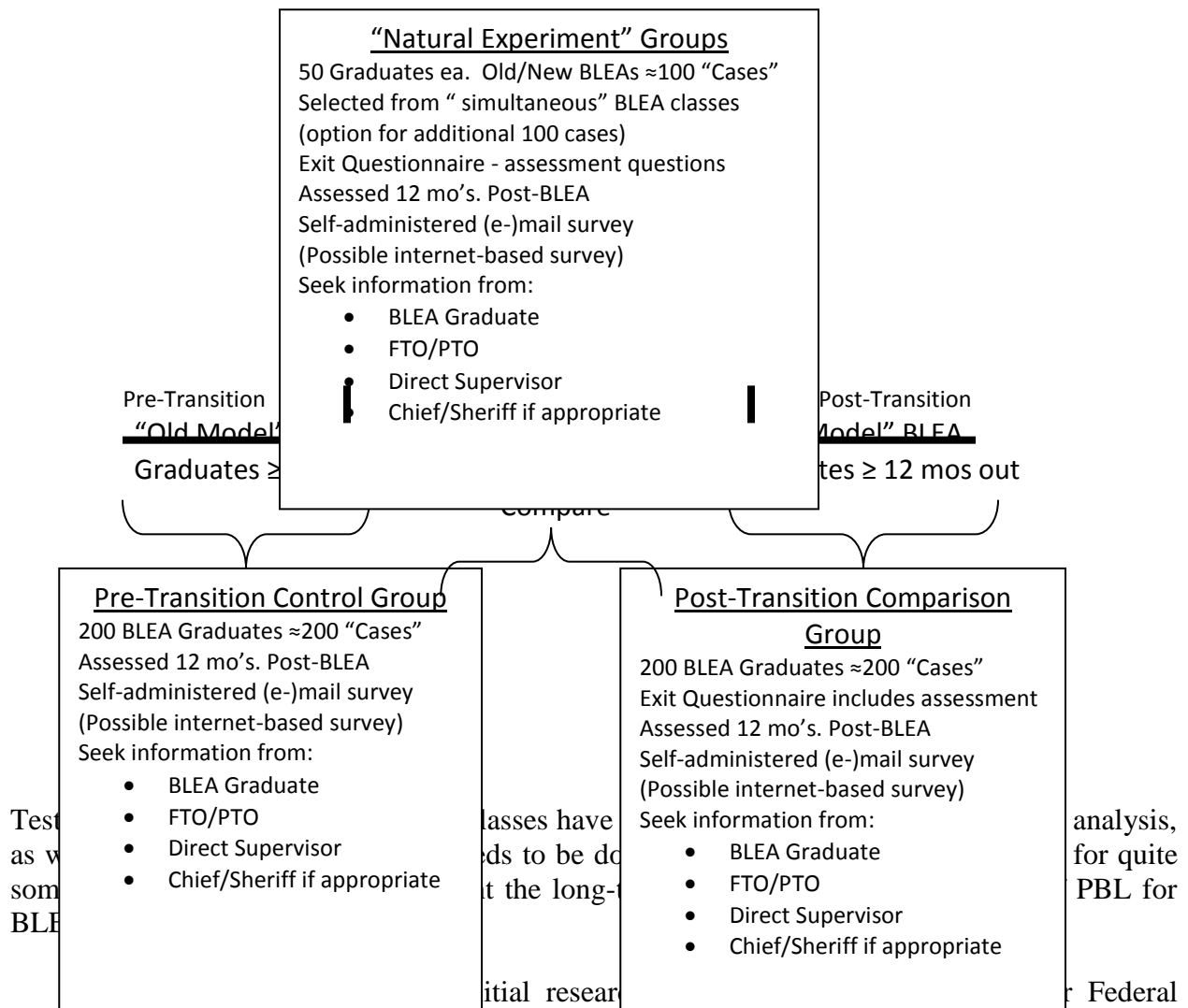
The basic research design involves a multi-mode triangulated approach to data collection. This design includes accessing and analyzing data already routinely collected by BLEA, including recruit exam scores, mock scene scores and other performance indicators. The design also calls for information to be gathered from BLEA graduates and those who are familiar with their on-duty performance at several points in time using self-administered surveys. A third element of data collection will involve more detailed interviews of a sample of recent new graduates, their training officers, and their supervisors. These interviews will be conducted by an experienced police executive with a background in training who is collaborating with DGSS for this project. This triangulated approach is specifically designed to assess the extent to which BLEA prepares graduates for law enforcement service. As the second project element description above suggests, this assessment will occur both as a one-time pre/post comparison with the now superseded "traditional" approach, and as an ongoing longitudinal study of the new model "PBL" academy. The blending of these two methodological designs (Natural Experiment and Pre/Post) will form the basis for a powerful evaluation of the efficacy of the new PBL delivery and modified curriculum content. A schematic representation of the initial evaluation project design is set forth on the next page of this report as Figure 1.

Current Status

At its inception, this research project formed the basis of a class project for students in a graduate seminar on evaluation research (Criminal Justice 540) and has benefitted from continued student engagement after the culmination of that course project. The CJTC BLEA project has moved from design to preliminary implementation. There have been adaptations and modifications to reflect shifts in scheduling of PBL adoption at BLEA and preliminary response trends as well as some initial observations regarding the transition period, all of which will be discussed in more detail below. The research design called for an initial focus on identifying a limited number of "cases" for the comparative study element, with each case consisting of a BLEA graduate and up to three individuals familiar with his/her performance as a law enforcement officer. A limited number of traditional BLEA classes were originally surveyed at or near graduation. In reaction to low initial response numbers from traditional model academy graduates, additional classes have been added to the data collection effort and that supplemental survey process is still underway at this time. Surveys administered contemporaneously with graduation have been obtained from a large number of respondents in each graduating class (approximately 200 to date). Specific areas of inquiry, questions and criteria for this assessment have been developed in collaboration with representatives of CJTC and BLEA, in consultation with the Board for Law Enforcement Training, Standards and Education (BLETSE), and through input and feedback from law enforcement organizations in the state to assure that the information obtained is useful and that this BLEA efficacy evaluation applies appropriate measures and assessment criteria.

Preliminary data analysis of both quantitative data and qualitative comments has been accomplished for the surveys received to date. A discussion of the preliminary analysis and observations stemming from that analysis is contained in the following section of this Interim Report. Approximately 200 completed surveys have been received from BLEA graduates representing classes graduating between December 2008 and December 2009. Supplemental data collection efforts are underway through administration of BLEA Graduate Evaluation Questionnaires to additional traditional academy graduates. Surveys are also being administered to agency trainers and administrators who are familiar with new recruit performance. BLEA staff continues to administer the Graduate Evaluation Questionnaires to each graduating class.

