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Effect of distance learning technology as a training delivery system for rural and small law enforcement agencies

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EFFECT OF DISTANCE LEARNING TECHNOLOGY AS A TRAINING DELIVERY SYSTEM FOR RURAL AND SMALL LAW ENFORCEMENT AGENCIES

by

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This study examined the perceptions of law enforcements officers employed by rural and small law enforcement agencies on the effectiveness of the use of distance education technology as a delivery system for training programs. Four research questions were designed to assess officers' perceptions. This study used both quantitative and qualitative analysis of data to assess these questions. Quantitative data were collected through the use of a pretest and post-test, and a survey. Qualitative data were collected through observations of subjects' interaction with the treatment, interviews with participants, reviews of survey comments, and analyses of budget documents.

The results of this study suggested that officers found the use of distance education technology as a means for delivering training courses to be effective. Agencies should ensure that their technology is compatible with the modality in which the course is presented and that their officers are trained in the use of this technology. Course material should include core information and supplemental material similar to that found in

traditional face-to-face courses. Online courses should contain the same structure as found in traditional face-to-face courses. The environment in which the learning occurs should be comfortable, distraction-free, and suitable for engaging in online learning.

Key words: online training, distance education technology, law enforcement training

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INTRODUCTION

Most information regarding law enforcement training is derived from analysis of urban and large-department policing (Eastern Kentucky University, 2002). Little has been done to examine the current state of training in rural and small law enforcement agencies. Issues such as training program availability, budgeting, and staffing must be assessed in order to guide development and presentation of training opportunities for rural and small law enforcement agencies. Examination of these issues is important since over half of the nation's local police departments employ less than 10 sworn officers and 90 percent of all local police agencies maintain fewer than 50 sworn officers (Hickman & Reaves, 2001).

The lack of research data on rural crime and small law enforcement agency issues contributes to the perception that rural areas are "safe havens" and have little with which to be concerned, particularly when compared to urban communities and law enforcement agencies (Herz & Murray, 2003). For example, many urban newspapers describe rural communities as "safe close-knit communities where bad things are not suppose to happen" (Frank, 2003, p. 207). This is a misperception that haunts rural and small law enforcement agencies and causes difficulties, such as less availability of grant opportunities or training programs specifically targeting rural and small agencies.

Many rural areas are located near enough to urban areas to be attractive to urban residents. Rural areas are usually characterized by low property values and taxes that are enticements to developers seeking to establish new housing projects. This enticement to relocate is referred to as "deconcentration" and characterizes the movement of people away from more densely settled places, such as urban areas, and into areas more lightly populated (Johnson, 1999). These migrants tend to bring their urban attitudes and problems with them. Included in these problems are crime, traffic, and safety issues that are usually associated with the larger urban areas.

For example, improved road systems and interstate highways make many rural and small communities accessible by urban criminals such as street gangs and drug dealers (Crank, Giacomazzi, & Heck, 2003). The rural community size with its low population density areas coupled with an equally small law enforcement agency are attractive to these criminals. It is easier to engage in crime, such as illegal drug production and distribution, with minimum risk of detection. Additionally, according to Rural Crime Prevention (n.d.), rural areas have their own unique crime problems such as theft of crops, timber, livestock, and farm equipment. These problems increase the pressure on the limited resources that most rural and small law enforcement agencies possess.

STATEMENT OF THE PROBLEM

Significant differences exist between urban and large departments and rural and small departments that must be considered when developing training programs (Leary, 2000). For example, urban and large departments engage in specialized operations to a

greater extent than rural and small agencies. Bureaus, such as detectives, patrol operations, traffic operations, special operations, training, and planning often exist within urban and large departments. Many of these bureaus have budgets and staffs that exceed that of many rural and small departments.

Officers assigned to specialized units in urban and large law enforcement agencies typically receive training in the specialty to which they are assigned. Indeed, urban and large departments frequently have their own training staff that provides this training to the department's officers. After receiving the training, officers are then expected to perform their specialty for the duration of their assignment, which can last from one year to an entire career. Conversely, rural and small departments, which often have no or little specialized units or a training staff, typically require that every officer be reasonably proficient in all aspects of law enforcement. Despite this, rural and small agencies have little access to training (Gibson, 2002).

Lack of training also affects other concerns besides an officer's capabilities for addressing criminal activity. For example, officers who receive training in specialized areas such as sexual assault or child abuse investigation often demonstrated greater concern and a more positive attitude towards victims of these crimes (National Institute of Justice, 1995). This makes the officer and his or her department appear more professional, eases the victim's concerns about interacting with the criminal justice system, and enhances victim's recovery from the emotional trauma of the crime.

Another area of concern for rural and small agencies is the lack of policy formulation. Well-trained officers and administrators are better prepared to develop

policy for their agency. Often, as part of a training program, materials are distributed that can be used for assisting administrators with developing policy for their agency (National Institute of Justice, 1995). Well-developed policies ensure consistency in officer performance, enhances the professionalism of an agency, and helps protect it from liability issues.

To afford their officers the training they need, the rural and small agency must send these officers to a distant training center or other similar location. The rural and small agency must incur the cost of training, travel, and per diem for each officer. Additionally, the rural and small agency must ensure that releasing an officer for training does not impact on its staffing. Therefore, administrators of rural and small departments are constantly seeking efficient methods for providing its officers with more training in order for them to be proficient in all aspects of law enforcement duties.

The differences between urban and large law enforcement agency training and rural and small law enforcement agency training are only beginning to be realized. Acknowledgment of these differences is evidenced by the establishment of the Rural Executive Management Institute (REMI) and the National Center for Rural Law Enforcement (NCRLE), both housed at the University of Arkansas. According to U.S. Senator Ben Nelson (2003),

> The one-size-fits-all mentality cannot address locally-specific concerns, especially when it comes to the training of our rural law enforcement agencies. Training opportunities are frequently available to urban agencies to address urban

challenges. While this training may fully benefit the urban agencies, it may only partially benefit rural agencies and their rural crime prevention challenges. (p. 1)

Despite the recognition by government leaders of the need for institutions such as REMI and NCRLE, there is still little else being done to address these differences.

These differences, however, make rural and small law enforcement agencies ideal candidates for employing distance learning technology as a delivery system for training. Online training courses offer many advantages that should be attractive to administrators for rural and small law enforcement agencies. For example, online training courses can be individualized for specific officers, completed at an officer's pace, and linked to information on the Internet. Additionally, these types of courses require fewer instructors and facilities, do not require the officer to travel great distances, require less interruptions to an officer's work schedule, and provide flexibility in scheduling courses (Smith, Debenham, & Mays, 2002). These requirements are factors that are related to the purpose of this study.

PURPOSE OF THE STUDY

The primary purpose of this study is to determine the effectiveness of using distance learning technology as a means for delivering training programs to law enforcement officers in rural and small agencies. This topic is important since many rural and small law enforcement agencies cite the lack of available training as an impediment to their operations (Eastern Kentucky University, 2002). This study reflects issues of self-evaluation, evaluation by others, level of success, and support for the targeted population.

A secondary purpose of this study is to contribute to the body of knowledge regarding this topic. Little data were found to address this topic or to provide guidance for research. The limited use of this technology by law enforcement agencies has occurred principally in large, urban, and specialized agencies. However, some issues have emerged from this research that may also apply to the use of this technology by rural and small law enforcement agencies and can serve as a guide for formulating research questions. Additionally, this researcher's 32 years experience as a law enforcement officer, including the last 12 as a chief of police, provides a basis for formulating the research questions this study will address. This experience not only includes the law enforcement administrative duties that the researcher has performed, but the time the researcher has spent discussing these issues with chiefs of police and sheriffs of rural and small law enforcement agencies. Further, this experience includes over 20 years as a law enforcement trainer working with three different law enforcement training centers in different states.

In addition to determining the effectiveness of using distance educational technology as a method for delivering training program, this study seeks to determine if this method does so in a manner that is cost-effective and convenient. The use of technology to provide online training is believed to compress the time needed to present information, make more efficient use of training time, save money, ensure consistency in training delivery, provide a reference source for law enforcement officers, and allow for updating of curricula (Larson, 2000). These factors should make the use of distance

learning technology attractive to administrators of rural and small law enforcement agencies.

RESEARCH QUESTIONS

The domain research questions are as follows:

1. How effective is the delivery system in the presentation of subject matter?
2. How do student law enforcement officers perceive the physical characteristics of the distance education delivery system and how do they compare with the physical characteristics of in-class training that the student law enforcement officers have previously received?
3. What is the amount and type of interaction between the student law enforcement officer and the presentation and with other law enforcement officers who may be present at the time the student law enforcement officer interacts with the presentation?
4. What are the student law enforcement officers' perceptions about the learning effectiveness of the distance learning presentation and how it compares with the effectiveness of in-class instruction? Also, what are the perceptions of the supervisors of student law enforcement officers regarding the effectiveness of distance learning technology for training?

LIMITATIONS

This study examined only the use of distance learning technology as a delivery system for training programs to rural and small law enforcement agencies. While learning

styles may differ among individuals, no assumptions regarding these styles or learning theory were made as part of this study. Further, this study was not intended to address issues related to learning disabilities. While the sample used in this study is believed to be characteristic of law enforcement officers in rural and small agencies, it must be noted that there may be characteristics beyond the scope of this study that may not make it appropriate to generalize the results to all rural and small law enforcement agencies. Generalization in qualitative research is restricted in scope to which comparable samples or populations can be analyzed for similarities (Jensen, 1989). To address this issue, information regarding the participants and their respective agencies are included in this study to provide readers the necessary information for comparison.

SIGNIFICANCE OF THE STUDY

While distance education technology has existed for a number of years, its use by law enforcement agencies has been limited. While conducting the literature review, this researcher found little in the way of studies directly related to this issue. Therefore, the general significance of this study is to contribute to the body of knowledge surrounding the use of distance education technology by law enforcement agencies. Specifically, this study contributes the following information:

1. This study considered the strength of a rationale for the use of distance education technology by law enforcement agencies and the nature of appropriate policy objectives, taking into consideration the unique dynamics of a law enforcement agency.

2. This study assessed the extent to which distance education technology meets the training needs of rural and small law enforcement agencies and considered whether they represent a cost-efficient method for delivering training programs.
3. This study evaluated the impact of distance education technology on rural and small law enforcement agencies in terms of the quality of the training programs provided.

DEFINITION OF TERMS

The following section contains definitions for terms used throughout the study.

Academy - A institution that is accredited or certified by a state's Police Officer Standards and Training (POST) Board or equivalent to provide an approved course of study that a state recognizes as minimum training for its law enforcement officers.

Certified (officer/instructor) - (1) A person who has completed the minimum level of training required by a state and who receives certification from that state to perform in the capacity of a law enforcement officer. (2) A law enforcement officer who has completed a course of study and received certification from an approved organization that allows him or her to instruct a particular discipline of law enforcement, i.e., a firearms instructor.

Community oriented policing (COP) - Community oriented policing is proactive, solution-based, and community driven. “It occurs when a law enforcement agency and law abiding citizens work together to do four things: (1) arrest offenders, (2) prevent

crime, (3) solve on-going problems, and (4) improve the overall quality of life" (Shain, 2002, ¶4).

Distance education - Distance education is defined as a planned teaching/learning experience that uses a wide spectrum of technologies to reach learners at a distance and is designed to encourage learner interaction and certification of learning (2002, Distance Education Clearinghouse, p. 1).

Law enforcement officer - Any individual employed by a state, county, or municipality, or any political subdivision thereof, for the purpose of enforcing municipal or county ordinances, and/or state law. Such an individual is vested with the authority to make arrests, carry firearms and other approved weapons, and use force as justified or described by law.

Licensed - See "certified."

Rural law enforcement agency - A rural law enforcement agency is defined as a "municipal police agency that serves a population of 25,000 or less and a sheriff's office that serves a population in a county or 50,000 or less" (Colwell, 1999, ¶19), or any specialized law enforcement agency whose primary geographical jurisdiction is restricted to a political subdivision of a rural city or county. An agency, under this definition, includes, but is not limited to, tribal, college or university, port, or airport law enforcement agencies.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter will review the literature relevant to the use of distance education technology by law enforcement agencies. While there is literature found that addresses the concept of the use of distance education technology by law enforcement agencies, there is little found that addresses the actual practice and use of this technology. However, literature on research for the use of distance education technology in other fields exists and can be applicable to the current study. The North Carolina Department of Public Instruction (2006) has developed criteria for evaluating the effectiveness of courses delivered via distance education technology. These criteria include:

- prerequisite considerations
- course design
- teaching site
- student site
- interaction
- evaluation

These criteria along with an overview of the types of law enforcement training and a historical perspective of law enforcement use of distance education technology will form the basis for the literature review. This chapter also explains how the present study

will create a new and contributing layer to the research based on the use of distance education technology by the law enforcement profession. A review of the literature is important to this topic as the review provides insight into current practices within the field regarding previous research (Natriello, 2000). Further, a literature review helps inform about problems and questions that arise in researching a particular problem (Gall, Gall, & Borg, 1999).

TYPES OF LAW ENFORCEMENT TRAINING

The nature and complexity of policing in the 21st century provides challenges to law enforcement administrators. The rapid evolution of technology, societal demands, and even world events, such as the war on terrorism, rapidly redefine the job of policing (Keelty, 2004). The redefinition of policing in the 21st century also requires that police officers redefine their role. According to Trojanowicz and Trojanowicz (1998, ¶18), "the role of the community police officer is equivalent to the role of the critical social scientist, the facilitator and catalyst of problem solving activities."

Law enforcement administrators rely upon effective training to prepare officers for policing in the 21st century. Law enforcement training as it is perceived today is a relative recent phenomenon. Although the origins of modern police in American date back to the 1830s (Walker & Katz, 2002), mandatory minimum training for all law enforcement officers in the United States at the basic academy level did not exist until 1981 (IADLEST, 2002).

Law enforcement training is multi-dimensional and includes categories such as basic, field training, in-service, high liability (Thibault, Lynch, & McBride, 1995), and

career development (Wallace, Roberson, & Stechler, 1995). Basic training is the training a new officer receives at a police academy. All states have established minimum standards for the basic training of new police officers that require attendance at a police academy (IADLEST, 2002). These minimum standards have resulted in most police academies in the United States being cooperative entities where law enforcement officers from many local and state agencies train together to achieve these minimum standards.

Once an officer successfully completes the law enforcement academy, he or she returns to his or her employing agency and usually undergoes a type of training referred to as field-training (Thibault, Lynch, & McBride, 1995). The field-training program was developed by the San Jose, California, Police Department in 1972 and consists of three four-week phases in which the officer receives orientation and problem-solving training that prepares him or her to work alone (Thibault, Lynch, & McBride). In the field-training program, specially trained officers or supervisors work directly with the new officer. For each phase, the officer receives a new training officer or supervisor.

Academy and field training are supplemented by in-service training that usually continues throughout the career of the officer. Generally, this type of training is task-specific and prepares an officer for engaging in specialized assignments, addressing social or legal issues, or using specialized equipment (Wallace, Roberson, & Stechler, 1995). Examples of in-service training include RADAR Speed Measurement Devices, Culture Sensitivity, or Drug Identification and Investigations courses.

Career development training is used to develop individuals for certain career tracks (Wallace, Roberson, & Stechler, 1995). Most notable of the career tracks is the

supervisory and administrative track where officers prepare for advancement through the ranks. Course in this track include supervisory principles, disciplinary process, budgeting, human resources, and planning.

High liability training addresses those areas that put a law enforcement agency and its officers at the greatest risk for a lawsuit. While all law enforcement training is important, it is the high liability training that receives the most attention. Areas considered to be high liability include the use of force, making arrests, performing searches and seizures, conducting interrogations, and operating motor vehicles (Police Law Institute, 1998).

The different types and frequency of training in which law enforcement officers engage suggest that much of an officer's career, particularly the early part, is devoted to receiving training that enable a law enforcement officer to become a professionally functioning peace officer. This also implies that law enforcement agencies devote a great deal of resources towards the training of their officers. Research suggests that the use of distance education technology is a cost-effective alternative to traditional delivery systems (Detweiler, 2004; Huang, 2002b; Kenner, Androwich, & Edwards, 2003).

However, it must be more than cost-effective; it must also provide the same level of quality as a traditional training programs. Therefore, a key question for law enforcement administrators is how effectively can distance education technology provide crucial law enforcement training? This question is not only of concern for law enforcement administrators, but for all students, instructors, and administrators who use or contemplate using distance education technology.

In summary, Thibault, Lynch, and McBride (1995) and Wallace, Roberson, and Stechler (1995) identify five types of law enforcement training: basic or academy, field-training, in-service, career development, and high liability. Each of these types serves a specific purpose and addresses the need for law enforcement agencies to adapt to the constantly changing social demands, legal issues, and new technology. Further, law enforcement training is constantly reviewed by police training professionals to identify or determine the need for changes in subject matter and curriculum. However, one area that is seldom reviewed is the delivery system for this training. Historically, police training involves a site-specific location coupled with face-to-face interaction between students and instructor.

HISTORICAL PERSPECTIVE OF DISTANCE EDUCATION AND ITS USE BY LAW ENFORCEMENT AGENCIES

The American Society of Safety Engineers (ASSE) purports that it is the oldest professional safety organization. The membership is comprised of dedicated individuals who promote industrial safety. The organization is committed to enhancing the knowledge and capabilities of safety practitioners (American Society of Safety Engineers, n.d.). To facilitate the expansion of their expertise and knowledge, ASSE is looking to distance learning as a principle delivery method (Greer, 2001). ASSE believes that the immediate availability of information through a web-based system to provide immediate information is the easiest and most efficient way to accomplish this.