Research Design

"Natural Experiment" Groups
50 Graduates ea. Old/New BLEAs ≈100 "Cases"
Selected from " simultaneous" BLEA classes
(option for additional 100 cases)
Exit Questionnaire - assessment questions
Assessed 12 mo's. Post-BLEA
Self-administered (e-)mail survey
(Possible internet-based survey)
Seek information from:
- BLEA Graduate
- FTO/PTO
- Direct Supervisor
- Chief/Sheriff if appropriate

Pre-Transition   Post-Transition
"Old Model"   "New Model" BLEA
Graduates ≥   tes ≥ 12 mos out

Compare

Pre-Transition Control Group
200 BLEA Graduates ≈200 "Cases"
Assessed 12 mo's. Post-BLEA
Self-administered (e-)mail survey
(Possible internet-based survey)
Seek information from:
- BLEA Graduate
- FTO/PTO
- Direct Supervisor
- Chief/Sheriff if appropriate

Post-Transition Comparison Group
200 BLEA Graduates ≈200 "Cases"
Exit Questionnaire includes assessment
Assessed 12 mo's. Post-BLEA
Self-administered (e-)mail survey
(Possible internet-based survey)
Seek information from:
- BLEA Graduate
- FTO/PTO
- Direct Supervisor
- Chief/Sheriff if appropriate

Test... ...lasses have ... ...analysis, as w... ...ds to be d... ...for quite som... ...t the long-t... ...PBL for BLE...

...itial resear... ...r Federal funding to facilitate an even more robust process. An unsolicited application was made to NIJ, but that request was denied. Reviewer comments from that request for funding, however, are currently be applied to help in the preparation of a new application for external funding from NIJ under a solicitation that is currently open.

Preliminary Data Analysis and Observations

It should be noted that the analysis which has been conducted to date is both preliminary and exploratory in nature. Much more detailed analysis will be possible as data collection proceeds and higher quantities of data, from multiple sources, become available for analysis. The analysis which follows is based on test data received for students in a total of 12 classes (5 Traditional and 7 PBL), and survey data received from graduates of 7 classes – largely PBL graduates at this point. Significant additional survey data are currently being collected, and test scores will continue to be obtained for additional BLEA classes as they move towards graduation.

In the discussion which follows, the intent is to identify emerging trends and demonstrate the ultimate utility of the two-element (comparative and longitudinal) approach of this research design. These observations are preliminary only, and the findings may well change as more data are collected and analyzed. Particular attention is paid in this regard to the survey data. For both the Comparison element and the Longitudinal element discussed below, examples from both test score analysis and survey response data analysis are provided.

Comparison between Traditional and PBL graduates

The primary utility for comparative purposes comes from the survey data collected to date, which will be increased significantly as additional surveys are collected. The test data for the five Traditional and five PBL classes which were assessed for purposes of this interim report indicate that there are nearly as many differences between classes within the categories of Traditional and PBL as there are in the aggregate between the two categories. In fact, the five-class composite average score on the scored events which have been examined to date is somewhat over 88% for *both* Traditional (88.83) and PBL (88.18) classes. This comparison indicates that the initial academic outcomes are as good for PBL as they have been for Traditional classes. This, in spite of an intuitive prediction that the initial PBL classes should have scored lower on most exams due to the impact on instruction and delivery from implementation of a new approach. This is important inasmuch as the "learning curve" phenomenon frequently associated with change in training curriculum does not appear to have been a big factor at CJTC. One would expect an initial decline across the board – to reflect the start-up effect of implementation – followed by an improvement as the new approach is refined and instructors adjust to the changes. Only a few of the topics/classes displayed this effect. On the whole, this was not the observed pattern.
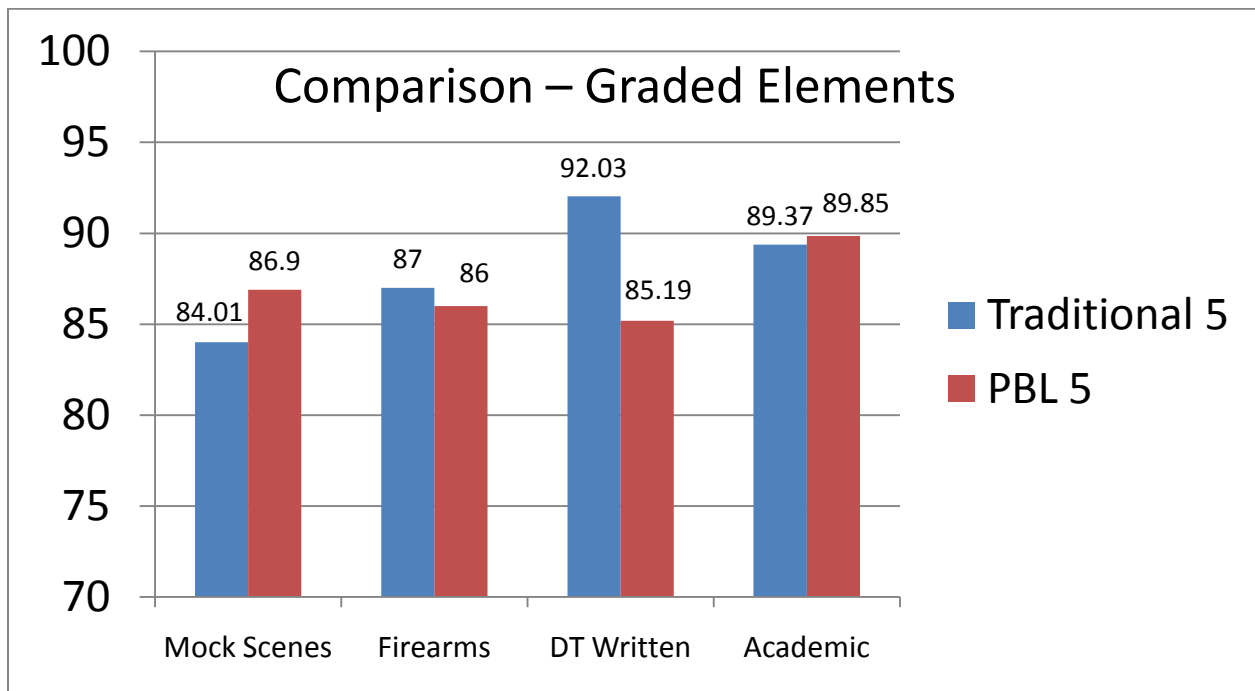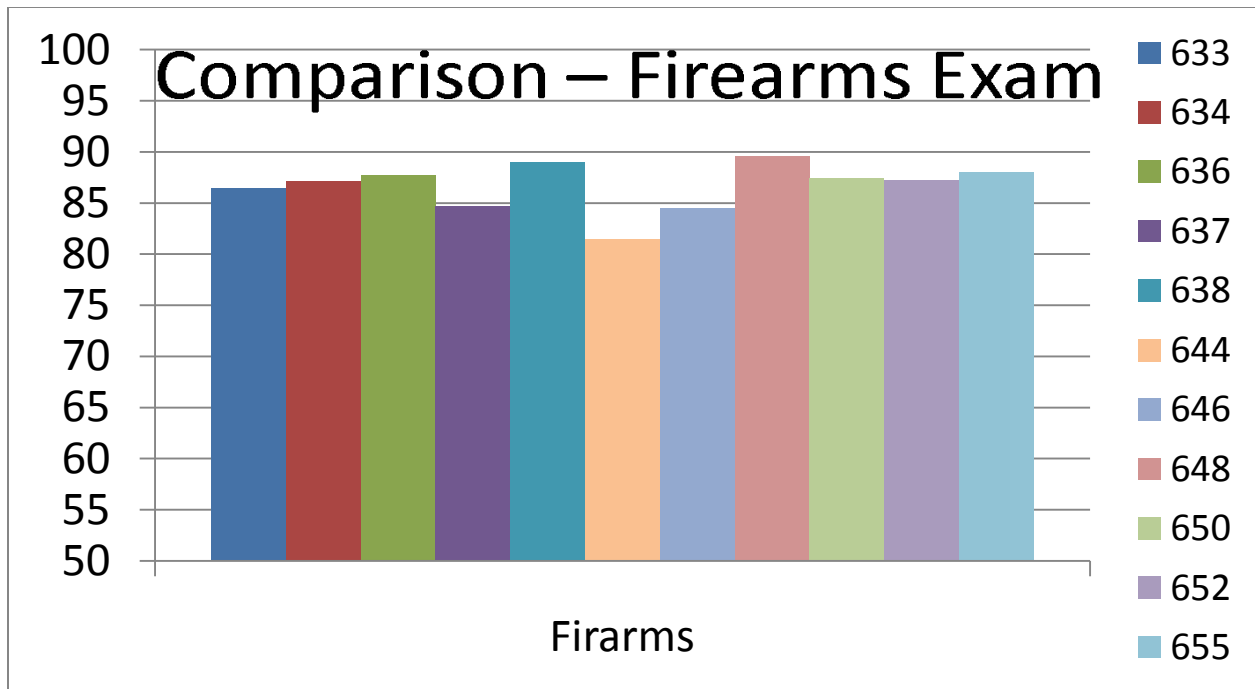
There are also important observed preliminary differences not just between "Traditional" and "PBL" graduates, but between both of those groups and the "Transitional PBL" group of graduates who shared the campus with Traditional classes – and reportedly were subject to some condescension as "soft process" recruits from those final Traditional class members who were on campus as the PBL transition occurred. The Transitional class responses are lower on some of the indicators than the "pure" or later PBL responses – indicating that the continued refinement of the PBL model is having a positive impact.
Several examples or illustrative graphs are included below to provide some detail on this observation.

Comparison on Test Scores:

This first graph shows the mean scores for each of the ten classes on two mock scenes – Building Search and Crisis. As can be seen, there are significant variations between individual Traditional classes, and between individual PBL classes, as well as between the two types of classes.

Comparison – Mock Scenes
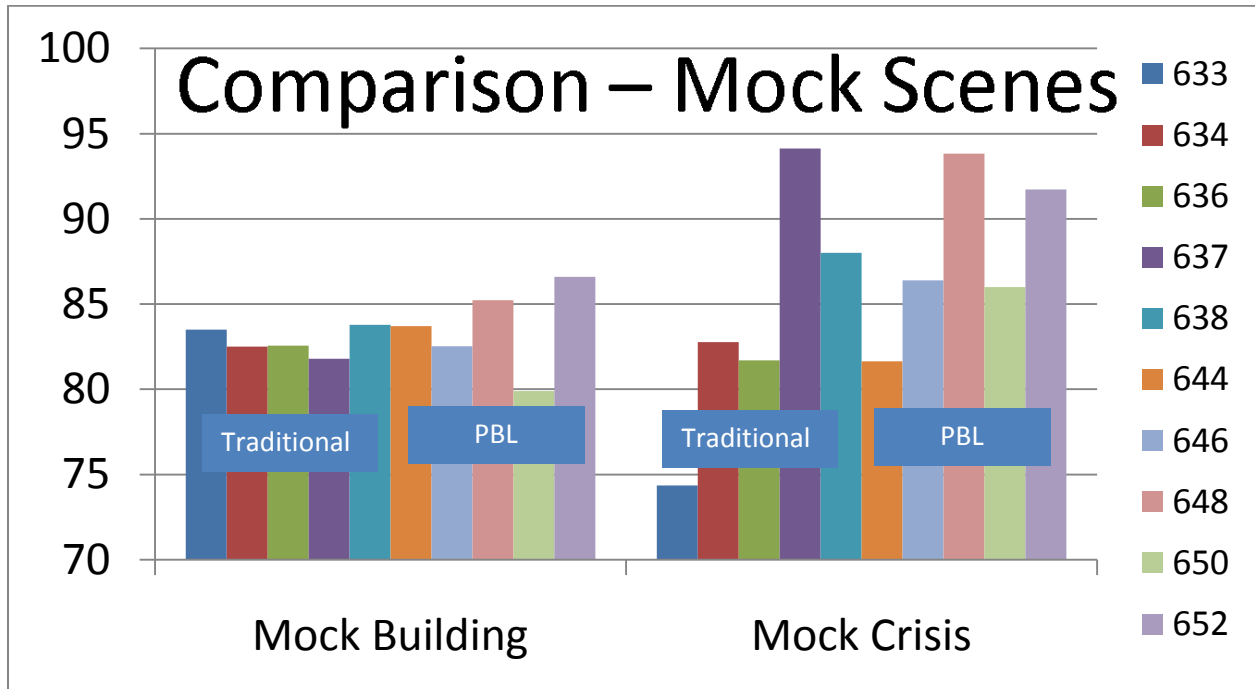
The following graph displays the mean class scores for each of the eleven classes for which we have received data from BLEA on the Final Written Firearms Exam. This allows visual comparison between Traditional and PBL classes, as well as between the two types of class.

Comparison – Firearms Exam

Legend: 633, 634, 636, 637, 638, 644, 646, 648, 650, 652, 655

Firarms

Comparison – Graded Elements

	Traditional 5	PBL 5
Mock Scenes	84.01	86.9
Firearms	87	86
DT Written	92.03	85.19
Academic	89.37	89.85

The preceding graph displays comparative aggregate mean scores for categories of exams – again drawn from individual scores for the ten classes for which data have been provided to date. The "Mock Scenes" aggregate reflects the combined mean score for all four mock scenes for the five Traditional classes and the five PBL classes. The "Firearms" category reflects aggregate mean scores on all graded firearm elements for the two types of classes. The DT column reflects the singe Defensive Tactics graded element which allows comparison between

Traditional and PBL classes. The "Academic" columns display a six-element mean cumulative score for the five classes in each category.

Comparison – Survey Responses – Quantitative

The survey responses received to date allow for preliminary or exploratory analysis only – in part because of the small number of Traditional academy graduates who have responded to date. This shortcoming is temporary, and will be cured as additional surveys are administered and additional responses are received. However, illustrative examples are provided below.