Safety engineers are just one group of professionals that are seeking newer and more efficient delivery systems to provide training that is critical to their professional competence. Other professions that are seeking enhanced training in this manner include transportation officials (Martin, 2001), postal workers (Goodridge, 2001b), nuclear energy employees (Wagner, 2001), nurses ("Overcoming the Challenges of Learning by Distance", 2002), and Health and Human Services employees (Goodridge, 2001a). Another profession rapidly embracing distance learning training is the profession of law enforcement (Waggoner & Christenberry, 1997).

The use of distance education is not a new concept. In 1837, Issac Pitman offered correspondence courses in shorthand through the Penny Post (PBS, n.d.). As technology advanced, so did the efforts of individuals to use it to facilitate distance learning. The telephone, radio, television, and Internet have played a role in distance education delivery systems with the Internet developing the quickest (United Nations, 2000). Sixty-five percent of individuals under the age of 30 have Internet access while 65% of individuals under age 50 without Internet access intend to obtain it (Pew Internet and American Life Project, 2000).

Use of the Internet in the home is the driving force behind its rapid growth (Pew Internet and American Life Project, 2002). More businesses now use the Internet as a result of its availability in the home. Individuals can obtain personal and professional development at work or home at almost any time of day. This dual access and availability makes the Internet an ideal medium for facilitating professional training for such professions as law enforcement. Given the rotating shifts and days off that many law

enforcement officers encounter, this dual access and availability takes on greater importance in solving a long-standing problem in law enforcement training; that is releasing officers for training while ensuring there is sufficient staffing for their shift.

Some law enforcement organizations have recognized this and begun using distance education for training their officers. While it is unclear what law enforcement organization or department pioneered the use of distance learning in law enforcement, one company has emerged as a leader in this area. The Law Enforcement Television Network (LETN) began in 1989 and has grown to an organization with over 2,000 sites training over 150,000 officers daily (Law Enforcement Television Network, 2002; Waggoner & Christenberry, 1997). These statistics indicate that many agencies have turned to this form of distance learning to train their officers.

LETN is a subscription service and its popularity among law enforcement agencies suggest that many agencies do not have the extra resources to invest in their own distance education technology for training. Indeed, that is one of the marketing tools of LETN. As part of their subscription fee, LETN provides most of the equipment an agency needs to receive the satellite signal. This equipment includes a satellite dish and television converter. LETN has a partnership with Online Learning Management, considered to be one of the leading companies in providing e-learning technology (Law Enforcement Television Network, 2002). This partnership is indicative of the collaboration that law enforcement agencies are forming to obtaining distance education and training.

Other agencies have either implemented distance education training or joined other agencies to form distance education training consortiums. For example, a number of law enforcement agencies in southeastern Virginia have joined to form the Mid-Atlantic Police Supervisory Institute that offers on-line police supervisory training (Waggoner & Christenberry, 1997). In 1997, the Federal Bureau of Investigation (FBI) conducted a pilot study in distance learning techniques. They concluded that the quality of training was good and they saved millions of dollars through this system (Zolkos, 1999).

Success stories such as these are resulting in more agencies exploring training via distance education technology. Due to cost and time needed to implement this type of training delivery system, some agencies are partnering with traditional education institutions such as community colleges and universities who already have the facilities to provide such training. For example, the FBI has partnered with the University of Virginia in order to have more input in the online criminal justice curriculum (Zolkos, 1999). The Colorado Community College System signed a two-year agreement with the Colorado Municipal League to provide online distance education training to municipal employees, including police officers ("Colorado Agreement Broadens Training Opportunities", 1998). Such partnering allows law enforcement agencies the opportunity to realize the benefits of online training sooner.

Given the increased interest and efforts by law enforcement agencies in the use of distance education training resources, the United States Department of Justice, in conjunction with the U.S. Navy and the University of Central Florida, is now serving as a clearinghouse for information regarding both onsite and online law enforcement training

and providing this information online (National Institute of Justice, n.d.). Another web site providing information regarding online law enforcement training classes belongs to the American Society for Law Enforcement Training (2002). This clearinghouse results in any law enforcement agency with a computer and Internet access obtaining assistance in securing online training for its officers at any time of day or night, any day of the week.

In summary, law enforcement training was not mandated for all officers in the United States until 1981. Law enforcement training is multi-dimensional and includes categories such as basic, field training, in-service, high liability, and career development. An officer receives the bulk of his or her training early in his or her career as preparation for performing his or her duties and career development and advancement. The use of distance education for career development and training is not a new concept. Many professionals including engineers, medical personnel, transportation officials, and postal workers have received training via distance education technology.

While it is uncertain when law enforcement agencies began using distance education technology for training purposes, the Law Enforcement Television Network emerged as an early leader in the field by providing video training course distributed via a satellite signal that is beamed to television receivers in law enforcement agencies. This technology has evolved into a more computer-oriented method of delivering training programs that has resulted in its increased use by individual agencies and law enforcement consortiums.

PREREQUISITE CONSIDERATIONS

When designing a law enforcement training program for presentation via distance education technology, it's important to determine if there are initial factors beyond the technology use and desired training outcomes that must be considered in course design. For example, one factor that may need to be considered is that the course content or method of presentation has to comply with national or state accreditation standards (Indiana Higher Education Telecommunications System, 2006; North Carolina Department of Public Instruction, 2006). The Commission on Accreditation for Law Enforcement Agencies (CALEA) (2001) is the primary national accrediting organization for law enforcement agencies in the United States, Canada, and Mexico and has established standards for law enforcement training. CALEA standard 33.1.1 requires the establishment of a training committee within the law enforcement agency for the purpose of "assist(ing) in developing and evaluating training needs (p. 33-1)." The intent of this standard is for accredited agencies to have a process by which law enforcement training needs and requirements are assessed. CALEA standard 33.1.4 requires that all accredited agencies conducting training must have lesson plans for all training programs that include:

- statements of job-related and performance objectives
- content of training and specifications of the appropriate instruction techniques
- process for approving lesson plans, and
- identification of any tests or assessment instruments used.

Another factor may be legal requirements that affect how the course is designed. For example, the state of Florida mandates that officers issuing speeding traffic citations based upon RADAR readings receive a minimum of 24 hours of classroom training in the use of RADAR speed measurement devices (Florida State Statute 316.1906). A designer of the classroom portion of a RADAR speed measurement training course would need to ensure that, regardless of how the course is presented, it meets this requirement. Failure to meet this requirement renders the training useless and results in the RADAR traffic citations written by the students being legally unacceptable in court.

Many states have organizations that oversee law enforcement training. These organizations are often referred to as Police Officer Standards and Training (POST) organizations. One of the purposes of these POST organizations is to establish standards for the employment and training of law enforcement officers (IADLEST, 2002). A designer of a law enforcement training course may discover that he or she must submit the course to their state's POST organization for approval before presenting the course to law enforcement officers.

In summary, it's important to determine if there are initial factors beyond the desired training outcomes that must be considered in course design. These factors may include accreditation standards and legal requirements. When designing a distance education training course for law enforcement officers, it may be necessary to have the course approved by a state's POST organization.

COURSE DESIGN

In examining the use of distance education technology by law enforcement agencies in the state of Mississippi, no data exists to identify the extent of use of this technology. Although, according to the FBI (2001), Mississippi law enforcement staffing levels suggest that training via distance education technology would be beneficial, the use of this technology does not seem to be widespread. Ladd (personal communication, June 22, 2002) suggests that primary reasons for this are low law enforcement officer education levels and unfamiliarity with the distance education technology. Ladd further suggests that where distance education technology is used in Mississippi for training purposes, it tends to be video-centered by using videotapes and televisions.

Ladd's (personal communication, June 22, 2002) perspective regarding the reason why more Mississippi law enforcement agencies do not use distance learning technology has implications for distance education course development. The low education level of many Mississippi law enforcement officers coupled with their lack of skills for the use of distance education technology suggests that one of two approaches to the development of distance education training programs should be considered: develop programs that are delivered via technology with which law enforcement officers are currently familiar; or include a training component with distance education programs that familiarize law enforcement officers with new or different distance education technology.

The second option is preferable for a number of reasons. First, distance education does not lend itself to one medium. According to the Distance Education Clearinghouse (2002), "distance education is defined as a planned teaching/learning experience that uses

a wide spectrum of technologies to reach learners at a distance and is designed to encourage learner interaction and certification of learning (p. 1).” The term “wide spectrum of technologies” implies that distance education technology is multi-faceted. In order for law enforcement professionals to experience the full benefit of distance education technology, they must be skilled in all technologies related to distance education.

Second, there are a number of law enforcement distance education programs already developed for mediums other than television. For example, the Washington State Criminal Justice Commission (1999) uses a Web tool known as Blackboard to facilitate a RADAR Speed Measurement Device course. It is doubtful if any organization with existing distance education programming will change the medium to accommodate law enforcement agencies that are reluctant to switch from videotape or television-oriented training. Further, the use of videotapes and/or televisions for distance education programming deprives law enforcement officers of the opportunity to maximize the effectiveness of their training. For example, current technology allows for immediate interaction with instructors and others through two-way video, and bridging of training scenario outcomes.

Finally, the Internet boom has caused a paradigm shift in course development away from the older television, videotape, and CD-ROM technology (Zhang, 1998). Mississippi law enforcement agencies that do not recognize this paradigm shift or refuse to accommodate it will eventually find fewer available training programs. As the number of distance learning programs increase and the range of delivery systems grow, law

enforcement agencies must adapt to the newer technology or risk being isolated from future training opportunities.

Mississippi law enforcement administrators need to examine and familiarize themselves with the programs and associated technology to determine which medium works best for their department. Adopting a philosophy that includes a training component with distance education programs that familiarize law enforcement officers with new or different distance education technology broadens the options for course development. Further, with only a computer with multimedia capability and access to the Internet required to access Web-based training, the ability to acquire the technology to engage in this type of training is within the reach of even the smallest law enforcement agency.

Selecting the technology to use as a delivery system is an important step in course design. For example, Web-based courses have a distinct advantage over other type of distance education technologies in that they offer immediate access or links to a large collection of resources (Waschull, 2001). Since distance education course developers tend to be individuals who are not employed or affiliated with any particular law enforcement agency, the understanding of the distance education technology that law enforcement agencies are most likely to purchase and use will often drive the demand for a particular program.

It is important for students, instructors, and administrators to avoid being mesmerized by the technology and lose focus on the necessary learning outcomes. Head, Lockee, and Oliver (2002) indicate that distance learning provided through technology

should present the same quality of training as found with face-to-face training courses. Further, they believe that distance education technology does not insure learning outcomes. Rather, the technology is merely one variable that contributes to the learning experience.

However, the technology may be the most important variable in course design. It is the distance education technology that allows learning opportunities to reach students who otherwise would not be able or find it difficult to access these opportunities (Ravitz & Silver, 2004). It is also the limits of this technology that drives course design to ensure an effective learning environment (Clark, 2001).

However, the variety of available technology affords the course developer the opportunity to develop a course in more than one medium. The use of video, text, and audio mediums allow students to experience the course through more than one sense. The ability of humans to acquire information visually and audibly enhances their capability for learning since both senses process information differently and allow for deeper processing of information (Mayer, 2003).

Commensurate with technology selection, identifying the goals and objectives for a training program is paramount. Goals and objectives that address a specific problem or issue are the foundation upon which course content is developed (Willis, 1993). For law enforcement agencies, this is relatively straightforward. Training needs arise from a variety of sources, such as changes in law, introduction of new technology, emerging social problems, and internal issues. Failure to develop training programs with clear goals and objectives that relate to problem-solving of issues often produces major problems for

law enforcement agencies (Thibault, Lynch, & McBride, 1995). To effectively address the issue of goal and objective formation requires collaboration between those knowledgeable about law enforcement practices and needs and those skilled in distance learning course development.

Another issue in course development regards structure. According to Kearsley and Lynch (1996), course structure consists of the syllabus, study guides, course delivery format, and time scheduling. They consider the syllabus to be most important structure instrument because it outlines clearly defined goals and objectives, prerequisites, course assessment, scheduling, topics, and materials. A well-developed syllabus ensures that all components of the course are aligned to applicable state or national standards (North Carolina Department of Public Instruction, 2006).

Depending upon the presentation format, the study guide is also extremely important (Trautmann, personal communication, June 15, 2002). A good study guide directs the learner through the key concepts of the course and helps keep the learner motivated. This is especially important when organizations use older presentation technology such as a videotape that offers little or no student-instructor interaction.

Course delivery format strongly depends upon student learning style. Law enforcement agencies employ adults and as learners, their age, educational attainment, economic, social, and personal circumstances make their learning abilities and expectations differ significantly from those of younger students (McGivney, 2004). These differences between younger and older learners are so distinct that Knowles has proposed

a separate theory of learning for adults known as Androgogy (Knowles, 1980). This theory identifies four learning principles for adults:

- instructors have a responsibility for helping adult learners move from a state of dependency to self-directedness,
- adult learners have a reservoir of experience from which they may draw meaning to the learning,
- adult learners are motivated to learn when they understand the learning will help them address real-world problems and issues, and
- adult learners understand that education is a means to increasing their skills and competency.

Knowles, Holton, and Swanson (1998) identify two additional learning principles:

- orientation to learning based upon a problem-solving approach and
- motivation to learn.

These adult learning principles that have been identified by Knowles fit well with online learning. According to Jonassen (2000), adult learners can use technology as intellectual partners in order to:

- articulate what they know
- reflect on what they learn
- support the internal negotiating of meaning-making
- construct personal representations of meaning; and
- support international, mindful thinking.

The tools found in some of the more popular software products that facilitate online learning, such as WebCT® and Blackboard®, provide opportunities for adult learners to engage in these activities. Additionally, the Web provides numerous opportunities and immense resources for adult learners to solve problems or construct knowledge. According to Chen (2003), each of these various technologies has its own strengths and weaknesses that can meet the various needs of the adult learner. A component of good course design is to recognize the styles and needs of adult learners and match the technology to these.

There are a number of reasons to believe that law enforcement students will like, and thus judge as at least as effective as traditional training methods, the use of distance education technology in law enforcement training courses. According to Huang (2002a), students over 30 and under 50 years old typically complete a distance education training course successfully. While many law enforcement officers begin their careers while they are in the early 20s, as they continue in their careers, they mature into adult learners.

An important reason to believe that law enforcement students may find the use of distance education technology to be effective is their familiarity with the use of computer technology in law enforcement applications. Since the late 1960s, law enforcement agencies have made extensive investments in computerized information systems (Northrop, 1993). During this same period, computer technology allowed for the development of applications not previously seen in the law enforcement profession such as Computer-Aided Dispatch, RADAR capable of filtering out spurious electronic interference, trace evidence detection equipment, and digital video systems. This

computer-based technology has allowed for more effective police work Officers have the opportunity to see the effectiveness of computer technology on a day-to-day basis. According to the Seaskate, Inc. (1998, ¶7), "of all criminal justice agencies, the police traditionally have had the closest ties to science and technology." Further, Northrop found that law enforcement officers are enthusiastic users of computer technology.

Finally, student completion time is a necessary structure element. While distance learning offers flexibility and convenience in accessibility (Valenta, Therriault, Dieter, & Mrtek, 2001), a time factor is necessary for establishing a pace of learning (Kearsley & Lynch, 1996). Completion time can vary from deadlines for individual assignments within a course to a final date for completion of the entire program. Additionally, the presentation format can also dictate the completion time. For example, a teleconference may have a rigid schedule where tasks have to be completed by a determined time.

In summary, Ladd (personal communication, June 22, 2002) believes that two major issues affecting the non-use of distance learning technology by Mississippi law enforcement agencies are low law enforcement officer education levels and lack of familiarity with distance education technology. Commensurate with this is the difficulty many law enforcement agencies have in acquiring distance education technology. Selecting the technology to use as a delivery system is an important step in course design. These issues are major factors in distance education course development.

Another major issue in course development is establishing goals and objectives (Willis, 1993). Goals and objectives relate directly to developing training that is necessary for law enforcement agencies to satisfy legal issues, technology needs, and

community concerns. An important reason to believe that law enforcement students may find the use of distance education technology to be effective is their familiarity with the use of computer technology in law enforcement applications. Structure is also important to course development (Kearsley & Lynch, 1996) with four areas identified: syllabi, study guides, course delivery format, and time scheduling. Good structure ensures that an online course is comparable in rigor, depth, and breadth to a traditional course (North Carolina Department of Public Instruction, 2006).

TEACHING SITE

Two characteristics of teaching sites are location independence and asynchronicity (Harasim, 1996; Shrivastava, 1999). Location independence implies that the teaching site does not serve a specific geographical location or community. Rather, it is available to anyone who can access it online. Asynchronicity indicates that the teaching site is accessible at any time. The benefits of these characteristics are that anyone can access the teaching site from any place at any time and that the teaching site is capable of rapidly adapting to the changing face of communications and education technology (Chen, 2003).

If the teaching site is used to deliver multiple programs designed or presented by multiple instructors, continuity is an important issue. According to the Indiana Higher Education Telecommunications System (2006), students who are enrolled in multiple distance education courses benefit from consistent course design, communication, technology, and assessment. Such consistency reduces the learning curve required when

different technologies are used, standardizes the necessary support, and allows for less orientation periods.

An important aspect of the teaching site is the provision of professional development and support for online course developers and/or teachers. In a study by Norton, McRobbie, and Cooper (2000), reasons cited by mathematics teachers for not using computers to help in instructing students include unfamiliarity with available teaching software, lack of training on teaching software, and lack of support for computer technology. This study also suggests that, in addition to teachers obtaining proficiency with the use of technology, training on how to integrate pedagogy and Androgogy into computer-based courses is essential.

The findings of Norton, McRobbie, and Cooper's (2000) are similar to conditions that exist for law enforcement instructors. Currently, many states require that law enforcement instructors receive instructor training that is approved by the state's POST commission (IADLEST, 2002). As a condition of successfully completing approved instructor training, the states' POST commission approves and certifies these instructors to teach many of the police subjects to other law enforcement officers. Additionally, some specialized subjects, such as firearms or defensive tactics, require additional instructor training in order to teach the subject. Despite this extensive training in instructor techniques, no evidence is located to discern that these instructor training programs include instruction in how to teach subjects as online courses. Further, since most departments are responsible for providing or obtaining their own training, it is difficult to find departments with sufficient resources to support an online teaching site.

These issues are challenges to law enforcement agencies desiring to provide online training to its officers.

In summary, two characteristics that are of importance to distance education teaching sites are location independence and asynchronicity (Harasim, 1996; Shrivastava, 1999). Continuity is an important issue that ensures consistent course design, communication, technology, and assessment. An important aspect of the teaching site is the provision of professional development and support for course developers and/or teachers as well as helping them to evaluate the effectiveness of online courses. All of these issues are of concern to designers of law enforcement training programs who often receive no specialized training or support for designing online courses.

STUDENT SITE

There are a number of factors to consider in establishing an effective learning environment in which to receive instruction from distance education technology. A primary factor is a basic understanding of the audience who will be using the training facility and the purpose of the training (Video Development Initiative (ViDe) et al., 2004). Still, other factors include room characteristics such as size, physical layout, location, color, lighting, and furnishings, temperature, noise, power, computer and peripherals, and Internet access (Maine Department of Education, 1999). These factors have a direct impact on video and audio quality as well as the presentation of information.

One of the first steps in course development is determining who the potential learners are and what their needs are (Stillborne & Williams, 1996). When developing an online course, another dimension focuses on technology – that is, understanding the learner's available technology and skill level with the software packages the instructor/course designer uses to present the course. While many instructors/course designers have access to current technology and software packages for course development, not all members of the intended audience have the same access. Personal finances, family and work situations, and other factors determine whether a member of the intended audience will have a sufficiently configured computer or other technology to access online courses. Instructors/course developers should be prepared to either develop the program around the existing technology that is possessed by most of the intended audience or refer those audience members without the appropriate technology to other resources for accessing the online course.

Commensurate with technology availability is audience familiarity with the software package(s) used for the online course. In the current study, WebCT® is the software used to deliver the training modules. WebCT® offers a number of features that makes it attractive for delivery of online courses including immediate access and location independence, controlled login, self-test function with immediate feedback capability, assignment posting, self-pacing by students, tracking of student use, and discussion groups and e-mail capability (Wernet, Olliges, & Delicath, 2000). Since WebCT® is not an intuitive program or similar to more familiar programs, such as the Microsoft®

programs (Martin & Lee, 2003), students will need to receive instruction in how to use it and the instructor/course developer should expect a learning curve.

The Maine Department of Education (1999) recommends that the facility in which the training will occur be specifically dedicated for that purpose. It is not uncommon to find rooms or entire buildings dedicated as a training facility in larger departments. However, this may be problematic for rural and small law enforcement agencies. For extremely small agencies, it may not be uncommon to find that they only have a single office for the entire department or share a facility with another governmental entity such as city hall or the fire department. The inability to dedicate a specific area for training can result in numerous problems and distractions.

In cases where a facility is dedicated to training, the size and layout is often dictated by the available technology and the type of training conducted (Video Development Initiative (ViDe) et al., 2004). For example, in facilities where there is a great deal of video watching, the room may be laid out in a long and narrow fashion in order to reduce viewing angles (Maine Department of Education, 1999). In facilities where there is a great deal of face-to-face instruction between the instructor and students, the layout may be wider and shallower in order to keep the instructor closer to students (Maine Department of Education). Further recommendations on the facility layout include no windows to reduce lighting, noise, and distraction problems, uncramped and uncrowded space, ease of sight of instructional media, and entry at the rear of the facility (Maine Department of Education).

The layout of equipment in the facility should consider the ergonomics of the users. Desk height and depth, seat height, comfort and mobility, an appropriately configured computer or other media system, and peripheral that are easy to operate are considerations. Additionally, it is important to ensure that the facility has sufficient and convenient power outlets and Internet access points. If the facility is not a dedicated training area, the access and use of the computer or media equipment should not interfere with other operations in the room.

Background colors and light affect how the media is viewed (Video Development Initiative (ViDe) et al., 2004). It is recommended that walls are painted light blue, light gray, or off-white with no wallpaper or similar design patterns (Maine Department of Education, 1999). Mirrors, pictures, or other reflective surfaces should not be hung on walls as they can affect how the media is viewed.

In addition to furniture that is ergonomically functional, desks and other surfaces are recommended to be composed on non-glare materials (Maine Department of Education, 1999). As technology progresses and the opportunity for synchronous instruction increases, departments that plan to incorporate two-way video into their training environment need to consider how their officers will be viewed by others over video networks. Furniture and fixtures that affect the officers' images, lighting, and reflective capability need to be considered.

Rooms that have several computers often need to be kept cool to compensate for the heat generated by the computers. Appropriate temperature is extremely important to not only promote the longevity of the distance education equipment, but also provide for

the officers' comfort. However, departments need to ensure that heating and cooling systems do not generate abnormal noise that interferes with the officers' ability to participate in distance education training.

Where the use multimedia, audioconferencing, or videoconferencing is anticipated, audio setup is another important consideration (Video Development Initiative (ViDe) et al., 2004). Interference from external noise sources, such as co-worker's conversations, telephones, air conditioners or heaters, and even fluorescent lighting should be minimized. Rooms without windows not only decrease the possibility of interference from external lights sources but sounds from outside of the room as well. Where departments have rooms dedicated to multimedia or distance education training, the acoustics should ensure reasonable sound absorption and insulation to allow for clear communication. Speakers should be of reasonable quality and size with tone and volume control that is sufficient and appropriate for the room size. A final consideration is to place signage on the door to the room indicating the room is "in use" to minimize interruptions to communications.

In summary, the physical environment of the student's distance education training environment should consider the needs of the audience and the purpose of the training (Video Development Initiative (ViDe) et al., 2004). The facility should be dedicated for training and its arrangement should facilitate the training. Arrangements that need to be considered include room characteristics such as size, physical layout, location, color, lighting, furnishings, temperature, noise, power, computer and peripherals, and Internet access (Maine Department of Education, 1999). All of these arrangements directly impact

the quality of the distance education training environment and how this quality is perceived or assessed by students.

INTERACTION

One of the factors that is consistently identified in the literature on distance learning as being critical to the effectiveness of learning is the amount, type, and quality of interaction between students, and students and instructors (Furst-Bowe & Dittman, 2001; Smith, Smith, & Boone, 2000; Zirkle, 2002). One of the criticisms often leveled at distance education programs is that students who are not in the same location as their peers and instructors experience isolation and a lack of individual attention resulting from a lack of interaction (Furst-Bowe & Dittman). A lack of interaction may diminish a student's motivation to succeed in or even finish a course.

The nature of the distance learning environment means that interaction between students, and students and the teacher is mediated through technology (Hassenplug & Harnish, 1998). Opportunities for interaction are greater when a course is presented synchronously than asynchronously (Burkhart-Kriesel, 1994). Therefore, designers of asynchronous courses should be especially attentive to designing interactivity into the course.

A well-designed distance education course can promote interaction that approximates that found in a traditional face-to-face course (Rost, 2000). It is important to remember that the communication dynamics that occur between students and teacher in a face-to-face classroom environment and that promote interaction are missing in an asynchronous program. Therefore, course designers must look to other activities to

promote interaction. Pre-course activities, including an initial face-to-face orientation meeting, clarifying student expectations, promoting netiquette that includes the rules for online communication, and grouping students into discussion groups promote effective student interaction (Gynn, 2001). Additionally, course activities, such as online debate assignments and building student peer review modules into the program encourage student interaction (Gynn). Finally, instructors can encourage students to contact them by fax, telephone, or e-mail, thus increasing the type and frequency of student-instructor interaction (Hassenplug & Harnish, 1998).

It is important that instructors respond promptly and appropriately to online students. According to a study by Soon, Sook, Jung, and Im (2000), in this type of learning environment, students depend greatly on quality and timely feedback from instructors and are quick to give poor evaluations to the course when such feedback is deemed insufficient. This feedback is important and fits well with Chickering and Ehrmann's (1996) Seven Principles for Good Practice. These seven principles were developed as a guide for faculty to use for effective classroom teaching. Since their development, they have also been applied to other applications such as distance learning and student affairs practices.

According to the first principle, good practice encourages contacts between students and faculty (Chickering & Ehrmann, 1996). Quality and frequent contact between students and faculty fosters student motivation and involvement with the program. Although face-to-face contact rarely occurs in the distance education environment, the tools that are available with software programs such as WebCT® and

Blackboard® can allow for quality and frequent contact. Effectively using these tools addresses the first principle. Chickering and Ehrmann's fourth principle addresses the student's need for prompt feedback. This may also be addressed with the effective use of software tools.

Although adult students seem to value interaction with the instructor more so than interaction with their peers, this does not discount the value of peer interaction (Behm, 1990). According to a study by Sullivan (2001), a number of adult students responded positively when asked about their thoughts on interactions with their peers. One comment expressed by a subject in this study was, "More 'time' to express myself without verbal interruption. Greater time to 'hear' others express themselves as well. Greater opportunity to hear and digest a variety of viewpoints on assignments" (Sullivan, p. 808). Another comment expressed was, "I believe we had an intimate classroom experience by being able to correspond and critique other classmates' work" (Sullivan, p. 808).

In summary, the amount, type, and quality of interaction between students, and students and instructors are identified as being critical o the effectiveness of learning (Furst-Bowe & Dittman, 2001; Smith, Smith, & Boone, 2000; Zirkle, 2002). The nature of the distance learning environment means that interaction between students, and students and the teacher is mediated through technology (Hassenplug & Harnish, 1998) and this requires course developers to design interactivity into the course. A well-designed distance education course can promote interaction that approximates that found in a traditional face-to-face course (Rost, 2000). Although not valued as greatly as

student-instructor interaction, student-student interaction can contribute to the quality of the learning environment (Sullivan, 2001).

EVALUATION

A fundamental question to ask regarding the evaluation of distance education courses is whether they should be evaluated differently than traditional courses? According to Bloom (2003), current training evaluation techniques can be used to assess the use of distance education technology as a delivery system for training programs. They conclude that using current training techniques to evaluate online courses is as effective as for evaluating traditional courses.

One approach to evaluating distance education courses is through the use of Kirkpatrick's (1975) framework. There are four elements to Kirkpatrick's framework identified as reactions (Level I), transfer (Level II), learning (Level III), and results (Level IV). Reactions are a measure of learners' reactions to the training program. Kirkpatrick defines learning as the principles, facts, and techniques that are understood and absorbed by the officer. Behavior is a measure of changes in their behavior when the officer returns to the job after the training program. Finally, results are a measure of the work outcomes that occur because the officers are doing their jobs differently. As part of the training program's assessment, the results are also viewed from the perspective of costs.

Although it is recommended that training programs be evaluated for effectiveness (North Carolina Department of Public Instruction, 2006), a study conducted under the auspices of American Society for Training and Development (2000) determined that the

majority of training directors surveyed did not conduct such evaluations. Further, this study ascertained that almost all of the training organizations that participated in the study only assessed the trainee's reactions (Level I) to the course. No evidence can be discerned to suggest that law enforcement agencies assess training differently. This lack of effective evaluation makes it difficult to properly assess the effectiveness of law enforcement training programs, including those presented with distance education technology. However, it is possible to analyze the results that have been discerned from the evaluation of online academic programs. This evaluation is based upon Kirkpatrick's (1994) Four Levels of Evaluation.

Evaluation of Level I (reactions) measures how trainees feel about the training program. Questions that are usually asked of trainees are "Were you satisfied with what you learned," "did you find the material relevant to your work," "do you believe the material is useful," and "did you feel the instructor was effective." Evaluation at this level is based more on a trainee's feelings rather than upon empirical data.

Level I data are suspect for a couple of reasons. First, many adult learners are enthusiastic about online learning. According to an American Society for Training and Development study (Abernathy, 2001) that surveyed workers, 87 percent prefer to take digital courses during work hours, 52 percent prefer e-learning in a workplace office area, 84 percent would take a similar e-course if offered again, and 38 percent said they generally prefer e-learning to classroom training. Second, faculty are becoming more convinced of the effectiveness of online learning. In a TeleEducation study (2000) of 130 faculty respondents, 62 percent said their students learned equally effectively in the

online environment, 23 percent of faculty stated that their students learned better online, and 90 percent indicated that they were satisfied with online teaching. Generally, this data are expressed in qualitative, rather than quantitative, terms.

Evaluation of Level II (transfer) measures transfer by determining how much behavior has changed. In this case of training, behavior changes are assessed based upon how much the officer's skills, knowledge, or attitude has changed. This is often accomplished through a rigorous, quantitative process. Generally, a pretest and posttest is given to officers to determine learning (Bylinsky, 2000). The differences between test scores can also be compared between traditional and distance delivery of the same course material.

Much research has been conducted to demonstrate the learning in online courses is as effective as in traditional courses (Clarke, 1999; Goodwin, 1993; Hinnant, 1994; Johnstone, 1991). Russell (1997, 1999) documented over 300 studies that were published between 1978 and 1996. Russell concluded that there is no significant difference between some forms of distance learning and traditional learning and that student and teacher satisfaction is very similar for both formats. Phipps and Merisotis (1999) identified three measures used to assess online instruction effectiveness. These measures were:

- Student outcomes, such as grades and test scores;
- Student attitudes about learning through distance education; and
- Overall student satisfaction toward distance learning. (p. 13)

In a review of studies regarding distance learning effectiveness, Phipps and Merisotis found that distance learning is comparable to traditional instruction.

However, other studies suggest that there may be a significant difference between online and traditional learning that is in favor of online learning. For example, Navarro and Shoemaker (1999) conducted a study that compared exam results between online and traditional learners. Analysis of data demonstrates that there is a statistically significant difference between the results with the online students performing better than traditional students.

Evaluation of Level III (learning) may be the evaluation that is of greatest concern to law enforcement supervisors and administrators. Regardless of how officers feel about their training and how well they score on tests, job behavior that is changed for the better is the primary goal of the training. One method that supervisors and administrators can also use to judge learning is by answering Hoover's (1998) measurement of individual quality questions that include:

1. Can the officer articulate the information that he or she learned?
2. Does the information allow the officer to engage in self-directed activities in response to a situation or problem?
3. Does the information allow the officer to be proactive in addressing problems or situations?

From a professional perspective, another method that supervisors and administrators can use for evaluating learning is to determine how well the officer's changed behavior is congruent with the department's mission or value statement. According to the Police Training and Development Board (2004, The importance of learning in the police service, ¶9), "Best Value principles should inform the evaluation of

effectiveness." For example, given the current topic of study, a reduction in complaints that officers are engaging in biased-based profiling and an increase in compliments for officers' professional behavior may be a way of measuring behavioral change.

Evaluation of Level IV (results) is often conducted from the perspective of the bottom line. From a law enforcement perspective, the desired results are obtaining cost-effective training that allows for adequate staffing levels on shifts while producing more competent officers. According to Ng (2000), "cost-effectiveness is concerned with comparing different ways of achieving the same objective such that the most cost-effective choice will be the least costly of the alternatives being compared" (p. 301). In determining the costs associated with distance education, a number of cost factors must be examined. This can be a complex task as it involves the identification of all hidden and non-financial costs (Ng).

The costs associated with establishing a computer-learner center (CLC) for distance education training in a small law enforcement agency are not necessarily that expensive and certainly affordable. Generally, not much more is required than a personal computer with multimedia capability and an Internet connection (Waggoner & Christenberry, 1997). In addition to providing access to distance learning courses, the CLC also provides law enforcement officers with access to custom web pages that contain information specifically oriented towards law enforcement, sensitive web-based areas for law enforcement officers only, law enforcement bulletin boards, e-mail for secure, one-on-one communication between law enforcement officers, and a library of law enforcement-related articles written by leaders and scholars in the law enforcement

profession (Waggoner & Christenberry). With the myriad of information access provided to law enforcement agencies by a computer with an Internet connection, it is difficult to imagine a department not already having this technology in place. Additionally, since computers offers departments access to other applications such as records, communications, and administration management, the costs associated with establishing a remote CLC site should be minimal for many agencies.

In evaluating the cost-effectiveness or return that an agency receives from establishing a CLC site, one must compare the costs expended versus the benefits received. As has been previously discussed, the costs associated with establishing a CLC may be minimal for many law enforcement agencies that already have an established computer infrastructure. Therefore, the remaining cost to be determined is that associated with obtaining online training. This usually takes the form of registration fees.

The variety of technology that can be used in online or computerized training affects the fees associated with participating in CLC site training. For example, The Backup Training Corporation (n.d.) offers CD-ROM training for officers that ranges from $6.95 to $24.95 per officer per CD. Classen-Buck Seminars, Inc. (n.d.) offers a variety of online training programs that satisfy the Texas mandatory retraining requirement for law enforcement officers. The fees for these courses range from $26.50 to $241.50 per course. These fees are comparable and in many cases less expensive than their tradition classroom counterparts. Therefore, the registration fees associated with online training is not any more, and in some cases less, expensive than traditional face-to-face training.

Another cost factor relates to staffing. Law enforcement agencies are 24 hour-a-day operations that require sufficient staffing to cover all shifts. For small departments, releasing officers from their duties in order to be absent while attending training is problematic. The department is forced to either do without the officer, thus increasing the workload on an already small staff, or pay overtime to another officer to cover the shift. Therefore, another method for assessing distance education training is to determine costs saved from having sufficient staffing and not having to pay overtime.