The first illustrative analysis is provided to demonstrate the descriptive utility of the survey data. This descriptive utility will be particularly strong in relation to the comparative element of the project design, but not until more data, from more sources, have been collected. That effort is underway. Descriptive analyses include the tabular and graphical display of characteristics of the survey respondents, such as in the examples set out below:

Statistics

Traditional or PBL			Recruit Expectations Defined	Assignments and Projects Useful	TAC had Appropriate Knowledge	Mock Scenes
Traditional	N	Valid	21	21	21	21
		Missing	0	0	0	0
	Mean		4.19	3.38	4.2381	1.5238
PBL	N	Valid	220	223	223	223
		Missing	3	0	0	0
	Mean		4.01	3.36	4.3543	1.4484

This table shows the number of responses and mean rating on four of the questions in the graduate survey. The first of those questions asked whether the expectations of recruits participating in the Basic Academy are clearly defined. Because of the way in which the answer options for this closed-ended question were laid out, a higher number for mean rating indicates a more favorable response pattern on this question. Thus, a mean score of 4.01 (circled) indicates that PBL academy respondents are less strongly in agreement with the statement that "Recruit responsibilities and expectations were clearly defined" than were Traditional graduates with a mean score of 4.19. For this question and the questions on Assignments and TAC knowledge, the answer scale runs from 1 (Strongly Disagree) to 5 (Strongly Agree). A mean score of 4 indicates most of the respondents agreed (at some level) with the statement made in the question. For the second question, which asks for agreement or disagreement with the statement: "Written assignments and projects were useful," the ratings are nearly identical, with virtually no difference between the PBL graduates and Traditional graduates in their level of agreement with that statement. On the third question, which examines perceptions of TAC officer knowledge of the subjects being taught, PBL graduates are slightly more likely to agree that TAC officers are appropriately knowledgeable. A display of the answer trends on this particular question is set forth below. The question regarding Mock Scenes is one of a series on the utility of various elements of the academy. This series calls for Yes/No answers, coded 1=Yes and 2=No. A lower Mean Ranking on this question indicates that PBL graduates found the mock scenes somewhat more useful than the Traditional model graduates.
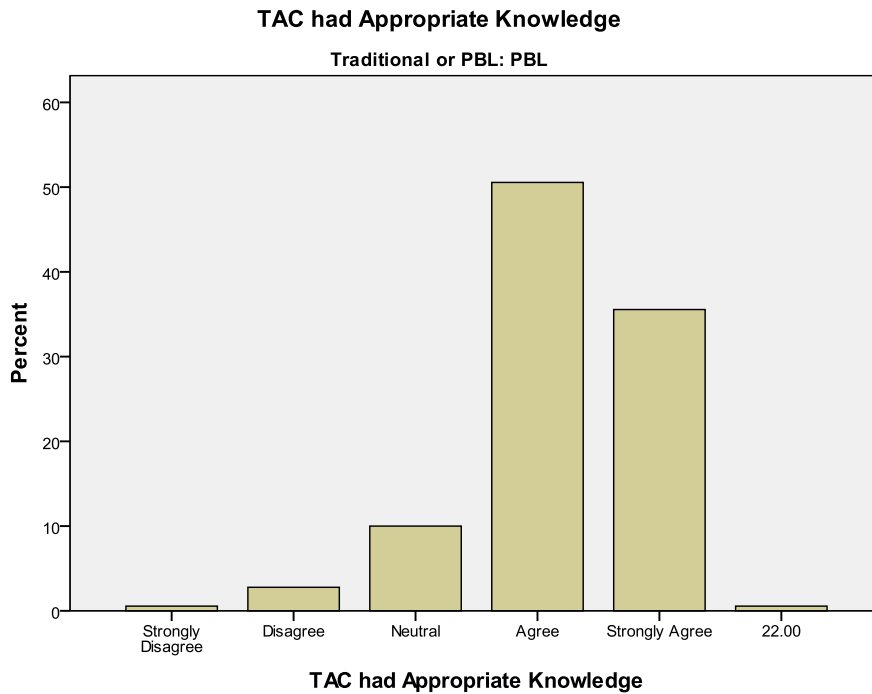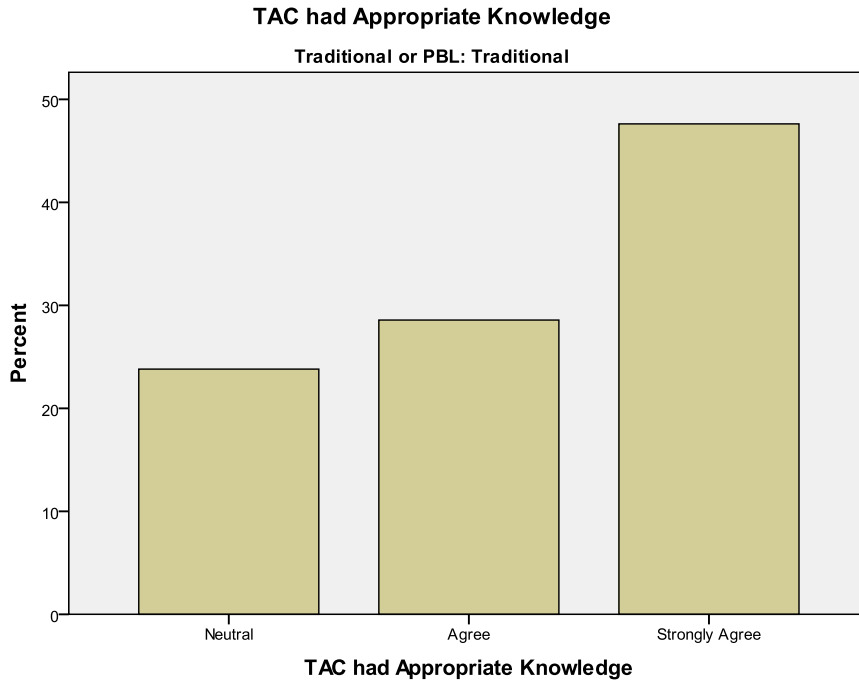
TAC had Appropriate Knowledge

Traditional or PBL			Frequency	Percent	Valid Percent	Cumulative Percent
Traditional	Valid	Neutral	5	23.8	23.8	23.8
		Agree	6	28.6	28.6	52.4
		Strongly Agree	10	47.6	47.6	100.0
		Total	21	100.0	100.0	
PBL	Valid	Strongly Disagree	1	.4	.4	.4
		Disagree	5	2.2	2.2	2.7
		Neutral	19	8.5	8.5	11.2
		Agree	104	46.6	46.6	57.8
		Strongly Agree	93	41.7	41.7	99.6
		22.00	1	.4	.4	100.0
		Total	223	100.0	100.0	

This table provides more detail on the mean ranking for the question of TAC officer knowledge contained in the summary table above. Displayed in this table are the number and percentages of respondents who chose each of the available answer options on this question – displayed to allow comparison of PBL and Traditional respondents. This table indicates that 76.2 percent of Traditional respondents agreed with the statement that "TAC Officers had appropriate Knowledge," while 88.3 percent of PBL respondents agreed with that statement. This observation, while preliminary and based on relatively small numbers of responses, seems to indicate that PBL graduates were more favorably impressed with the knowledge displayed by their TAC officers. This could well be a significant observation, if confirmed with additional data as they are collected, because it arises during the early implementation of the PBL approach, a time when it could be expected that TAC officers would still be finding their way and perhaps not as familiar with the new curriculum as they were with the traditional curriculum.

The two graphs below provide a visual comparison of the response patterns of Traditional and PBL graduates on the first question on the survey instrument: whether expectations and responsibilities were clearly defined. The first graph displays the Traditional response pattern, which can be compared to the PBL response pattern displayed in the second graph.