A final cost factor to consider is travel expenses. Most small law enforcement agencies must send there officers to other agencies or locations to receive training. This travel involves transportation, lodging, and meal expenses in addition to registration fees. In assessing the cost-effectiveness of distance education training courses, savings on travel expenses must also be considered.

In summary, distance education training courses can be evaluated in the same manner as traditional training courses. One approach to evaluating distance education courses is through the use of Kirkpatrick's (1975) framework. There are four elements to Kirkpatrick's framework identified as reactions (Level I), transfer (Level II), learning (Level III), and results (Level IV). Analyzing cost factors are another method of assessment. Cost factors may include those associated with establishing a computer-learning center, registering for training courses, ensuring appropriate staffing, and paying for travel expenses.

SUMMARY

Thibault, Lynch, and McBride (1995) and Wallace, Roberson, and Stechler (1995) identify five types of law enforcement training: basic or academy, field-training, in-service, career development, and high liability. Each of these types of training serves a specific purpose and addresses the need for law enforcement agencies to adapt to the constantly changing social demands, legal issues, and new technology. Law enforcement training is constantly reviewed by police training professionals to identify or determine the need for changes in subject matter and curriculum. Law enforcement training was not mandated for all officers in the United States until 1981. However, one area that is seldom reviewed is the delivery system for this training. An officer receives the bulk of his or her training early in his or her career as preparation for performing his or her duties and career development and advancement. Historically, police training involves a site-specific location coupled with face-to-face interaction between students and instructor. Only recently have law enforcement agencies begun considering distance education as a delivery system for training.

The use of distance education for career development and training is not a new concept. Many professionals including engineers, medical personnel, transportation officials, and postal workers have received training via distance education technology. While it is uncertain when law enforcement agencies began using distance education technology for training purposes, the Law Enforcement Television Network emerged as an early leader in the field by providing video training course distributed via a satellite signal that is beamed to television receivers in law enforcement agencies. This

technology has evolved into a more computer-oriented method of delivering training programs that has resulted in its increased use by individual agencies and law enforcement consortiums. The emergence of this technology affords a new dimension in law enforcement training course design and presentation.

In designing a distance education training course, it's important to determine if there are initial factors beyond the desired training outcomes that must be considered in course design. These factors may include accreditation standards and legal requirements. When designing a distance education training course for law enforcement officers, it may be necessary to have the course approved by a state's POST organization.

There are two major issues affecting the non-use of distance learning technology by Mississippi law enforcement agencies and these are low law enforcement officer education levels and lack of familiarity with distance education technology (Ladd, personal communication, June 22, 2002). Commensurate with this is the difficulty many law enforcement agencies have in acquiring distance education technology. Selecting the technology to use as a delivery system is an important step in course design. These issues are major factors in distance education course development.

Another major issue in course development is establishing goals and objectives (Willis, 1993). Goals and objectives relate directly to developing training that is necessary for law enforcement agencies to satisfy legal issues, technology needs, and community concerns. An important reason to believe that law enforcement students may find the use of distance education technology to be effective is their familiarity with the use of computer technology in law enforcement applications. Structure is also important

to course development (Kearsley & Lynch, 1996) with four areas identified: syllabi, study guides, course delivery format, and time scheduling. Good structure ensures that an online course is comparable in rigor, depth, and breadth to a traditional course (North Carolina Department of Public Instruction, 2004).

Two characteristics are identified that are of importance to distance education teaching sites: location independence and asynchronicity (Harasim, 1996; Shrivastava, 1999). Continuity is an important issue that ensures consistent course design, communication, technology, and assessment. An important aspect of the teaching site is the provision of professional development and support for course developers and/or teachers as well as helping them to evaluate the effectiveness of online courses. All of these issues are of concern to designers of law enforcement training programs who often receive no specialized training or support for designing online courses.

The physical characteristics of the student's distance education training environment should consider the needs of the audience and the purpose of the training (Video Development Initiative (ViDe) et al., 2004). The facility should be dedicated for training and its arrangement should facilitate the training. Arrangements that need to be considered include room characteristics such as size, physical layout, location, color, lighting, furnishings, temperature, noise, power, computer and peripherals, and Internet access (Maine Department of Education, 1999). All of these arrangements directly impact the quality of the distance education training environment and how this quality is perceived or assessed by students.

The amount, type, and quality of interaction between students, and students and instructors is identified as being critical o the effectiveness of learning (Furst-Bowe & Dittman, 2001; Smith, Smith, & Boone, 2000; Zirkle, 2002). The nature of the distance learning environment means that interaction between students, and students and the teacher is mediated through technology (Hassenplug & Harnish, 1998) and this requires course developers to design interactivity into the course. A well-designed distance education course can promote interaction that approximates that found in a traditional face-to-face course (Rost, 2000). Although not valued as greatly as student-instructor interaction, student-student interaction can contribute to the quality of the learning environment (Sullivan, 2001).

Distance education training courses can be evaluated in the same manner as traditional training courses. One approach to evaluating distance education courses is through the use of Kirkpatrick's (1975) framework. There are four elements to Kirkpatrick's framework identified as reactions (Level I), transfer (Level II), learning (Level III), and results (Level IV). Analyzing cost factors are another method of assessment. Cost factors may include those associated with establishing a computer-learning center, registering for training courses, ensuring appropriate staffing, and paying for travel expenses.

The research supported by this literature review is justified for several reasons. The first reason is the rapidly changing dynamics of policing (Keelty, 2004) require that law enforcement agencies, including rural and small agencies, continually train their officers. Community expectations, technology advances, and legal requirements dictate

that law enforcement agencies continually change so as to remain abreast of current information, techniques, and trends in order to be effective. Law enforcement training is essential to facilitating this change and ensuring that law enforcement officers remain current in their knowledge and skills.

Unfortunately, most small agencies do not have the budget or staffing for sending their officers to the numerous traditional training courses that are required to keep officers current in their knowledge and skills (Weisheit, Falcone, & Wells, 1994). Previous research suggests that the use of distance education technology is a cost-effective alternative to traditional training delivery systems (Detweiler, 2004; Huang, 2002b; Kenner, Androwich, & Edwards, 2003). A pilot study by the Federal Bureau of Investigation suggests that the quality of online training is good and the use of this technology is cost-effective (Zolkas, 1999). In addition to larger law enforcement agencies (Waggoner & Christenberry, 1997), other professions that have successfully used distance education technology to facilitate training include transportation officials (Martin, 2001), postal workers (Goodridge, 2001a), nuclear energy employees (Wagner, 2001), nurses ("Overcoming the Challenges of Learning by Distance," 2002), and Human and Health Services' employees (Goodridge, 2001b). Unfortunately, none of this research specifically addresses the use of this technology by rural and small law enforcement agencies.

The second reason for justifying this research is there are many different types of law enforcement training (Thibault, Lynch, & McBride, 1995) including specialized training (Wallace, Roberson, & Stechler, 1995) that are well-suited for presentation via

distance education technology. While all states require that entry-level officers attend a face-to-face basic academy (IADLEST, 2002), most in-service, advanced, and specialized training may be facilitated through online courses. Essentially, any instruction that is presented in a traditional face-to-face classroom and does not require the demonstration of physical skills may be presented in an online course through distance education technology.

From this study's perspective, online courses and distance education technology refer to courses that may be presented via the Internet and received through a computer connected to an Internet. This explanation is necessary for the purpose of this study since more sophisticated types of distance education technology such as the use of video-conferencing and remote video broadcasting could facilitate the demonstration of physical skills. Most rural and small law enforcement agencies do not have this level of sophisticated technology; however, over half of the rural and small law enforcement agencies in the United States do have computers with Internet connection (Bureau of Justice Assistance, 2000).

The final reason for justifying this research is the lack of a significant body of research regarding the use of distance education technology as a training delivery system for rural and small law enforcement agencies begs more research. The literature review discerns that little research regarding the use of distance education technology by law enforcement exists. What research that was found is confined to its use by larger law enforcement agencies.

What may also be problematic for rural and small law enforcement agencies is the skill level of officers in the use of computer equipment, the officer's knowledge about software and distance education technology, the officers' comfort level with the use of distance education technology, and the availability of the computer technology to access distance education programs. Little research was found to address these problems as they specifically relate to the use of distance education technology.

However, researchers for the National Institute for Justice (NIJ) conducted a study regarding the use of technology by rural and small law enforcement agencies (United State Department of Justice, 2004). Several findings from the NIJ study are germane to this study. First, they found that rural and small law enforcement agencies that have computers tend to use these computers for three main purposes: records management, accessing the Internet, and criminal investigations (United States Department of Justice). Second, almost all of the agencies surveyed in this study rate communications equipment as being more important to their agency than computer equipment. Ninety-seven percent of the responding agencies rated the communications equipment as important while less than one-third of the responding agencies reported maintaining a web page and less than one-fourth reported having computer crime investigation capability (United States Department of Justice).

A final finding of the NIJ study is that only 38 percent of the agencies surveyed reported that their officers were fully competent in the use of computer technology (United States Department of Justice, 2004). Most agencies agreed that their officers needed additional training in the use of personal computers. Regarding barriers to

obtaining new technologies, more than 83 percent cited financial and budget constraints. Another barrier identified by some of these agencies (26%) is the lack of trained personnel and limited staffing while nearly 14% of the agencies indicated a lack of available training as an impediment (United States Department of Justice). Therefore, another justification for this study is to determine if similar issues identified in the NIJ study are found in the use of distance education technology by rural and small law enforcement agencies.

CHAPTER III

METHODOLOGY

The purpose of this study was to examine the effectiveness of using distance education technology as a means for delivering training programs to law enforcement officers in rural and small agencies. This chapter describes the sample, data collection procedures, instrumentation, and methods of data analysis. The researcher examined the effectiveness of using distance education technology over traditional delivery methods for law enforcement training programs. Numerous studies have been conducted to assess the effectiveness of distance education technology (Cerney & Heines, 2001; Simonson, 1997; Tricker, Rangecroft, Long, & Gilroy, 2001; van Boxel, Anderson, & Regnard, 2003). However, none specifically address its use by rural and small law enforcement agencies. Therefore, it is believed that this study will help add to the limited research in this area.

The following research domains were addressed:

1. How effective is the delivery system in the presentation of subject matter?
2. How do student law enforcement officers perceive the physical characteristics of the distance education delivery system and how do they compare with the physical characteristics of in-class training that student law enforcement officers have previously received?

3. What is the amount and type of interaction between the student law enforcement officer and the presentation and with other law enforcement officers who may be present at the time the student law enforcement officer interacts with the presentation?
4. What are the student law enforcement officers' perceptions about the learning effectiveness of the distance learning presentation and how it compares with the effectiveness of in-class instruction? Also, what are the perceptions of the supervisors of student law enforcement officers regarding the effectiveness of distance learning technology for training?

RESEARCH DESIGN

The methodology used in this study employed an integrative approach that included both quantitative and qualitative components. According to Krathwohl (1998), there is much value in using a mixed research design such as the one attempted in this study. He states:

> Research . . . is a creative art. Researchers creatively combine the element of methods in any way that makes the best sense for the study they want to do. Their only limits are their own imagination and the necessity of presenting their findings convincingly. The research question to be answered really determines the method. (p. 27)

This study employed the use of ethnographic research methods and quantitative analysis. According to Glesne (1999), "ethnography comes from the anthropological tradition of illuminating patterns of culture through long-term immersion in the field,

collecting data primarily by participant-observation and interviewing" (p. 9). Groce (2001) purports that the goal of ethnographical research is to verify study findings but also allow discovery as part of data analysis.

According to Merriam (1998, p. 71), "once the research problem has been identified, the researcher must decide what information will be needed to address the problem and how best to obtain that information." For this study, the researcher used both quantitative and qualitative methods. This dual approach is the result of the nature of this study. The preferred method is qualitative analysis with focus on individual cases from local law enforcement agencies. However, the intervention in this study is a training program that is a topic of current interest to law enforcement administrators. Therefore, the administrators of the law enforcement agencies participating in this study desired to have several of their officers participate in the training program. Given that the number of participants in this study exceed that necessary for case studies, it was decided to also collect data for quantitative analysis.

This study used both qualitative and quantitative methods to produce a richer context from which to examine the perceptions of law enforcement officers on the use of distance education technology as a delivery system for training as well as their satisfaction with this technology. The quantitative portion of the study provided insight into the effectiveness of the technology in facilitating learning by officers. The qualitative portion of the study expanded upon the quantitative results by providing concrete insight into the perceptions of experienced officers with the use of this technology including insight drawn upon their training and experience as law enforcement trainers. The

comments provided within the qualitative portion reinforced the quantitative results of the study.

QUANTITATIVE DESIGN

Quantitative research focuses on operationally defining, manipulating, and measuring variables. The research problem is posed as a hypothesis that is formulated based on a theory through a deductive reasoning process. Once the hypothesis is stated, quantitative research focuses on hypothesis testing. Quantitative research is based on a positive or scientific paradigm with the assumption that social facts have an objective reality and that variables can be identified and measured.

Quantitative research is conducted using experiments, quasi-experiments, survey research, structured interviewing, and structured observations. Research design is structured, formal, predetermined and specific. The researcher needs a detailed plan of operation for how he or she conducts the research. Quantitative research seeks to determine causal relationships and provide causal explanations. The goal of the research is to be able to generalize the results of the study to other, similar populations as that of the sample.

As its name implies, quantitative analysis seeks to quantify the data obtained in the research. According to Krathwohl (1998), “quantitative studies describe behaviors with measures or observation scales (or both), whereas qualitative studies describe behavior in words” (p. 24). Quantitative research uses formal instruments, such as inventories, questionnaires, scales, tests, and indexes, in order to obtain data that can be quantified. This provides for measurements that are as precise as possible and based upon

numerical indices. The primary purpose of the quantitative portion of this study was to investigate the difference in participants' knowledge of the subject matter before and after being presented with the training program (intervention). The quantitative analysis was to determine if there was a statistically significant difference between the pretest and post-test scores.

Agency and Participant Selection

A convenience sample was used for this study. According to Bernard (2000), there are eight types of samples: simple, systematic, stratified, cluster, quote, purposive/judgment, convenience/haphazard, and snowball samples. Bernard indicates that the first four types are based on principles of probability theory. Bod (2003) states that probability theory can be viewed from two perspectives: objectivist and subjectivist. Bod purports that according to the objectivist view, "probabilities are real aspects of the world that can be measures by relative frequencies of outcomes of experiments" (p. 3). According to the subjectivist view, "probabilities are descriptions of an observer's degree of belief or uncertainty rather than having any external significance" (Bod, p. 3).

Convenience sampling is a method that selects a sample based upon those participants that happen to be available at the time of data collection. As the name implies, these participants are conveniently available. Most clinic-based studies use this method. It is also a common method for selecting participants for a focus group discussion. Further, this type of sample selection is typical with the use of the one group pretest, post-test design.

This study addressed the effect of distance education technology as a delivery system for training programs to rural and small law enforcement agencies. Therefore, the sample was comprised of certified law enforcement officers from rural and small law enforcement agencies. The 29 participants were officers selected from rural and small law enforcement agencies that were located conveniently close to the researcher. Thirteen participants were from Mississippi law enforcement agencies and 16 were from North Carolina law enforcement agencies (See Table 3.1).

Table 3.1 Frequency Distribution for Law Enforcement Officers by State

State	*Frequency*	*Percentage*
Mississippi	13	45%
North Carolina	16	55%

Agencies

The agencies from which the participants were selected were a mixture of municipal police, county sheriff, and university police departments in Mississippi and western North Carolina. Mississippi is generally recognized as being rural in nature ranking in the lower half of population by state (United States Census Bureau, 2006). The population density for Mississippi is 60.6 people per square mile. The area of North Carolina from which officers were selected is located near the Smoky Mountains in the most rural part of the state. The population density of this area is comparable to Mississippi with 67.5 people per square mile (United States Census Bureau).

Law enforcement officers from three Mississippi law enforcement agencies and one North Carolina law enforcement agency served as the participants for this research endeavor. These agencies are identified as the Oktibbeha County Sheriff's Department, West Point Police Department, Mississippi State University Police Department and Western Carolina University Police Department. Each of these agencies serves a university or municipality of less than 25,000 citizens, or a county less than 50,000 citizens, thus meeting the definition of a rural and small law enforcement agency. The specific population of each agency's service community is contained in Table 3.2.

Table 3.2 Agency Characteristics

Agency	*No. of Officers*	*Population*	*Population Density**
West Point	25	11,500	54/mile^2
Oktibbeha County	20	21,000	94/mile^2
Mississippi State Univ.	24	20,000	94/mile^2
Western Carolina Univ.	18	9,000	39/mile^2

* - Population density refers to population for the county in which the agency is located.

The West Point Police Department is comprised of 25 sworn police officers and serves a community of approximately 11,500 residents (West Point Police Department, 2007). West Point is located in Clay County that has a population density of 54 people per square mile (U.S. Census Bureau, 2006). The city of West Point is principally a rural community with a small manufacturing base. Approximately 25% of the population's income is below the poverty level. The city has a public elementary, middle, and high school and one private academy (West Point, Mississippi, 2007).

The Oktibbeha Sheriff's Department is comprised of 20 sworn deputies assigned to law enforcement duties and serves a community of approximately 21,000 residents

(Oktibbeha County Sheriff's Department, 2007). The population density of Oktibbeha County is 94 people per square mile (U.S. Census Bureau, 2006). Oktibbeha County is principally a rural county with a strong agriculture base. The county is home to three incorporated communities and the state's largest university whose populations are not included in the county's population. Approximately 28% of the population's income is below the poverty level. The county has a public elementary, middle, and high school (Oktibbeha County, Mississippi, 2007).

The Mississippi State University Police Department is comprised of 24 sworn police officers and serves a community of approximately 20,000 students, staff, and faculty. Approximately 4,000 students reside on campus. Mississippi State University is located in the unincorporated area of Oktibbeha County.

The Western Carolina University Police Department is comprised of 18 sworn police officers and serves a community of approximately 9,000 students, staff, and faculty. Approximately 4,000 students reside on campus. Western Carolina University is located in the unincorporated area of Jackson County.

While each of these agencies has a limited degree of specialization, such as officers specifically assigned to conduct investigations, the majority of officers serves as law enforcement generalists and performs a multitude of duties that are specifically assigned to specialized units in large and urban law enforcement agencies.

Participants

The officers included 29 males and females who are employed as full-time certified law enforcement officers. Of the 29 participants, 24 were males and 5 were females (See Table 3.3). All participants have attended and successfully completed a law enforcement training academy. Additionally, participants were limited to those who had previously participated in a traditional training program.

Table 3.3 Frequency Distribution for Law Enforcement Officers by Sex

Gender	*Frequency*	*Percentage*
Male	24	83%
Female	5	17%
Total	29	100%

Data Collection

Subject use is governed through the University's Institutional Review Board (IRB). In accordance with IRB procedures, consent forms were administered to all participants. Participants were informed in writing and verbally that their participation in the study was voluntary and that they could choose not to participate in any part of the study at any time. Further, if they choose not to participate or withdraw from the study, there was no penalty. The IRB approval form is appended to this study (see Appendix A).

A letter of solicitation was sent to administrators of the four agencies participating in this study. The letter asked for permission for law enforcement officers from each agency to participate (See Appendix B). Each agency administrator gave permission for

his officers or deputies to participate in the study. Informed consent forms were then distributed to law enforcement officers in each agency (See Appendix C). Participants submitted their signed informed consent forms to their agency administrators who informed this researcher that they were ready for submission. This researcher drove to the respective agencies to obtain the forms. Participants were then contacted and provided with the workbook with instructions on how to participate in the study and submit data.

Intervention and Instruments

No previous research that addressed this specific topic was discovered. Therefore, no instruments or interventions were identified that could be replicated in this study. This resulted in the researcher developing the intervention to which the participants were exposed. This intervention was an online law enforcement training program. Additionally, this instructor developed the pretest and posttest for assessing participants' scores before and after exposure to the intervention and a survey for assessing participants' perceptions of the use of distance education technology for delivering training programs.

Intervention

The intervention was a training program designed specifically for law enforcement officers. The selection of the training program subject matter is based upon a current need in American law enforcement: profiling of motorists, in particular, motorists of color. The issue of profiling takes on racial tones when the motorist involved is African-American or Hispanic.

Historically, adversarial relationships exist between police and the minority community. The tensions from these adversarial relationships are amplified when allegations of racial profiling are levied against law enforcement officers making traffic stops. Law enforcement agencies and the minority community are working on ways to address this problem. One method is through increased training for law enforcement officers. This includes training officers in rural and small agencies.

The focal point of the training was on professional traffic stops. Traffic stops are a necessary function of law enforcement and generally the most common interaction between law enforcement officers and the public. Traffic enforcement activities serve a legitimate societal need since traffic crashes are the leading cause of death for individuals in the 15-to-24 year age category (National Highway Traffic Safety Administration, 2002). The goal of this training is for law enforcement officers to understand the meaning of discriminatory profiling in conjunction with traffic stops and the protocol for using proper interpersonal skills during such stops.

The training program was based upon a curriculum prepared by the Florida Department of Law Enforcement. This curriculum is not copyrighted and available on the Florida Department of Law Enforcement's web site at http://www.fdle.state.fl.us/cjst /Publications/Curr/profiling.PDF. The Florida Department of Law Enforcement is the principle law enforcement organization for the state of Florida and administers the training requirements for law enforcement agencies in the state of Florida. The curriculum used for this study is a required curriculum for Florida law enforcement agencies. Further, Florida state statute 943.1758 requires that

(2) The commission shall develop and implement, as part of its instructor training programs, standardized instruction in the subject of interpersonal skills relating to diverse populations. (3) Culturally sensitive lesson plans, up-to-date videotapes, and other demonstrative aids developed for use in diverse population-related training shall be used as instructional materials. (4) By October 1, 2001, the instruction in the subject of interpersonal skills relating to diverse populations shall consist of a module developed by the commission on the topic of discriminatory profiling (Florida Senate, n.d., paras. 2 - 4).

Therefore, this curriculum is a public record that is readily available for use by law enforcement agencies.

The training program was established as equivalency training for a four-hour module of instruction. The objectives of the training program were:

1. identify the important benefits of traffic enforcement,
2. define discriminatory profiling,
3. discuss the real and perceived problems faced by minorities affected by discriminatory profiling,
4. relate constitutional and case laws that impact how and when traffic stops are conducted,
5. identify officer behavior that can help to minimize tension and maximize the cooperation of citizens during a traffic stop, and
6. demonstrate the characteristics of a professional traffic stop.

To accomplish these objectives, the program was divided into the following sections:

1. Introduction
2. Definition of Discriminatory Profiling
3. Feelings of Minorities
4. Reasonable Expectation of Privacy
5. Reasonable Suspicion
6. Minimizing Tension and Maximizing Cooperation

The training program was conducted using digital video, handouts, lesson guide, and reference material. The narrative portion of the program was developed in a media room. The media room was approximately 20' by 12'. The room was kept secured during video production to avoid interference. The video production was produced using a Sony TRV33 Digital Camcorder connected by Firewire to a Dell computer system. A green screen backdrop was positioned behind the lecturer to allow for the insertion of computerized backgrounds. Professional grade lighting was used in conjunction with this program.

Visual Communicator Pro® is the software that was used to develop the production. This is revolutionary new software that has many of the features found in professional video production including backgrounds, audio effects, transitions, teleprompter, and animation. Visual Communicator Pro® has been recognized as an outstanding product by sources such as PC Magazine, Presentation Magazine, Network World, and WinPlanet (Serious Magic, 2004). The program can be produced in Windows

Media Player® and RealOne Player® formats. The program may also be produced in DVD format.

A total of seven video modules were developed using Visual Communicator Pro®. The videos were between 12 minutes and 20 minutes in length. This time frame was selected so as to allow these videos to be presented during the time frame that an officer is typically allowed for engaging in roll-call training. Additionally, two supplemental videos were purchased and offered as part of the intervention. The first supplemental video was a segment from the television show 60 Minutes entitled "Racial Profiling" that focused on discriminatory profiling practices of the Maryland and New Jersey state police departments and the reactions of African-Americans to it. The length of this video was 12 minutes and 3 seconds. The second supplemental video was from the Arts and Entertainment Television Network entitled "Mississippi State Secrets" that focused on a secret Mississippi state organization that existed in the 1950s and 1960s and was designed to collect intelligence data on African-Americans. The length of this video was 44 minutes and five seconds. Finally, four handouts were presented entitled, "Minimizing Conflict," "Gallop Poll," "A Move To Combat Racial Profiling by John Ashcroft," and "Professional Traffic Stops." All handouts were in Microsoft® Word format.

The training program was presented via WebCT® through Mississippi State University. WebCT® was first developed in 1995 by the University of British Columbia Computer Science Department (Observatory on Borderless Higher Education, 2004). WebCT® is a computer conferencing and course management software tool for online

course delivery. The WebCT® program used in this study is available by accessing Mississippi State University's WebCT® site at www.webct.msstate.edu.

The researcher has received training in the use of WebCT® from instructors with the Department of Information Technology Services at Mississippi State University. Further, the researcher was a guest lecturer for the Department of Psychology at Mississippi State University from 1998 through 2004. The researcher has used WebCT® to support his traditional instruction of psychology classes. On several previous occasions, the researcher has combined the use of video developed with Visual Communicator Pro with WebCT® as was used with this study. One of his students who participated in a course where this combination was presented indicated that she:

> really enjoyed the way you set off the presentation for the Tuesday lecture. I found it very informative and I seemed to take notes better. I don't know if it had to do with the environment around me (dorm room) or that I could pause more frequently and take better notes. Either way, I think it was a great way to do class, and maybe we should do it like that more often (Jessica Martin, personal communication, September 28, 2004).

Another student stated:

> I just wanted to take a second to tell you how impressed I was by your efforts to provide the class via video when you couldn't be there otherwise. This is the most effort and dedication that I have seen exhibited by almost any teacher during my entire four years here. Also, I am very adverse to online courses, but having the video with slides and all made it a great experience. I think this, combined with

> online trivia, etc could be an awesome way to learn. I am currently taking an online business ethics course in which the teacher has set up WebCT® to do everything and has no real responsibility to the class. He doesn't take the time to make videos or anything. The point is that many law enforcement officers are floundering and even misusing this technology, so I think it is important that you share this success with other law enforcement officers at the university (Chris Hawkey, personal communication, October 1, 2004).

Instruments

Pretest and post-test. A pretest and post-test were developed based upon key information obtained from the Discriminatory Profiling and Professional Traffic Stops curriculum. The use of pre- and post-tests is a common and frequent method for quantifying the amount of knowledge gained from participating in education and training courses. The pretest is a structured set of questions given to participants before they begin the training course in order to determine their baseline knowledge level relative to the course content. After the completion of the training course, participants generally answer the same or a similar set of questions. By comparing each individual participant's pre- and post-test scores, it is possible to infer that specific knowledge was gained through the training course.

In this study, each instrument consisted of the same 25 questions. The participants were asked to complete the pretest before beginning the training course. These questions were developed in a multiple-choice format and formulated based upon the learning

objectives for the curriculum. The tests were posted to WebCT® where the data were collected and tabulated. A timeline of two weeks was established for participants to complete the training program. Participants were encouraged to complete the training program within the two week period. At the completion of the training course, a participant would notify this researcher who released the post-test to the participant.

The student's knowledge, or gain in achievement, was measured across tests administered before and after the training course (intervention). The subject matter of the law enforcement training course that the researcher used in this study is a legitimate course of study for law enforcement officers. Therefore, the pre- and post-tests retained the students' identities for the purpose of determining the students' achievements in the course and allowing them to receive appropriate credit from their respective agencies. However, for the purpose of analyzing data, scores were used with the identities removed.

Validity. Concern for the credibility of quantitative research is addressed in issues of internal and external validity. For research to be compelling, there must be specific design control for procedural bias in order to ensure internal validity. External validity is concerned with the ability to generalize or apply the results of the study to a population similar to the sample. The quantitative method for this research project incorporated a one-group pretest, post-test design. This type of design is commonly used to evaluate training programs (Bernard, 2000). In this design, a variable (the student's knowledge) is first measured. An intervention occurs (presentation of the information via distance education technology), and the variable is measured again.

This design is considered a pre-experimental design. The use of the pretest provides a baseline for comparison with the post-test. The assumption is that any change between the pretest and post-test is the result of the intervention or treatment. Unfortunately, without the use of a control group, many researchers argue that it is difficult to determine if the change would have occurred even without the intervention or treatment. Additionally, the absence of a control group was considered a minimal threat to the internal validity of this study because the chances that extraneous or confounding factors account for the change was small (Gall, Gall, & Borg, 2003). It is believed that without the intervention (the discriminatory profiling training program), there would be limited outside variables that would have significantly changed the officers' knowledge regarding the information and procedures related to discriminatory profiling. Therefore, this researcher concluded that the use of the one-group pretest – post-test design without a control group was acceptable.

A principal concern for this type of design was internal validity. Internal validity refers to the concern that the observed or measured differences in the dependent variable are a direct result of manipulation of the independent variable rather than the effects of a confounding variable. Generally, there are eight threats to internal validity in a research design: history, maturation, selection, testing, instrumentation, statistical regression, mortality, and subject interactions (Myers & Hansen, 2006). Several of these threats were considered with this design.

First, since the pretest and post-test contained the same questions, a testing effect must be considered. Testing effect refers to the effect of giving a pretest has upon a

subsequent administering of the test. This is a disadvantage of the one-group pretest, post-test design. This researcher attempted to limit the test effect by providing no feedback about pretest responses to the participants before they received the treatment and taking the posttest and allowing a two-week interval to pass between the pretest and posttest. Additionally, the collection of data through other methods, such as the qualitative methods used in this study, provide additional measures of the effectiveness of the technology used in this study and will increase the reliability of measurement obtained from pretest - post-test data analysis.

However, to offer the maximum control for any extraneous or confounding variable, the Solomon Four-Group Design should be used. According to Trochim (2002), the Solomon Four-Group Design offers the greatest protection against the testing threat by assessing two groups of participants who are not exposed to the pretest. Unfortunately, with such a small group of participants in the current study, it was impossible to use the Solomon Four-Group Design so as to counter this effect.

Second, the mortality threat must be considered. Mortality refers to participants withdrawing from the study. The mortality threat compounds the problem of a small sample size for this study. There were 29 participants in this study. “A recommended minimum number of subjects is 100 for a descriptive study, 50 for a correlational study, and 30 in each group for experimental and causal-comparative studies” (Frankel & Wallen, 1996, p. 111). In the current study, four participants did not complete the study due to other commitments. The loss of these participants further contributes to the effect that a small size of participants has in limiting the ability to generalize the results beyond

the participants in this study to the overall population of law enforcement officers with rural and small agencies. However, it is important to indicate that a major reason for a small sample size is the result of a defining characteristic of small, rural law enforcement agencies, and that is that they have small staffs.

Third, the selection threat must be considered since the selection of participants was not done randomly. In this study, not selecting participants at random was purposeful as it was necessary to have participants who were certified law enforcement officers from rural and small law enforcement agencies. The use of officers from rural and small law enforcement agencies made the selection pool of participants very small, thus, making the random selection and assignment of participants impossible.

Finally, a concern for this research is found in the very nature of the single group pretest, post-test design. This design contains the disadvantage of not being able to conduct a comparison between groups. This lack of comparison makes it difficult to determine if changes in the dependent variable are the result of manipulation of the independent variable or an extraneous or confounding variable.

Reliability. Efforts in this study to provide reliability to the pretest and post-test were made by calculating Cronbach's alpha internal consistency reliability coefficients. Cronbach's alpha is the most common measurement of internal consistency reliability coefficient (Gardner, 1995). The pretest had an alpha of .62 and the post-test had an alpha of .76. According to Byrne (2001), a cut-off of .60 is common in exploratory research.

Survey. A survey was constructed to assess participants' attitudes regarding the use of distance education technology as training delivery system to rural and small law enforcement agencies. These attitude measurements consisted of four sets of matrix questions relevant to the four domains on which this study focuses. A total of 62 questions excluding demographic questions were developed. According to Dillman (1978), surveys should not exceed 125 items. The length of this survey is well within that parameter.

Research question 1 asks, "How effective is the delivery system in the presentation of subject matter?" This research question is addressed by items 7 through 25. Research question 2 asks, "How do student law enforcement officers perceive the physical characteristics of the distance education delivery system and how do they compare with the physical characteristics of in-class training that student law enforcement officers have previously received?" This research question is addressed by items 1 through 4, 26 through 30, and 39 through 44 on the survey. Research question 3 asks, "What is the amount and type of interaction between the student law enforcement officer and the presentation and with other law enforcement officers who may be present at the time the student law enforcement officer interacts with the presentation?" This research questions is addressed by items 33, 51 through 53, and 55 through 57 on the survey. Research question 4 asks, "What are the student law enforcement officers' perceptions about the learning effectiveness of the distance learning presentation and how it compares with the effectiveness of in-class instruction?" This research question is addressed by items 5, 6, 31 through 38, 45 through 50, 54, and 58 through 62 on the

survey. Research question 4 also asks, "What are the perceptions of the supervisors of student law enforcement officers regarding the effectiveness of distance learning technology for training?" This question was addressed through interviews with supervisors and document analysis of budget reports.

With the exception of four "Yes/No" questions, all questions were developed based upon four- or five-point agreement rating scale responses. The survey was posted to the WebCT® where the results were collected and tabulated.

Validity. In designing any questionnaire, content validity is of paramount concern in qualitative research. Gall, Borg, and Gall (1996) describe content validity as "the degree to which the scores yielded by a test adequately represent the content, or conceptual domain, that these scores purport to measure" (p. 250). A panel, consisting of experienced law enforcement trainers, was asked to validate the questionnaire used in this study. Each panel member met at least two of the following criteria:

1. Is or was a certified law enforcement officer with at least seven years of law enforcement experience.
2. Is or was a certified law enforcement trainer with at least five years of experience in presenting law enforcement training programs.
3. Is or was an administrator of law enforcement training programs.

A draft of the questionnaire was submitted to the panel of experts for evaluation. The questionnaire was revised based upon suggestions from the experts. These revisions included the addition of questions that asked:

a. whether the participants felt that the course objectives had been achieved,

b. for the participants perceptions of the effectiveness of the course materials,
c. whether the participants felt they could stay on task and complete the course in a timely manner,
d. for the participants to rate the video training modules, supplemental videos, handouts, course structure, course goals and objectives, course organization, and course delivery,
e. how the participants perceived the WebCT® software,
f. how participants perceived their learning environment, and
g. how participants perceived that this training contributed to their job knowledge.

The final version of the questionnaire was submitted to the University's Institutional Review Board (IRB) for the Protection of Human Subjects for approval.

Reliability. Reliability refers to the accuracy of a given measurement obtained from an instrument. A reliable survey question, then, is one that yields similar results when administered repeatedly to similar samples or populations. This is important for validating the inferences that may be drawn from the survey. A common measure of survey internal reliability is Cronbach's alpha (Pearson NCS, 2006).