Recruit Expectations Defined

Traditional or PBL: Traditional

Recruit Expectations Defined

Recruit Expectations Defined

Traditional or PBL: PBL

Recruit Expectations Defined
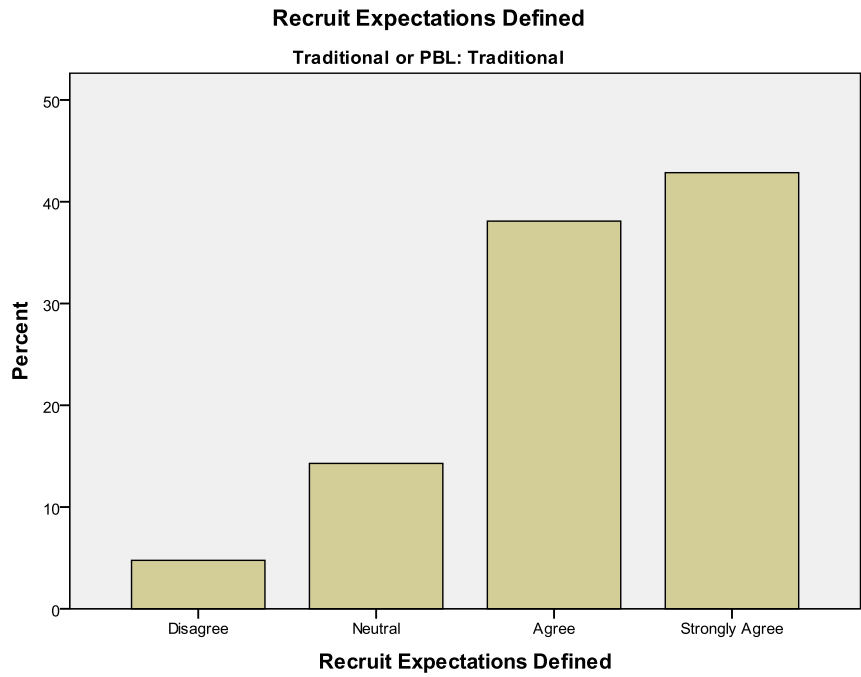
The graphs which appear below illustrate another utility of the comparison of means and response patterns. Note that a relatively high percentage of the Traditional respondents (first graph) were "neutral" on the question of TAC knowledge. PBL respondents were much more strongly opinionated, with only half the percentage marking the neutral category as did so from the Traditional respondents.

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TAC had Appropriate Knowledge

Traditional or PBL: Traditional

TAC had Appropriate Knowledge

TAC had Appropriate Knowledge

Traditional or PBL: PBL

TAC had Appropriate Knowledge

These displays are provided primarily to demonstrate the sort of outputs that can be generated from the data collected as a part of this survey process. Any question in the survey instrument can be displayed in this manner. Utility from this sort of display will only increase as the amount of data being analyzed increases. A final approach to data analysis and display is illustrated below – namely, the use of crosstabs to display a table of the relationship between two or more variables. In this case, prior policing experienced is cross-tabbed against whether the academy overall was too hard, too easy, or just right. That table appears below, showing that

167 of 191 graduates thought the degree of difficulty of the academy they experienced was "just right" irrespective of the amount of their prior experience.

Police Patrol Experience * Overall Academy Was Crosstabulation

Count

Traditional or PBL			Overall Academy Was				Total
			Too Hard	Just Right	Too Easy	33.00	
PBL	Police Patrol Experience	None	1	127	15	1	144
		6 Months or less	1	21	4	0	26
		Less than 1 year	0	6	0	0	6
		Less than 5 years	0	8	2	0	10
		5 years or more	0	5	0	0	5
	Total		2	167	21	1	191

This sort of tabular analysis provides the basis for more sophisticated analyses which will not be attempted in this project until significantly more data have been collected.

Comparison – Survey Responses – Qualitative

The survey instruments used in this project (four in all at this point in time) all contain a mixture of both closed-ended questions, open-ended questions and spaces for comments. While the closed-ended questions are primarily useful for quantitative descriptive analysis, the other question forms are more useful for qualitative content analysis. Some interesting preliminary observations can be derived from content analysis of the written comments and open-ended question responses from the surveys:

1.   Negative comments towards TAC officers and the Academy have declined from nearly 100% of those offered by "Traditional" graduates to only approximately half of those offered by "Pure PBL" graduates (those who graduated after the transitional period).

2.   The responses to our question on what advice graduates would offer to new BLEA attendees shifted significantly as well: Traditional graduates offered more negative advice such as "shut your mouth for five months," while many PBL graduates offered positive advice in response to this question.

3.   These general observations are borne out by quantitative analysis – albeit preliminary and based on small numbers – which indicate an increase over time after the transition to PBL in the graduates' assessments of TAC officer competence, the perception that there was a positive BLEA atmosphere, and that instructors used class time effectively.

Longitudinal Trends

The second element of the larger project design calls for the continued longitudinal tracking of trends in performance as BLEA academy PBL classes continue to graduate. This will allow for a long-term evaluation of the PBL academy, and will also provide observations for mid-course correction and academy refinement for use by academy staff. Full realization of this

research goal will require more data to be collected — efforts which have already been implemented. Illustrative and exploratory results and observations are included below – to provide a taste of the longitudinal utility of this project element and also to provide a foretaste of the specific types of analysis and displays which can be used in the future. Not included in this Interim Report is any attempt at more sophisticated inferential statistical analysis – which is premature at this time, but will be an express element of future reports as this project matures.

Longitudinal – Test Scores

The section focuses solely on comparison and trend analysis of the five PBL classes for which researchers have test data at this time. The acquisition and conversion of data from raw, individual-level Word document reports to Excel and SPSS (Statistical Package for the Social Sciences) has been thoroughly tested and proven effective. As additional grade records are obtained from BLEA, this element of analysis will be dramatically expanded. Examples of the descriptive analysis which will be possible are:
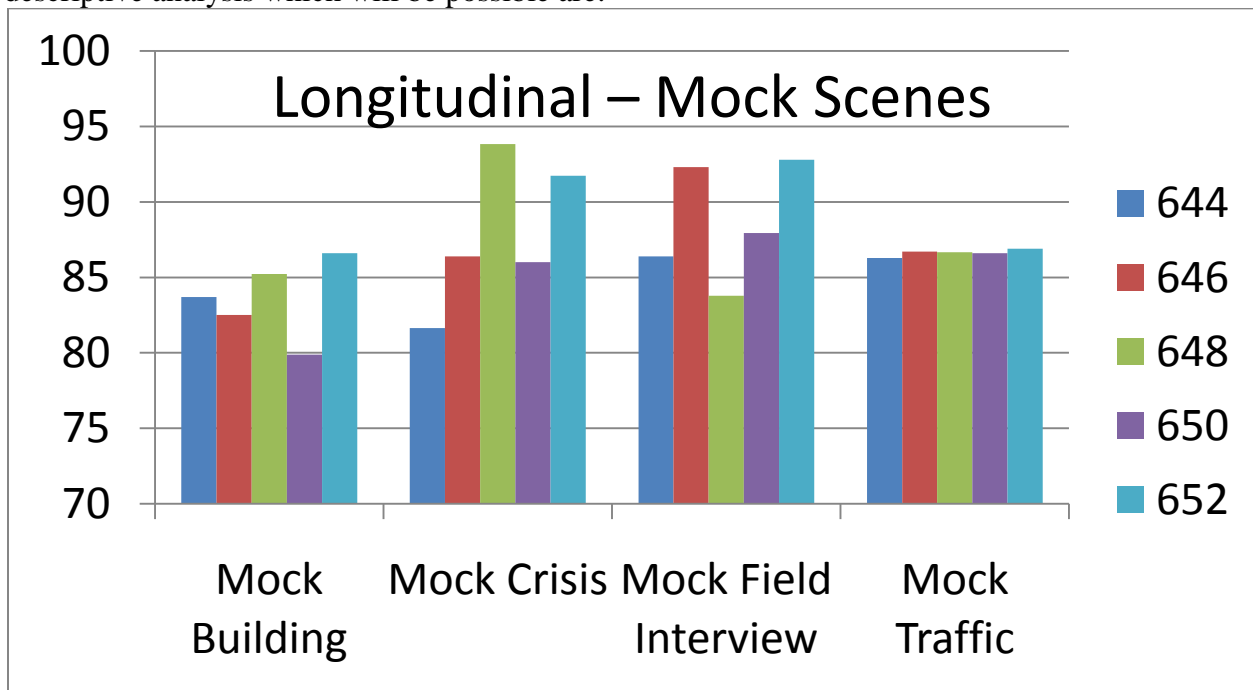

The graphic above shows the mean scores for each of the first five PBL classes on each of the four graded Mock Scene elements administered to each academy class. With the exception of the Traffic mock scene there are significant differences between the individual classes. There are also similar significant differences between individuals within each class. Individual-level data have been converted to SPSS for further, more detailed processing – but those results are not yet available for inclusion in this report.

Longitudinal – Graded Elements

	644	646	648	650	652
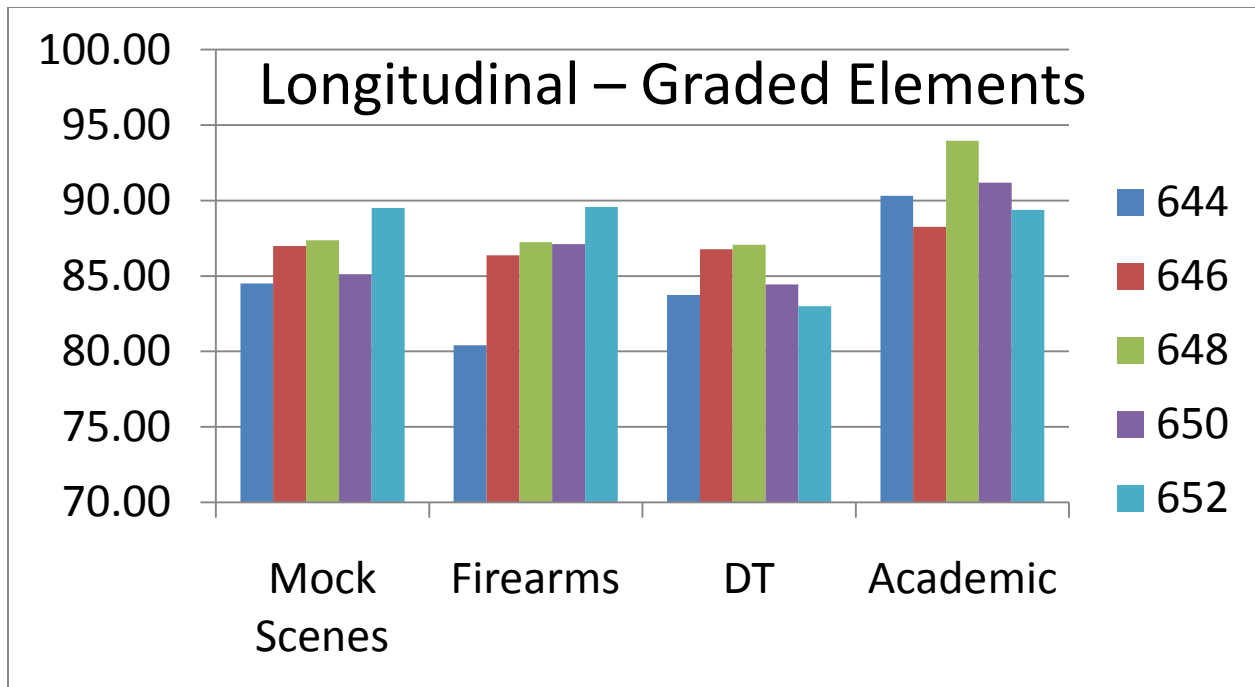
        The graphic above displays the class aggregate mean scores on four scales for the first five PBL classes. The "Mock Scenes" bars display the class aggregate mean for the four scored mock scenes presented to each BLEA class. The "Firearms" section displays the class aggregate mean for all graded firearms elements. The "DT" element displays the class mean on the single DT scored event which is congruent between PBL and Traditional academies. Additional scored DT elements are administered to PBL courses, and can be included in future analyses. The "Academic" display includes the class aggregate mean score for five graded exams administered to all PBL BLEA classes.