Survey questions were designed to measure respondents' perceptions of the various aspects of the use of distance education technology as a training delivery system. Questions were developed that related to each of the four research questions. The Cronbach's alpha for each series of survey questions as they relate to the research questions is reported in Table 3.4. However, while Cronbach's alpha provides useful

information regarding the reliability of an instrument, it is important to remember that with such a small sample size, the alpha score is only an estimate of reliability and may be suspect (Brown, 2002). The high alpha scores (> 0.90) may not be within acceptable limits as they suggest that there are similarities among the survey items (Polit & Beck, 2004; Streiner & Norman, 2003).

Table 3.4 Cronbach's Alpha Scale for Survey Items

Item	*No. of Survey Items*	*Cronbach's Alpha*
Research Question #1	19	0.981
Research Question #2	13	0.972
Research Question #3	6	0.972
Research Question #4	18	0.968

Data Analysis

Pre- and post-test data were obtained from WebCT®, which scores the test when the participant submits it. This data were analyzed using a paired sample *t-test*. This procedure evaluates the means of two variables for a single group to ascertain whether there is a statistically significant difference. This statistical procedure is well-suited for analysis of data from small samples when comparison of the mean is desired (Hair, Anderson, Tatham, & Black, 1998). In this study, the mean of the scores from the pretest were compared with the mean of the scores from the post-test to determine if there is a statistically significant difference. The level of significance for the research questions was set at the .05 level. Data from the surveys were analyzed using descriptive statistics.

QUALITATIVE DESIGN

Qualitative research is concerned with collecting data that leads to the assessment of attitudes, opinions, and demographic information regarding a phenomenon under investigation. Qualitative research focuses on gaining meaning or understanding from a common sense perspective of the phenomenon under investigation. Qualitative research takes an interpretivist paradigm in which reality is socially constructed and the variables are complex, interwoven, and difficult to measure.

Qualitative research uses observation, participant observation, document reviews, and open-ended interviews as its principle means of collecting data. The researcher is considered the major instrument for collecting data. Analysis of data is done through a thick, rich description of the phenomenon rather than with numerical indices.

With qualitative research, the researcher often begins without any preconceived ideas about the phenomenon although he or she may develop a hypothesis or theoretical statement during the course of research. Additionally, the researcher prefers to look at multiple variables that are identified or defined as the study progresses. By examining these multiple variables, the researcher endeavors to identify broad relationships based upon understanding of the participants' perspectives.

Qualitative data analysis is conducted by presenting descriptive information of the phenomenon under investigation. The description is often in the participants' own words. Data analysis also includes examination of personal documents, field notes, artifacts, official documents, audiotapes and videotapes of interviews, and transcripts that relate to the phenomenon. Data is analyzed from an inductive perspective with a preference for a

holistic description of complex phenomena. The researcher seeks to identify patterns and themes that relate to the phenomenon under investigation.

Qualitative researchers are concerned with the credibility of the results of their studies. Researchers cross-check their sources of information, methods, and perspectives through a triangulation process to promote credibility. This triangulation process typically compares a researcher's observations, interviews, and analysis of supporting documents and evidence to ensure corroboration between sources. Additionally, credibility can be further promoted by prolonged engagement with the phenomenon under investigation by the researcher, having an openness for all aspects of the phenomenon, self-monitoring by the researcher for his or her subjectivity, taking an emic perspective of the participants, ensuring referential adequacy of all materials used in analysis, engaging in peer debriefing with similar status colleagues, and conducting member checks with the participants regarding the data and its interpretation. This process promotes the transferability of the results of the study to other similar situations.

The qualitative study design for this study focused on four areas:

1. Instructional presentation: an analysis of the delivery system and presentation of subject matter.
2. Physical presentation: an analysis of the physical characteristics of the distance education delivery system and how this compares with in-class training that law enforcement officers have previously received.
3. Classroom interaction: this includes the amount and type of interaction between the law enforcement officer and the presentation and with other law

enforcement officers who may be present at the time the student law enforcement officer interacts with the presentation.

4. Learning effectiveness: the student law enforcement officer's opinion about the learning effectiveness of the distance learning presentation and how it compares with the effectiveness of in-class instruction; also, the opinion of the supervisors of student law enforcement officers regarding their perceptions of the effectiveness of distance learning technology for training.

Data for the qualitative study design was gathered using observation, survey, and interview techniques. Observations are considered a primary source of data collection because they often occur in a natural field setting and they represent a first-hand encounter with the phenomenon under investigation (Merriam, 1998). Observation is distinguished between direct observation and indirect or unobtrusive observation (Bernard, 2000). Direct observation, as the name suggests, is actively watching a subject participate in the study. Generally, the subject is aware of the presence of the researcher.

Indirect or unobtrusive observation involves the study of trace evidence of subject participation rather than directly observing the subject. Both types of observation were used in this study. The use of WebCT® provided a number of avenues for indirect or unobtrusive review. WebCT® is a front-end interface for Internet- and computer-delivered material (McLean & Murrell, 2002). Its features include web tools, communication aids, evaluation activities, content resources, and an online grade book that are designed to facilitate e-teaching and e-learning (Bickle & Caroll, 2003; Eng & Woo, 2002). These features provide students with the autonomy, individualization,

flexibility, and score of resources not found in traditional courses (Carey, 1999). They also allow for indirect observation of activities as WebCT® monitors student activities through such features as a *Student Tracking* module (Kendall, 2001).

Surveys were administered to participants. Surveys are often classified according to how they collect data. Surveys are effective for collecting data regarding participants' beliefs, attitudes, interests, or behavior (Gall, Gall, & Borg, 1999). The most common types of surveys are mail, telephone interviews, and in-person interview surveys. The survey questions in this study were constructed so as to determine participants' attitudes towards the use of distance education technology as a delivery system for law enforcement training programs and gather individual subject characteristic information.

Interviewing is an important form of data collection. According to Glesne (1999), researchers ask questions that are designed to solicit data to the phenomenon under study. Respondents, who possess the information desired by researchers, answer questions from the context of motives, values, concerns, or needs that researchers need to decipher in order to understand. Interviews can be classified as being informal, unstructured, semi-structured, or structured (Bernard, 2000). Interview data was gathered using the semi-structured format. In this format, interviewers use a general guide that outlines a set of topics to be explored (Gall, Gall, & Borg, 1999).

Participant Selection

To further explore law enforcement officer perceptions regarding the effectiveness of the use of distance education technology as a delivery system for law enforcement training, questions were developed for face-to-face or telephone interviews.

Six of the 29 officers were selected to participate in these interviews. Two officers each from a municipal, county, and university law enforcement agency in Mississippi were selected from those who participated in this study from those agencies. Three of these officers had backgrounds as law enforcement trainers. The names of the participants have been changed to ensure their anonymity and protect their confidentiality.

Table 3.5 contains background information on the six participants including their agency affiliation, number of years with that particular agency, total years of law enforcement experience, and whether they have experience as a law enforcement instructor. Three of the participants have experience with more than one law enforcement agency. Officers from Mississippi law enforcement agencies were specifically selected due to the rural nature of Mississippi compared with North Carolina. While the area of North Carolina from which the officers were selected for participation is considered rural, the state of North Carolina as a whole is not perceived as being rural. The chance that some of the North Carolina officers may have previously worked in urban areas could result in officers not having the rural perceptions that are sought in the observations and interviews.

Table 3.5 Participants' Background Information

Name	*Agency Type*	*Years With Agency*	*Total Years Experience*	*Instructor*
Adam	University	2	27	Yes
Brad	University	9	12	Yes
Charles	County	2	5	No
David	County	12	12	No
Edward	Municipal	11	11	Yes
Frank	Municipal	10	10	No

Results from the interviews with these participants strengthened and enhanced the study by providing context-specific comments. Their comments provided insight into participating law enforcement officers' individual learning styles and how their perceptions influence their views of how the use of distance education technology affected the delivery of the training material. Additionally, these interviews allowed the researcher to identify unexpected variables that could help explain the results of the study more accurately.

Data Collection

Signed consent forms were collected from these law enforcement officers before gathering any information. Interviews were semi-structured employing a list of developed questions based upon the research questions with the researcher following up with clarifying questions. At the beginning of the interview, the researcher explained the goal and purpose of the interview to the participants and inquired if anyone had questions pertaining to the process. The participants were told that the interviews would be audio-taped and stored in a locked filing cabinet at the researcher's workplace. All interviews were destroyed following transcription. Participants responded to the following questions:

1. What was your perception regarding the ease of use of the WebCT® program?
2. What was your perception regarding the use of the computer to facilitate learning?

3. What was your perception regarding the effectiveness of the use of distance education technology to facilitate learning versus learning in a face-to-face classroom environment?
4. What was your perception regarding the amount of interaction occurring in the distance education environment versus a face-to-face classroom environment?
5. What was your perception of the physical characteristics of the computer you used in this study in regards to its facilitating the distance education program?
6. What was your perception regarding how supportive you feel the environment in which you participated in this study is for learning?
7. What was your perception of the effectiveness of the workbook and supporting materials that were used in this study?
8. What was your perception of the effectiveness of the distance education technology for facilitating learning versus a face-to-face classroom environment?
9. What was your perception of the appropriateness of the topic used in the intervention for delivery by distance education technology?

Through the interviews and interactions with the participating law enforcement officers, the collected data were based upon the participants' verbal descriptions and personal perspectives. Marshall and Rossman (1999) emphasize that one cannot understand an individual's perception without understanding the meaning that person attaches to that perception. An individual's thoughts, beliefs, feelings, values, and ideas

impact perceptions of a phenomenon that he or she observes. This qualitative study revealed the individual perceptions of law enforcement officers as they related to their experiences in both learning as officers and teaching as instructors.

Data Analysis

The surveys were valuable in gaining information pertaining to this study, but they had limitations in what they could reveal. Listening to the participants and hearing what they had to say about their personal experiences deepened the understanding of the qualitative research findings. From the interviews, themes emerged through the process of inductive analysis. The goal was to determine the effectiveness of the use of distance education technology as a delivery system for training to rural and small law enforcement agencies.

Patton (2002) discusses the challenge of “making sense of massive amounts of data . . . sifting trivia from significance, identifying significant patterns, and constructing a framework for communicating the essence of what the data reveal” (p. 432). Patton encourages researchers to do their best to fairly represent the data and communicate to readers what the data reveals given the purpose of the study, knowing there are no absolute rules in presenting or handling such data.

According to Patton (1990, p. 376), "The first decision to be made in analyzing interviews is whether to begin with case analysis or cross-case analysis." A cross-case analysis was conducted of six interviews, using the constant comparison method to group answers based upon the research questions and to analyze different perspectives. Glaser

and Strauss (cited in Lincoln & Guba, 1985, p. 339) described the constant comparison method as following four distinct stages:

1. comparing incidents applicable to each category,
2. integrating categories and their properties,
3. delimiting the theory, and
4. writing the theory.

In addition to using the constant comparison method in qualitative research, the researcher often immerses him- or herself into the phenomenon under study and becomes an instrument of data collection and analysis. While this immersion may result in researcher bias, it also reflects the commitment of the researcher to cross the threshold into the experiences of the participants (Patton, 1990). It is by crossing this threshold that the researcher gains significant insight into the experiences of the participants involved in the study (Patton). Patton states that, in order to enhance researcher credibility, the research should "report any personal and professional information that may have affected data collection" (p. 472).

This researcher brings to this study the personal experience indicated on the attached vita (See Appendix E). In 1973, this researcher was employed as a part-time instructor for the Northwest Florida Safety Council instructing the National Safety Council's Defensive Driving Course. In 1974, this researcher attended the Basic Law Enforcement Training Academy in Pensacola, Florida. In 1975, this researcher was employed by the Pensacola Police Department. As part of this researcher's employment,

this researcher was required to attend a number of criminal justice training programs, a requirement that continues today.

In 1980, this researcher was employed as an investigator with the Aegis Service Corporation where this researcher specialized in arson and fraud investigations. As a condition of this researcher's employment, this researcher began training insurance adjusters in arson detection. In 1982, this researcher was employed by the Gulf Breeze Police Department where this researcher was first certified as an instructor in a police discipline. Other instructor certifications soon followed. In 1988, while employed with the University of West Florida Police Department, this researcher became a regular instructor with the Northwest Florida Regional Police Academy where this researcher instructed basic (academy) and advanced (in-service) course. This researcher also obtained specialized instructor certification in firearms and defensive tactics courses.

In 1993, this researcher began teaching college-level courses at Pensacola Junior College, Troy State University, and the University of West Florida. In 1995, this researcher relocated to Huntington, West Virginia where this researcher was the Chief of Police for Marshall University. During this time, this researcher instructed for the West Virginia State Police Academy, Marshall University Department of Psychology, and Kentucky Motorcycle Program. In 1997, this researcher relocated to Starkville, Mississippi where this researcher was the Chief of Police for the Mississippi State University Police Department. During this time, this researcher instructed for the Northeast Central Mississippi Criminal Justice Training Academy, the Mississippi State University Department of Psychology, and the Motorcycle Safety Foundation.

In 2005, this researcher relocated to Cullowhee, North Carolina where this researcher is the Chief of Police for the Western Carolina University Police Department. This researcher currently serves as an instructor for the Western Carolina University Department of Psychology and Department of Applied Criminal Justice. This researcher's extensive background as a law enforcement officer and administrator, law enforcement trainer, and college-level instructor provide this researcher with a unique advantage for gaining insight into the perspectives of the participants in this study. Further, the diversity of this background helps this researcher to guard against bias.

This study follows the constant comparison method guidelines closely and draws heavily upon the researcher's immersion in the phenomenon. With this experience and background, this researcher transcribed the six interviews and reviewed them many times in an attempt to locate themes or categories of responses. Glesne (1999) says that "data analysis involves organizing what you have seen, heard, and read so that you can make sense of what you have learned . . . To do so, you must categorize, synthesize, search for patterns, and interpret the data you have collected" (p. 130). The transcriptions in this study were color-coded to create possible categories for later comparisons. Creswell (1998) recommended doing this; he encouraged the use of an inductive approach through detailing individual statements about the topic under investigation and then finding clusters of meanings.

As interviews were conducted, recorded, and analyzed, they were compared across categories based upon the research questions. Data were analyzed for significant differences or similarities as well as patterns or differentiations as they relate to the

categories. Interview data were extrapolated from the recordings and categorized in a matrix based upon the research questions. Similarly, observations were recorded through field-notes and examined on a cross-case basis. Finally, document analysis was conducted based upon survey and budget reports data.

Triangulation of data was employed. Triangulation is a method of data analysis that enhances internal validity and protects against researcher bias (Patton, 1980; Yin, 1984). Data from one source (e.g., a survey or budget document) are compared with data from another source (e.g., interview with an officer) for the purpose of conducting a broad sweep of the data to obtain an in-depth analysis (Sun Associates, 2006). Triangulation also increases the reliability of each data source (Guba & Lincoln, 1982).

SUMMARY

The methods of analysis selected for this study were quantitative analysis of pre- and post-test data and qualitative analysis of surveys and budget documents, interviews, and observations. Quantitative analysis will reveal if a statistically significant difference exists between the means of the pre- and post-test data. Quantitative analysis will reveal an understanding of participant's perspectives of the processes involved in the use of distant education technology.

Participants in this study were full-time law enforcement officers employed by rural and small law enforcement agencies. The participants took part in the online training program in Discriminatory Profiling and Professional Traffic Stops developed by the Florida Department of Law Enforcement that served as the intervention. Six participants who took part in the online training program were selected for observations

and interviews. Qualitative data were reviewed, coded, and classified based upon emerging themes. Responses were triangulated for comparison.

CHAPTER IV

RESULTS

This chapter presents the results of the study examining the effectiveness of using distance learning technology as a means for delivering training programs to law enforcement officers in rural and small agencies. Five types of data were collected in this study: (1) demographic data for law enforcement officers, (2) learning results by comparing the pretest and posttest data; (3) participant responses gathered from the survey, (4) interview data collected from six law enforcement officers regarding their perceptions of the effectiveness of the use of distance education technology as a delivery system for training information to rural and small law enforcement agencies, and (5) document data. This chapter, outlining and analyzing the data, will be divided into four sections: descriptive statistics of the participants, findings and summary of the quantitative data, findings from the qualitative data, and a conclusion.

DESCRIPTIVE STATISTICS

This study examined data from law enforcement officers from four law enforcement agencies that represent a municipality, county, and two universities. All officers had completed a basic law enforcement training program. Many had additional training beyond the academy level. Some were certified as instructors for a variety of law enforcement subjects. Additionally, officers were asked to complete demographic

questions on the survey in which they were asked to identify their job assignment, number of years experience, whether they were a law enforcement trainer, age, and gender. Gender data are summarized in Table 3.2. The remaining data are summarized in Tables 4.1- 4.4.

Eighteen of the officers were assigned to the patrol function within their agency. Two each were assigned to the investigation, traffic, and crime prevention. One officer was assigned to administrative duties (see Table 4.1).

Table 4.1 Frequency Distribution for Law Enforcement Officers by Job Assignment

Assignment	*Frequency*	*Percentage*
Patrol	18	72%
Investigation	2	8%
Traffic	2	8%
Administration	1	4%
Crime Prevention	2	8%
Total	25	100%

Seven officers each had between 0 and 5 years of experience and 11 and 15 years of experience. Eight officers had between 6 and 10 years experience. Two officers had between 16 and 20 years of experience while one officer had over 20 years of experience (see Table 4.2).

Table 4.2 Frequency Distribution for Law Enforcement Officers by Years of Experience

Years of Experience	*Frequency*	*Percentage*
0 - 5	7	28%
6 - 10	8	32%
11 - 15	7	28%
16 - 20	2	8%
Over 20	1	4%
Total	25	100%

Nine officers were certified law enforcement instructors (see Table 4.3). Three of the officers were between 21 and 25 years of age. Eight officers were between the ages of 26 and 30 while six officers were between the ages of 31 and 35. Three officers were between the ages of 36 and 40, two officers were between the ages of 41 and 45, and three officers were over the age of 45 (see Table 4.4). Twenty of the officers who completed the study were males and five were females.

FINDINGS OF THE QUANTITATIVE DATA

The quantitative data analyzed in this study included the results from a pretest and a post-test. Additionally, a survey was administered for which the results were quantified according to the research questions and analyzed. WebCT® was used to administer the pretest, post-test, and survey.

Table 4.3 Frequency Distribution for Law Enforcement Officers by Trainer Status

Trainer Status	*Frequency*	*Percentage*
Trainer	9	36%
Non-Trainer	16	64%
Total	25	100%

Table 4.4 Frequency Distribution for Law Enforcement Officers by Age

Age	*Frequency*	*Percentage*
21 - 25	3	12%
26 - 30	8	32%
31 - 35	6	24%
36 - 40	3	12%
41 - 45	2	8%
Over 45	3	12%
Total	25	100%

Pretest – Post-Test Results

A pretest and a post-test consisting of 25 items each were developed for this study based upon the learning objectives of the training course (intervention). Twenty-nine law enforcement officers participated in this study. Twenty-eight scores were obtained for the pretest. One pretest score was not obtained for an officer although a post-test score and survey results were obtained. This officer was interviewed regarding the lack of a pretest score. The officer stated that he had taken the pretest and believed that he had submitted the answers for grading correctly. However, no score was obtained and,

based upon the characteristics of the WebCT® program, it is believed that this officer improperly submitted the results of the pretest for grading. The missing score for this officer was transformed in the SPSS® program by inserting a mean score.

Twenty-five scores were obtained for the post-test. Four law enforcement officers did not complete the study. These officers were interviewed and it was learned that their duties prevented them from completing the study. Two of the law enforcement officers who failed to complete the study were employed by a county sheriff's department. Both law enforcement officers indicated that the grand jury convened during the course of the study and they were required to assume court duties that prevented them from completing the study. The other two officers were employed with a municipal police department. These officers were required to investigate a homicide that occurred during the course of the study. The missing scores were transformed in the SPSS® program by inserting a mean score.

Scores for the pretest and post-test were analyzed. Scores for the test were based upon the assignment of a point for a correct answer with no point assigned for an incorrect answer. This resulted in a maximum possible score of 25 points for the pretest or post-test. The scores for the pretest ($\overline{x}$ = 14.99, *sd* = 7.79) were less than those for the post-test ($\overline{x}$ = 22.04, *sd* = 2.87). This data were analyzed using a paired sample *t-test*. This procedure evaluates the means of two variables for a single group to ascertain whether there is a statistically significant difference. The difference between the scores' means ($\overline{x}$ = 7.05, *sd* = 8.52) was determined to be statistically significant (*t* = 4.46, p <.01).

An effect size of interest was determined (d = 1.20). The effect size refers to the standardized mean difference between two groups (Kotrilik & Williams, 2003). The effect in this study is the difference between the pre- and post-test mean measures of 14.99 (sd = 7.79) and 22.04 (sd = 2.87) from the law enforcement officers. According to Cohen (1988), an effect size of 1.20 is characterized as a large effect size. Meyers, Guarino, and Gamst (2005) state, "larger effect sizes are associated with greater levels of statistical power (p. 41)."

Survey Results

Within this study, 25 law enforcement officers completed the survey. No established survey could be located that specifically addressed the research questions developed for this study. Therefore, this survey was developed and used to investigate law enforcement officers' perceptions of the use of distance education technology as a delivery system for training to rural and small law enforcement agencies.

Reliability is based upon the survey consistently yielding the same results over time (Walonick, 2003). This is the first time that this survey has been used and therefore, reliability has not been previously established. However, one method for establishing survey reliability is by analyzing the internal consistency of the survey results for the various research questions. Internal consistency refers to the extent to which the survey assesses the same characteristic. This type of reliability is helpful to researchers in interpreting data and predicting the value of scores and the limits of the relationship among variables.

Internal consistency was estimated using coefficient alpha calculated on an administration of the survey to 25 law enforcement officers. The standardized alpha coefficient were 0.981 for research question #1 (effective presentation), 0.972 for research question #2 (physical characteristics), 0.972 for research question #3 (interaction), and 0.968 for research question #4 (learning effectiveness). Alpha scores in excess of 0.90 are questionable and may indicate that that there are similarities among the survey items.

Validity is also an issue in survey research. Typically, surveys are weak on validity (Babbie, 2004). Surveys offer respondents that opportunity to provide their feelings of a phenomenon along a defined continuum. However, there are many factors that influence a respondent's feelings and these feelings may not neatly fit into a segment of the defined continuum or may only occasionally fit into a particular segment. This affects the accuracy of the survey measurement. According to Walonick (2003),

> validity refers to the accuracy or truthfulness of a measurement. Are we measuring what we think we are? This is a simple concept, but in reality, it is extremely difficult to determine if a measure is valid. Generally, validity is based solely on the judgment of the researcher. When an instrument is developed, each question is scrutinized and modified until the researcher is satisfied that it is an accurate measure of the desired construct, and that there is adequate coverage of each area to be investigated. (¶23)

One method to determine if the survey is capable of accurately measuring the desired constructs in this study was to assess its content validity. Content

validity was addressed through a review of the instrument by experienced law enforcement officers who are also trainers. The responses from this panel of experts supported this researcher's belief that the survey was sufficient for measuring the desired constructs. Further, another function of the survey was to allow respondents to append comments to many of the questions contained in the survey. These comments were the respondents' own words and added value to the study from a qualitative perspective.

Research Question #1

Research question #1 asked: "How effective is the delivery system in the presentation of subject matter?" Items 7 through 25 of the survey were designed to answer research question #1. Items 7 through 11 refer to the ease of use and how enjoyable the officer find distance education technology in general. Items 12 through 14 refer to effectiveness of the supplemental materials that accompanied the program. Item 15 refers to the structure of the program. Items 16 and 17 refer to the presentation and understanding of the goals and objectives of the program. Items 18 through 22 refer to the developmental aspects of the program. Item 23 refers to the relationship between building a learning environment and the use of distance education technology. Item 24 refers to the consistency of the delivery of the video modules. Item 25 refers to the consistency of testing students.

Table 4.5 reports findings related to the officers' perception about the presentation of the subject matter. Response indicators are rated from a low score (respondent more likely to agree with the item) to high (respondent less likely to agree with the item). In the

category regarding the officers' perceptions regarding the ease with staying on task, their interest in the course, their enjoyment with using the computer to learn and using distance education technology at a training delivery system, and their belief that distance education technology is an effective way to learn, the majority of the participants "strongly agree" with each of these topics. Video modules were developed for this course that were accompanied by supplemental videos and handouts accompanied this course. The majority of the respondents (56%) found that the video modules, supplemental videos, and handouts were "outstanding."

The majority of the participants found the structure of the program to be either "outstanding" (52%) or "very good" (44%). The majority of the participants felt that the goals and objectives were communicated in an "extremely effective" manner (52%) and that their understanding of the goals and objectives was "excellent" (72%). Regarding the effort required to develop the program, the majority of the participants found that developer to be "extremely knowledgeable" (84%), the organization of the presentation to be "very effective" (72%), that a "great deal" of preparation went into developing the program (84%), the style and delivery of the program was "very effective" (76%), and the developer's level of responsiveness to be "quite a bit" (76%).

Table 4.5 Officers' Perception about the Effectiveness of the Presentation of the Subject Matter

Question #	Rating	Frequency N = 25	Percent	*M*	*SD*
7. I found it easy to stay on task and finish in a timely manner.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	13 10 2 0 0	52 40 8 0 0	1.56	0.65
8. This course was interesting and held my attention.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 6 0 0 0	76 24 0 0 0	1.24	0.44
9. I enjoy using the computer to learn.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 5 0 1 0	76 20 0 4 0	1.32	0.69
10. I enjoyed using DE technology as a training delivery system.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	14 10 0 1 0	56 40 0 4 0	1.52	0.71
11. I believe the use of DE technology is an effective way to learn.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	16 9 0 0 0	64 46 0 0 0	1.36	0.49
12. I found the video modules to be:	Outstanding Very Good Average Below Average Far Below Average	14 11 0 0 0	56 44 0 0 0	1.44	0.51
13. I found the supplemental videos to be:	Outstanding Very Good Average Below Average Far Below Average	14 11 0 0 0	56 44 0 0 0	1.44	0.51
14. I found the hand-outs to be:	Outstanding Very Good Average Below Average Far Below Average	14 10 1 0 0	56 40 4 0 0	1.48	0.59
15. I found the structure of the program to be:	Outstanding Very Good Average Below Average Far Below Average	13 11 1 0 0	52 44 4 0 0	1.52	0.59
16. The goals and objectives were communicated in an effective manner.	Extremely Effective Effective Ineffective Extremely Ineffective	13 11 1 0	52 44 4 0	1.48	0.51

Table 4.5 (con't) Officers' Perception About the Effectiveness of the Presentation of the Subject Matter

Question #	Rating	Frequency N = 25	Percent	*M*	*SD*
17. My understanding of the goals & objectives was	Excellent Good Adequate Poor	18 7 0 0	72 28 0 0	1.28	0.46
18. I found the developer's knowledge to be:	Extremely Knowledgeable Somewhat Knowledgeable Little Knowledge Not Knowledgeable	21 4 0 0	84 16 0 0	1.16	0.37
19. I found the organization of the presentation to be:	Very Effective Effective Somewhat Effective Ineffective	18 7 0 0	72 28 0 4	1.28	0.46
20. It appears that the amount of preparation put into this program was:	A Great Deal A Fair Amount Not A Lot Very Little	21 4 0 0	84 16 0 0	1.16	0.37
21. I found the style and delivery to be:	Very Effective Effective Somewhat Effective Ineffective	19 4 2 0	76 16 8 0	1.32	0.63
22. I found the developer's level of responsiveness to be:	Quite A Bit A Fair Amount Not Much Not At All	19 6 0 0	76 24 0 0	1.24	0.44
23. I believe that in building a learning environment, the use of DE technology is:	Very Effective Effective Somewhat Effective Ineffective	14 10 1 0	56 40 4 0	1.48	0.59
24. I found the delivery of the modules to be:	Very Consistent Consistent Somewhat Consistent Inconsistent	16 6 3 0	64 24 12 0	1.48	0.71
25. I found the testing of students to be:	Very Consistent Consistent Somewhat Consistent Inconsistent	16 9 0 0	64 36 0 0	1.36	0.49

The majority of the participants believe that the use of distance education technology in building a learning climate is either “very effective” (56%) or “effective” (40%). The majority of the participants found the delivery of the video modules to be “very consistent” (64%). Finally, the majority of the participants found the testing of students to be “very consistent” (64%).

Research Question #2

Research question #2 asked: “How do student law enforcement officers feel about the physical characteristics of the distance education delivery system and how do they compare with the physical characteristics of in-class training that officers have previously received?” Items 1 through 4, 26 through 29, and 39 through 44 of the survey were designed to answer research question #2. Items one through four refer to use of the WebCT® program (ease of learning the program, ease of logging on, benefit of the instructions for WebCT®, and a follow-up question for those who experienced difficulty with the use of WebCT®). Items 26 through 28 refer to the accessibility of WebCT® (accessible from any location, computer is fast enough to effectively download WebCT® and modules, computer has all the necessary peripherals to access WebCT®, and accessing the program through WebCT® is interesting.) Items 29 and 39 through 44 refer to the physical characteristics in which WebCT® is used (distracting environment, chair, room, accessibility, noise level, lighting, and temperature).

Table 4.6 reports findings related to the officers’ perceptions about the characteristics of the distance education delivery system and how they compare with the

Table 4.6 Officers' Perception about the Physical Characteristics of the Learning Environment

Question #	Rating	Frequency N = 25	Percent	*M*	*SD*
1. I found the WebCT program easy to use	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	16 8 1 0 0	64 32 4 0 0	1.40	0.58
2. I found it easy to log onto WebCT	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 3 3 0 0	76 12 12 0 0	1.36	0.70
3. I found the instructions to be very useful	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	22 3 0 0 0	88 12 0 4 0	1.12	0.33
4. I feel that WebCT would be easier to learn and use if I am allowed to spend more time working with it.	Question #4 is a follow-up question regarding the ease of use of WebCT. Participants were asked to skip this question if they felt they had little difficulty in working with WebCT. Three participants indicated that they "strongly agree" with this statement and one participant indicated that he or she "somewhat agree" with this statement.				
26. My ability to access WebCT from any location was:	Outstanding Very Good Average Below Average Well Below Average	11 10 1 3 0	44 40 4 12 0	1.84	0.99
27. The computer that I used in our department to access WebCT is fast enough to effectively download the training information and materials.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	14 8 3 0 0	56 32 12 0 0	1.56	0.71
28. The computer I used in my department has all of the necessary peripherals in order for me to effectively interact with the training program.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 5 1 0 0	76 20 4 0 0	1.28	0.54
29. The environment in which I used the computer to engage in this training was not distracting.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	11 6 0 5 3	44 24 4 20 12	2.32	1.52

Table 4.6 (con't) Officers' Perception about the Physical Characteristics of the Learning Environment

Question #	Rating	Frequency N = 25	Percent	*M*	*SD*
39. I found the chair in which I sat to engage in this training to be comfortable.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	13 3 1 3 5	52 12 4 12 20	2.36	1.68
40. I found the room in which I engaged in this training to be adequate for participating in online training.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	18 7 0 0	72 28 0 0	1.28	0.46
41. I found the room and computer that I used to engage in this training to always be accessible.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	18 4 0 0	72 16 0 0	1.16	0.37
42. I found the noise level in the room where the training occurred to be not distracting at all.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	10 7 0 6 1	40 32 0 24 4	2.20	1.32
43. I found the lighting level in the room in which I engaged in this training to be adequate.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 4 2 1 0	76 12 8 4 0	1.40	0.82
44. I found the temperature in the room in which I engaged in this training to be comfortable.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	18 3 1 2 1	72 12 4 8 4	1.60	1.15

physical characteristics of in-class training they have previously received. Response indicators are rated from a low score (respondent more likely to agree with the item) to high (respondent less likely to agree with the item). In the category on the use of the WebCT® program, the majority of participants similarly indicated that they "strongly agree" (64%) that WebCT® was easy to use. The majority of participants also "strongly agree" (76%) that it was easy to log into WebCT®. As part of this study, written instructions that guided participants on accessing and logging into WebCT® were developed and provided to each participant. The helpfulness of these written instructions was rated extremely high by an overwhelming majority (88%) of participants. Item four was a follow-up question to the ease of use of WebCT® that asked if the participants believed they would find WebCT® easier to learn if they were allowed to spend more time working with the program. Only 12% of the participants "strongly agree" that they felt that this was necessary.

Regarding the accessibility of the WebCT® program, the majority of participants felt that their ability to access WebCT® from any location was either "outstanding" (44%) or "very good" (40%). The majority of the participants similarly indicated that they "strongly agree" about their department's computers being fast enough to download the WebCT® modules in a timely manner (56%) and that the computers have all of the necessary peripherals, particularly sound, for downloading, watching, and listening to the modules (76%).

In the category of the physical characteristics of the environment, the majority of the participants similarly indicated that they "strongly agree" that the computer room was

adequate (72%), the computer room was always accessible (72%), the lighting level was adequate (76%), and the temperature was comfortable (72%). For the statement "the environment is not distracting," the majority of participants rated this as either "strongly agree" (40%) or "somewhat agree" (32%). However, a number of participants rated this as either "somewhat disagree" (24%) or "strongly disagree" (4%).

Regarding the comfort level of the chair, the majority of participants "strongly agree" (52%) that it was comfortable. However, a number of participants indicated that they "somewhat disagree" (12%) or "strongly disagree" (20%) that the chair is comfortable. For the statement "the noise level is not distracting," the majority of participants rated this as either "strongly agree" (40%) or "somewhat agree" (32%). However, a number of participants rated this as either "somewhat disagree" (24%) or "strongly disagree" (4%).

Research Question #3

Research question #3 asked: "What is the amount and type of interaction between the student law enforcement officer and the presentation and with other law enforcement officers who may be present at the time the student law enforcement officer interacts with the presentation?" Items 33, 51 through 53, and 55 through 57 of the survey were put forth to answer research question 2. Table 4.7 reports findings related to the officers' perceptions about the amount and type of interaction between participants and the presentation and with other law enforcement officers who may be present at the time the student law enforcement officer was interacting with the presentation. Response indicators are rated from a low score (respondent more likely to agree with the item) to

Table 4.7 Officers' Perception about the Amount and Type of Interaction

Question #	Rating	Frequency N = 25	Percent	*M*	*SD*
33. I found the opportunity for discussions to be satisfying	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	10 10 4 1 0	40 40 16 4 0	1.84	0.85
51. I do not need to interact with the instructor in a face-to-face manner in order to effectively	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	11 6 8 0 0	44 24 32 0 0	1.88	0.88
52. I do not need to interact with other students in a face-to-face manner in order to effectively learn	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	13 4 7 1 0	52 16 28 4 0	1.88	1.09
53. I feel that interacting with the instructor and other students via e-mail and discussion boards is sufficient	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	8 8 6 3 0	32 32 24 12 0	2.16	1.03
55. On a scale of 1 (none at all) to 5 (quite a bit), how would your rate the interaction you had with other officers.	1 2 3 4 5	6 6 8 4 1	24 24 32 16 4	2.52	1.16
56. On a scale of 1 (totally distracting) to 5 (totally supporting), how would your rate the interaction you had with other officers.	1 2 3 4 5	5 1 11 5 3	20 4 44 20 12	3.00	1.26
57. Did this interaction interfere with your ability to effectively participate in this training	1 (Yes) 2 (No)	5 20	20 80	1.80	0.41

high (respondent less likely to agree with the item). Item 33 addressed the opportunity for the participants to engage in discussions with others (either online or face-to-face). The majority of participants indicated that they either “strongly agree” (40%) or “somewhat agree” (40%) that this opportunity to engage in discussions with others occurred.