        The three graphs on the next page show the class average scores on each of the ten new graded elements which are unique to the PBL Academy. These graded elements, being unique to the new PBL version of the academy, do not allow for any comparison to the Traditional academy classes. However, it is anticipated that the longitudinal trend analysis which can be performed with these data will be very useful for the continued refinement of the PBL Academy format, and for the continued evaluation of the PBL approach. In addition, the ability to cross-reference these exam scores with survey responses from the students in each class at the individual level provides very significant utility in examining the individual characteristics and long-term outcomes in the field which correlate with performance on these ten graded elements.
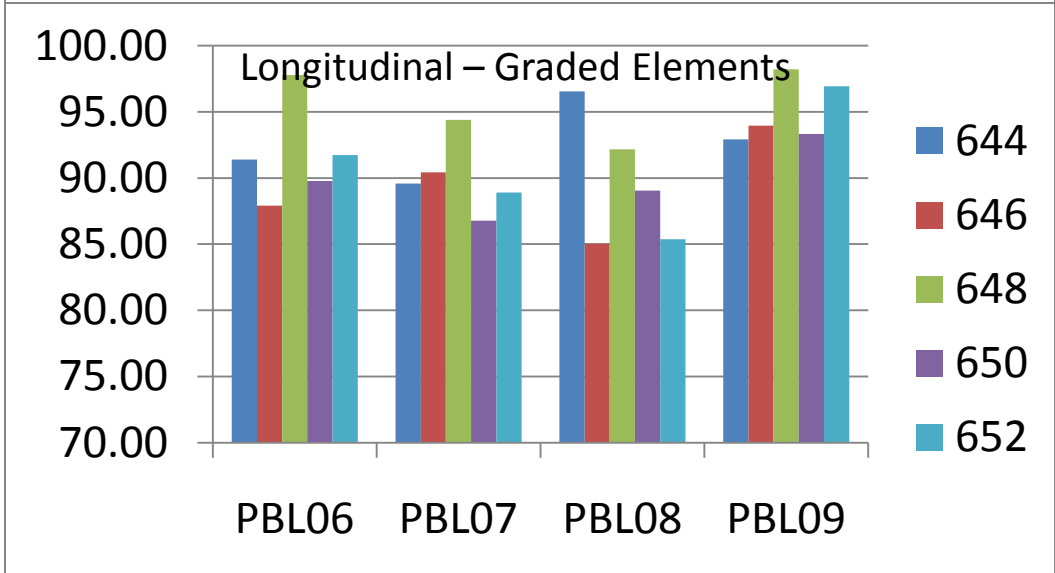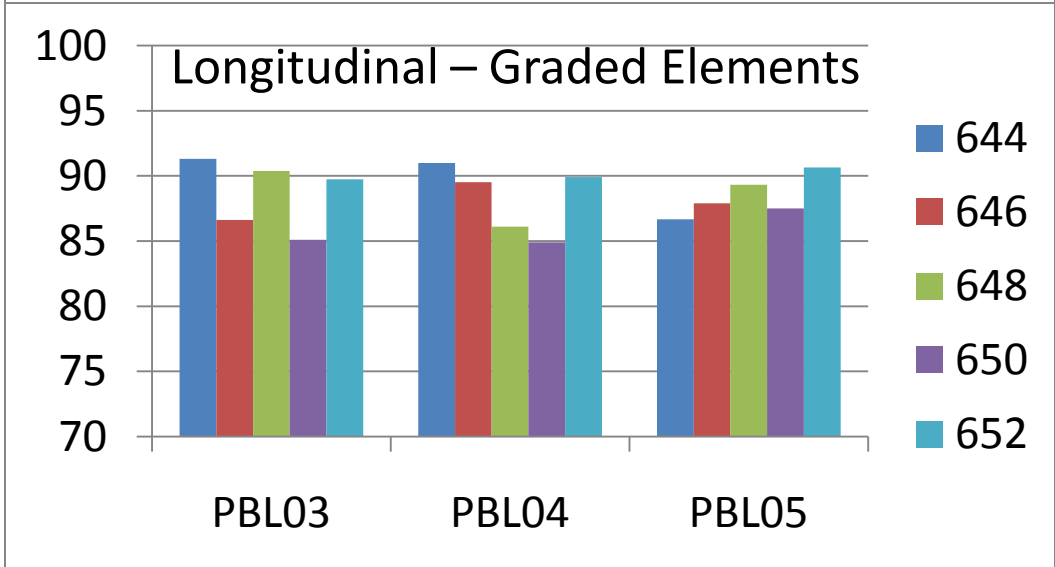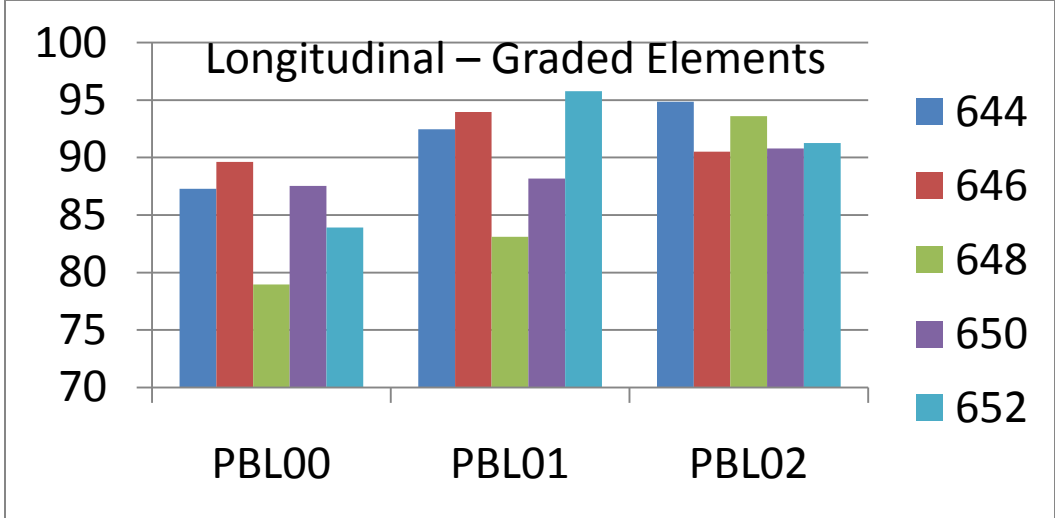
Longitudinal – Survey Responses

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In this section, only illustrative and example analyses are provided – again because the data collected to date do not support more aggressive analysis, and in part because it is quite likely that the observations and findings will change as the amount of data – and the number of sources – increases. Nonetheless, some interesting approaches to data analysis can be previewed as demonstrated below using the same survey questions discussed above:

Statistics

Graduating Class			Recruit Expectations Defined	Assignments and Projects Useful	TAC had Appropriate Knowledge	Mock Scenes	Curriculum as Whole was Well
637.00	N	Valid	12	12	12	12	12
		Missing	0	0	0	0	0
	Mean		4.17	3.33	4.2500	1.4167	3.5833
	Std. Deviation		.937	.651	.75378	.51493	.90034
638.00	N	Valid	9	9	9	9	9
		Missing	0	0	0	0	0
	Mean		4.22	9.00	4.2222	1.6667	3.8889
	Std. Deviation		.833	17.263	.97183	.50000	.92796
639.00	N	Valid	16	17	17	17	16
		Missing	1	0	0	0	1
	Mean		3.88	3.12	4.0000	1.6471	3.0625
	Std. Deviation		.719	.857	.86603	.49259	.77190
640.00	N	Valid	13	14	14	14	14
		Missing	1	0	0	0	0
	Mean		4.00	2.93	4.2857	1.5714	3.0000
	Std. Deviation		.816	.917	.61125	.51355	.87706
641.00	N	Valid	28	28	28	28	27
		Missing	0	0	0	0	1
	Mean		3.89	3.57	4.3929	1.4286	3.9259
	Std. Deviation		.875	.690	.62889	.50395	.54954
642.00	N	Valid	23	23	23	23	22
		Missing	0	0	0	0	1
	Mean		3.30	3.13	3.8696	1.5217	3.0455
	Std. Deviation		.876	1.014	.86887	.51075	.84387
643.00	N	Valid	25	25	25	25	24
		Missing	0	0	0	0	1
	Mean		3.84	4.12	3.8800	1.3600	2.6667

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		Std. Deviation	.800	3.844	.72572	.48990	1.04950
644.00	N	Valid	20	20	20	20	19
		Missing	0	0	0	0	1
	Mean		4.20	3.20	4.5500	1.4500	3.3684
	Std. Deviation		.768	.894	.51042	.51042	.89508
646.00	N	Valid	21	21	21	21	20
		Missing	0	0	0	0	1
	Mean		4.00	3.05	4.2857	1.2381	3.2500
	Std. Deviation		.548	.973	.78376	.43644	1.16416
648.00	N	Valid	16	16	16	16	15
		Missing	0	0	0	0	1
	Mean		4.06	3.06	4.3125	1.4375	3.6000
	Std. Deviation		.574	.854	.47871	.51235	.63246
650.00	N	Valid	15	16	16	16	16
		Missing	1	0	0	0	0
	Mean		4.47	3.50	5.2500	1.3750	3.7500
	Std. Deviation		.640	.894	4.59710	.50000	.68313

From such a display of mean scores, trend analyses for response patterns over time may be developed. For PBL courses, for example, the trend in response mean on the question of whether recruit expectations were well defined – from the data now available—is thus: 3.84, 4.20, 4.00, 4.06, 4.47. It is early to be developing a strong trend line, but this illustrates how that analysis will be accomplished as the data quantity and quality increase. It will also be possible to compare these individual-level and class-level survey responses to individual-level and class-level academy performance as revealed by grade reports obtained from BLEA records. The methodology for accomplishing this, which involves translation from Word to Excel to SPSS and then a structured combining of survey and grade data at the individual level, has been explored and found to be possible and effective. As data from all sources increase, a "Master Data File" will be developed which will allow very robust and sophisticated data analyses which are simply neither possible nor advisable at this point in time.

Next Steps and Future Activities

DSSS will continue to field surveys to BLEA graduates at the time of graduation with the cooperation of BLEA staff. DGSS will also expand the field survey administration to collect data from BLEA graduates, their training officers and supervisors at two points in time for each graduate who has responded to a survey. In addition, DGSS will continue to work with BLEA staff to obtain input on the long-term implementation of PBL from staff and TAC officers, and to obtain test and grade data for a larger number of BLEA graduates and BLEA classes. DGSS will also coordinate with others to obtain qualitative information on the perspectives in the field of PBL graduates, as expressed by training officers, executives, and supervisors. As the depth of data available increases, DGSS will continue to work with those data to render them amenable to

analysis, and will work more with BLEA and CJTC representatives to refine and expand the analysis and reporting elements of this project.

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Appendix 6

NIJ REX Form

REX FORM

Page 1
v 12.18.09

Washington State University Request for Approval of Application for Extramural Support
Office of Grant and Research Development

For OGRD Use only
OGRD #: _____ - _____

PI WSU ID #:	PI LAST NAME:	PI FIRST NAME:	PI EMAIL:	TELEPHONE #:
10182578	Gaffney	Michael	mjgaffney@wsu.edu	335-4611

PROJECT TITLE: (Title Case)
Long-Term Comparative Study of Basic Police Training Academy Efficacy

AREA/COLLEGE/CAMPUS:	ACADEMIC DEPARTMENT:	RESPONSIBLE FISCAL DEPARTMENT/UNIT:
WSU EXTENSION (A)	GOVERNMENTAL STUDIES AND SVCS (D)	GOVERNMENTAL STUDIES AND SVCS (D)

PROPOSAL TYPE:	CURRENT OGRD#	FUNDING SOURCE:	WORK LOCATION:
New		External	WSU Pullman

BUDGET # (4 digits), IF AWARDED:	PROJECT BEGIN DATE:	PROJECT END DATE:	DIRECT $:	F&A (Indirect) $:	TOTAL $:
4178	07/01/2010	06/30/2013	$558,437	$276,426	$834,863

Does this application commit WSU funding or other funds for Cost Sharing or Matching? ☐ Yes ☒ No
If yes, complete **Appendix 1 - Cost Sharing/Matching**

SPONSOR/AGENCY NAME:	AGENCY CONTACT NAME:
US Department of Justice/National Institute of Justice	Karen Bachar

MAILING ADDRESS and ATTN TO: (FedEx does not accept PO Boxes):
810 7th St NW

CITY:	STATE/PROVINCE:	ZIP CODE:	COUNTRY:
Washington DC	DC	20531	

PHONE #:	RFP/PA/BAA/RFQ TITLE:	SUBAGENCY:
202–514-4403	Crime and Justice Research and Evaluation: Investigator-Initiated	

RFP/PA/BAA/RFQ URL:
http://www.ncjrs.gov/pdffiles1/nij/sl000899.pdf   PROGRAM/UNIT:

If proposal is federal flow-through, who is the awarding federal agency?

PROPOSAL DEADLINE	TIME DUE: ☐ None	ZONE:	DEADLINE TYPE:	TRANSMISSION TYPE:	COPIES: SPONSOR:	SIGNED:	OGRD:
03/29/2010	11:45pm	EST	At the Sponsor/Agency	Electronic	1	1	1

Project Review Checklist

*Note: The University Conflict of Interest policy, as outlined in OGRD Memorandum #3 and Exec. Policy #27, requires that the principal investigator, co-investigator(s) and any other person at the University, who is responsible for the scientific design, scientific conduct, or scientific reporting of the project must disclose potential Conflicts of Interest. This also includes immediate family. It is expected that answers to Conflict of Interest questions cover all such individuals. Disclosure is required by State and Federal law and non-disclosure may lead to civil and/or criminal penalties. If you answered **yes** for yourself or others, then complete the Financial Disclosure Form. Contact the WSU Office of Research Assurances at 509-335-7183 to obtain a form..

Yes	No		Yes	No	
☒	☐	1. Has the project space been identified?	☒	☐	10. Is this proposal to be submitted electronically? NSF Fastlane, etc.
☐	☒	2. Is this a major equipment/infrastructure grant? MRI, G20, Murdock, etc.	☐	☒	11. Is the project to be conducted off-campus? See OGRD Guideline #2 (http://www.ogrd.wsu.edu/guidelines/guideline2/Guideline2.pdf)
☐	☒	3. Does the project require alterations/remodeling/installation.	☐	☒	12. Were WSU resources used to lobby for this proposal? If so contact the WSU Federal Relations Office (http://www.olympia.wsu.edu/Federal.aspx)
☐	☒	4. Are subcontractors or sub-recipients proposed?			
☐	☒	5. Are facilities & admin. costs reimbursed at LESS than established University rates (ATTACH DOCUMENTATION)	☐	☒	13. Is the project focus: Visual and Performing Arts, Non-Research Fellowship/Scholarship, Curriculum Development/Education, Student Services (i.e. Counseling), Foreign Languages & Literature, English Language and Literature/Letters, Community Service, History (except History of Science), Travel Grant or Workshop/Conference, Survey/ Testing/Sample or Data Collection (no project control or publications expected), Library Science, Management Service, County Program Support, Work Study, Employee Assignment, etc.; Answer no to this question if there will be findings from WSU faculty and/or graduate students that will contribute to the body of knowledge even if the project falls into one of the categories above?
☐	☒	6. Does the application provide excess compensation, pay for duties above and beyond your normal duties? (not including summer apts) (http://www.ogrd.wsu.edu/guidelines/guideline21/)			
☐	☒	7. Potential for a Conflict of Interest? * (see note above)			
☐	☒	8. Will there be restrictions on University/Investigator publications?			
☐	☒	9. Will this proposal be funded under the Federal Stimulus Package (ARRA)?			