For item 51, participants were asked to respond to the statement that they did not need to interact with the instructor in a face-to-face manner in order to effectively learn. The majority of participants indicated that they either “strongly agree” (44%) or “somewhat agree” (24%) with this statement. In item 52, participants were asked to respond to the statement that they did not need to interact with the instructor in a face-to-face manner in order to effectively learn. The majority of participants indicated that they either “strongly agree” (52%) or “somewhat agree” (16%) with this statement. In item 53, participants were asked to respond to the statement that they believed that interacting through e-mail and discussion boards was sufficient interaction for the course. The majority of participants indicated that they either “strongly agree” (32%) or “somewhat agree” (32%) with this statement. However, some participants indicated that they “neither agree nor disagree” (24%) or “somewhat disagree” (12%) with this statement.

In item 55, participants were asked to rate, on a Likert-type scale ranging from a value of 1 (none at all) to 5 (quite a bit), the amount of interaction that occurred between them and other officers during the course of this study. There were more responses for 3 indicating a moderate level of interaction (32%) followed by 1 indicating no interaction at all (24%) and 2 indicating very little interaction (24%). Remaining responses, in rank order, are 4 indicating a good deal of interaction (16%) and 5 indicating quite a bit

interaction (4%). In item 56, participants were asked to rate, on a scale of 1 (totally distracting) to 5 (totally supporting), the type of interaction that occurred between them and other officers during the course of this study. The majority of participants responded by indicating either 3 or a neutral response (44%), 4 or somewhat supporting (20%), or 1 or totally distracting (20). Remaining responses, in rank order, are 5 or totally supporting (12%) and 2 somewhat distracting (4%). Item 57 is a follow-up to item 56 and asked participants to indicate if this interaction interfered with their ability to effectively participate in the study. Fewer participants (20%) indicated that it did than those (80%) who indicated that it did not.

Research Question #4

Research question asked, "What are the student law enforcement officers' opinions about the learning effectiveness of the distance learning presentation and how it compares with the effectiveness of in-class instruction? Also, what are the opinions of the supervisors of student law enforcement officers regarding the effectiveness of distance learning technology for training?" Items 5, 6, 30 through 32, 34 through 38, 45 through 50, 54, and 58 through 62 relate to research question 3. Table 4.8 reports findings related to the officers' opinions regarding the effectiveness of distance learning technology and the traditional classroom environment. Response indicators are rated from a low score (respondent more likely to agree with the item) to high (respondent less likely to agree with the item). Item 5 addressed whether the participants feel the objectives of the program were achieved. The majority of participants indicated that the objectives were "fully achieved" (56%).

Table 4.8 Officers' Perception about the Effectiveness of the Distance Learning Technology and Traditional Classroom Environment

Question #	Rating	Frequency N = 25	Percent	*M*	*SD*
5. To what extent do you feel that the objectives of the program have been achieved?	Fully Achieved Mostly Achieved Somewhat Achieved Little Achieved Not At All	14 7 4 0 0	56 28 16 0 0	1.60	0.76
6. The materials received were as effective as in-class materials	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	11 8 5 0 1	44 32 20 0 4	1.88	0.1.01
30. I found the training course to be very interesting.	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 6 0 0 0	76 24 0 0 0	1.24	0.43
31. I found the information to be useful in my work	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	21 4 0 0 0	84 16 0 0 0	1.16	0.37
32. I found the subject matter to be extremely relevant to my work	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	17 8 0 0 0	68 32 0 0 0	1.32	0.48
34. I found the structure of this course to be very flexible	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	16 8 1 0 0	64 32 4 0 0	1.40	0.58
35. I felt that the course was well-conducted	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	22 2 1 0 0	88 8 4 0 0	1.16	0.47
36. I feel that I had sufficient time to finish this course	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	16 8 1 0 0	64 32 4 0 0	1.40	0.58
37. I felt that the length of this program was adequate	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 5 1 0 0	76 20 4 0 0	1.28	0.54
38. I feel that this subject can be effectively taught using on-line technology	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	21 3 1 0 0	84 12 4 0 0	1.20	0.50

Table 4.8 (con't) Officers' Perception about the Effectiveness of the Distance Learning Technology and Traditional Classroom Environment

Question #	Rating	Frequency N = 25	Percent	*M*	*SD*
45. I feel that I learned quite a bit from this program	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	19 5 1 0 0	76 20 4 0 0	1.28	0.54
46. To what extent do you feel you had prior know-ledge of subject	Quite A Bit A Fair Amount Not Much Not At All	13 12 0 0	52 48 0 0	1.48	0.51
47. This course pro-vided me with the information that I expected or needed to learn	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	20 5 0 0 0	80 20 0 0 0	1.20	0.41
48. To what extent do you feel your knowledge has improved as a result of this training	Outstanding Very Good Average Below Average Far Below Average	8 14 3 0 0	32 56 12 0 0	1.80	0.65
49. To what extent do you feel your skills have improved as a result of this training?	Outstanding Very Good Average Below Average Far Below Average	8 11 6 0 0	32 44 24 0 0	1.92	0.76
50. To what extent do you feel your appreciation of this subject has increased as a result of this training?	Outstanding Very Good Average Below Average Far Below Average	11 10 4 0 0	44 40 16 0 0	1.72	0.74
54. Learning from a computer is just as effective as f2f learning	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	16 5 3 1 0	64 20 12 4 0	1.56	0.87
58. When compared to traditional methods, how effective isl the use of DE technology?	More Effective Just As Effective Less Effective	7 15 3	28 60 12	2.20	0.58
59. Would you con-sider taking another DE course?	1 (Yes) 2 (No)	24 1	96 4	1.04	0.02

Table 4.8 (con't) Officers' Perception about the Effectiveness of the Distance Learning Technology and Traditional Classroom Environment

60. Have you previously taken an academic or CE course using DE technology?	1 (Yes) 2 (No)	16 9	64 36	1.36	0.49
61. What is your overall impress-ion of this type of program?	Outstanding Very Good Average Below Average Far Below Average	16 8 1 0 0	64 32 4 0 0	1.52	0.59
62. Would you re-commend that other officers participate in an online training program?	1 (Yes) 2 (No)	24 1	96 4	1.04	0.02

Item 6 addressed the effectiveness of materials disseminated with the online program compared with those found in traditional classes. The majority of participants indicated they either "strongly agree" (44%) or "somewhat agree" (32%). In item 30, the participants were asked if they found the training course to be very interesting. All of the participants either "strongly agree" (76%) or "somewhat agree" (24%) with this statement. For item 31, the majority of the participants "strongly agree" (84%) that the information presented in this program was useful in their work. For item 32, the majority of the participants "strongly agree" (68%) that the subject matter was extremely relevant to the work. For item 34, the majority of the participants "strongly agree" (64%) that the structure of the course was very flexible. For item 35, the majority of the participants "strongly agree" (88%) that the course was well-conducted. For item 36, the majority of the participants "strongly agree" (64%) that they had sufficient time to finish the course. For item 37, the majority of the participants "strongly agree" (76%) that the length of the

program was adequate. For item 38, the majority of the participants “strongly agree” (84%) that the subject of racial can be effectively taught using on-line technology.

For item 45, the majority of the participants “strongly agree” (76%) that they learned quite a bit from this program. For item 46, the participants felt they either knew “quite a bit” (52%) or “a fair amount” (48%) about this subject before taking this course. For item 47, the majority of the participants “strongly agree” (80%) that this course provided them with the information that they expected or needed to learn from this course. For item 48, the majority of the participants felt “very good” (56%) that their knowledge was improved as a result of this training while 32% “strongly agree” that their knowledge improved. For item 49, the majority of the participants believed that the level that their skills improved as a result of this training was either “outstanding” (32%) or “very good” (44%). For item 50, the majority of participants believed that the level of their appreciation for this subject has increased to either a level of “outstanding” (44%) or “very good” (40%).

For item 54, the majority of participants “strongly agree” (64%) that the computer is just as effective for learning as traditional methods. For item 58, the majority of participants believed that distance education methodology is “just as effective” (60%) or “more effective” (28%) than traditional learning methodology. For item 59, the vast majority of participants (96%) indicated they would consider taking another online course. For item 60, the majority of participants (64%) indicated that they have taken some type of online course before. For item 61, the majority of participants’ impression of this program was either “outstanding” (64%) or “very good” (32%). For item 62, the

majority of participants (96%) would recommend that other law enforcement officers participate in an online course.

Another aspect of research question #4 was to assess the perceptions of supervisors regarding the effectiveness of the use of distance education technology as an alternative to sending law enforcement officers to traditional training classes. However, due to the small number of agencies involved in this study, a survey instrument was not developed and administered to supervisors to address research question #4. Rather, a semi-structured interview was used with the supervisors. The questions posed to supervisors addressed the following issues:

- How much does your department spend annually for per diem for officers or deputies to travel to and from training courses?
- How much does your department spend annually on overtime to its officers or deputies for travel time to and from training?
- How much time away from the job site is required to send officers or deputies to training courses?
- How much does your department spend annually on computer resources?
- Did your officers or deputies enhance their skills as a result of taking the Discriminatory Profiling and Professional Traffic Stops course?
- Was it problematic to allow your officer/deputies to participate in this training while on-duty? If so, what were some of the problems?

These interviews are addressed in the next section.

In summary, the majority of participants strongly agreed the use and accessibility of the WebCT program was easy and convenient. The majority of participants found that the physical characteristics of the online learning environment were not distracting, comfortable, adequate, and accessible. Regarding interaction, the majority of participants either strongly agreed or somewhat agreed that the opportunity for discussion was satisfying, they did not need to interact with an instructor to effectively learn, interaction on discussion boards and by e-mail was adequate, and the online environment does not distract from interaction. When compared to a traditional in-class environment, the majority of participants either somewhat agreed or strongly agreed that the course objectives were achieved, the materials were effective, it was easy to stay on task, the course was interesting, enjoyed using the computer to learn, enjoyed taking an online course, found online technology as an effective way to learn, believed the course was organized well, found the course material to be very good or outstanding, found the course was well-conducted, felt that the length of the course was adequate, and believed that they learned from this course.

FINDINGS OF THE QUALITATIVE DATA

Reality is a socially constructed phenomenon; therefore, the observations of and questions presented to the participants in this study were designed to explore the realities of each individual. The qualitative data analyzed in this study included observations, interviews, and analysis of documents. Six participants were selected to better understand their personal perceptions of the use of distance education technology. They were observed as they engaged in the online training program.

Afterwards, they were interviewed according to a semi-structured interview format. Further, an administrator from each agency was interviewed regarding his perceptions of the effectiveness of the use of distance education technology compared with sending officers to traditional training courses. Finally, document analysis was conducted on budget reports to determine the potential for cost savings with the use of distance education technology over traditional training courses.

The information gathered from these observations, interviews, and document analysis enhanced and strengthened the results of this study by providing context-specific information and comments. These observations, comments, and document analysis demonstrate characteristics that law enforcement officers employed by rural and small law enforcement agencies feel are important for them and fellow officers and the learning environment to possess, regardless of their own individual learning styles, in order for other law enforcement officers to effectively participate in online training.

Observations

Adam

At approximately 7:45 a.m. on June 24, at the Mississippi State University Police Department, this researcher had the occasion to observe Adam interact with the training program. This researcher met Adam in his office. Adam performs a specialized function for the police department and has an office specifically assigned to him.

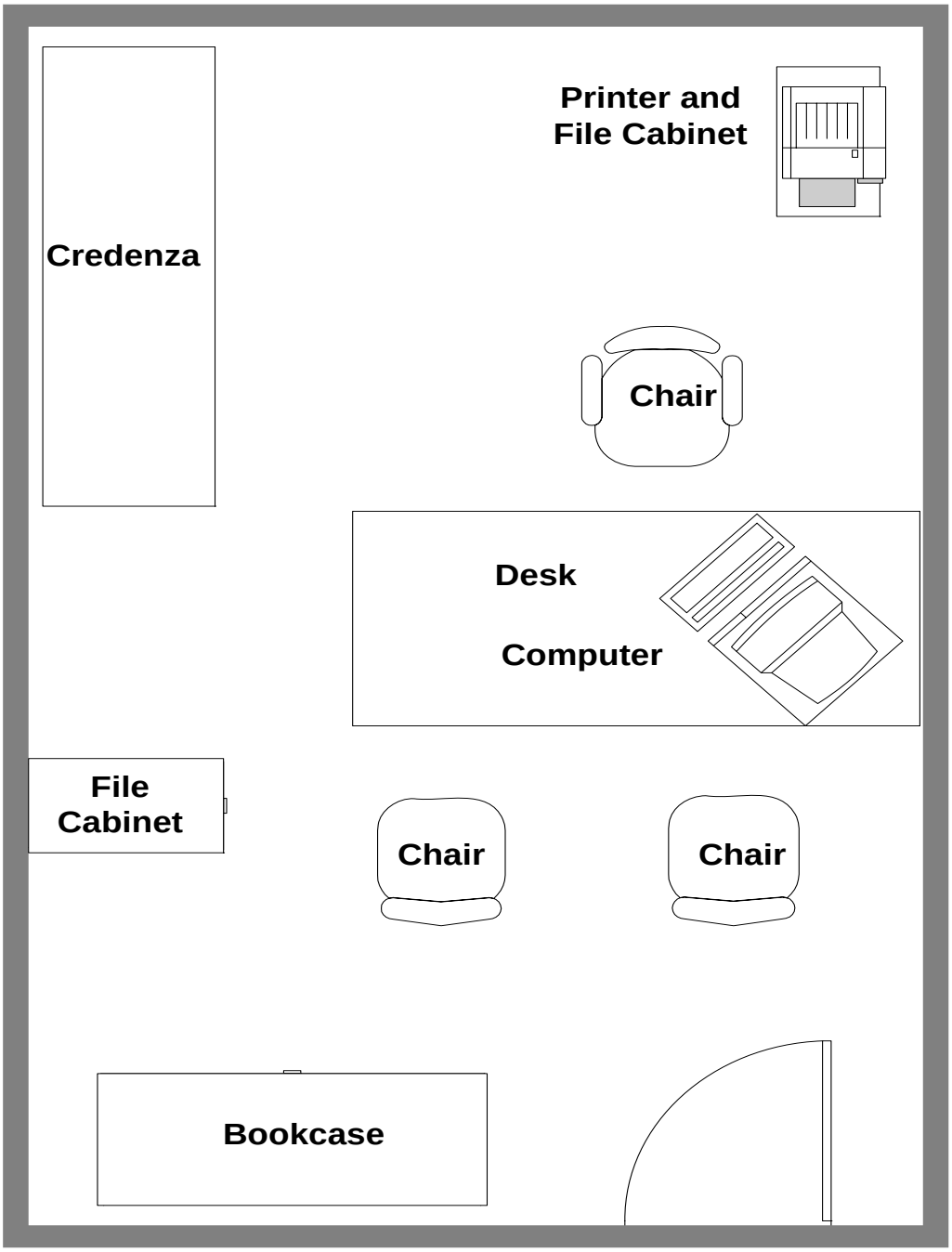

Figure 4.1 Adam's Office at the University Police Department

The office measures approximately 18 feet by 11 feet (see Figure 4.1). The walls are of sheetrock composition. The floor is carpeted. There are two overhead fluorescent light fixtures that were turned on at the time of the observation. The air conditioner was turned off and the windows open. The room felt somewhat warm to the researcher but seemed comfortable to Adam. The office is off a main hallway that also provides access to several other offices. There is a door to the office that can be closed for privacy and security.

Adam had no difficulty accessing WebCT®, but experienced difficulty accessing the video modules. Adam indicated that this was sometimes a problem on his computer and he did not know why it occurred. Adam exited from WebCT®, relogged in, and was able to access the video modules on his second try. Adam viewed the video module on a 17" flat screen computer module. A feature of RealPlayer® is that viewers may enlarge the viewing area to fit the screen dimensions on which it is viewed. Adam availed himself of this feature.

During the course of this observation, this research noted few opportunities for disruptions to occur. Adam had music playing from a radio station on a portable radio, but the volume was low. A portable police radio was turned on but the radio traffic was minimal with only one broadcast noted during the observation period. The only other possible source of distraction during the observation period was the chiming of the University chapel bells at 8:00 a.m. Adam received no telephone calls or visitors during the observation period. Nothing observed or heard during the observation period seemed distracting to Adam.

During the course of the watching the videos, the researcher noted that Adam followed along in his workbook. However, Adam completed watching the video module without any problems. The observation period ended at approximately 8:15 a.m. for a total duration of approximately 30 minutes.

Brad

At approximately 10:30 a.m. on June 16, this researcher had the occasion to observe Brad at the Mississippi State University Police Department interact with the training program. This researcher met Brad in his office. Brad performs a specialized function for the police department and has an office specifically assigned to him.

The office measures approximately 18 feet by 11 feet (see Figure 4.2). The walls are of sheetrock composition. The floor is carpeted. There are three overhead fluorescent light fixtures that were turned on at the time of the observation. The building, as a whole, was air conditioned and the temperature in the room felt comfortable. The office is off a main hallway that also provides access to several other offices. There is a door to the office that can be closed for privacy and security.

The furnishings in the room consisted of a wooden desk and credenza adjacent to one another in an "L-shaped" configuration. On the desk were a telephone, computer, and numerous files and documents. There was a four-drawer file cabinet on the back wall. Adjacent to the file cabinet were two chairs. A printer was on a stand behind the desk. Brad was seated at the desk and had already accessed WebCT® when the researcher arrived. Brad had his workbook open on the desk. Brad accessed and began the pretest

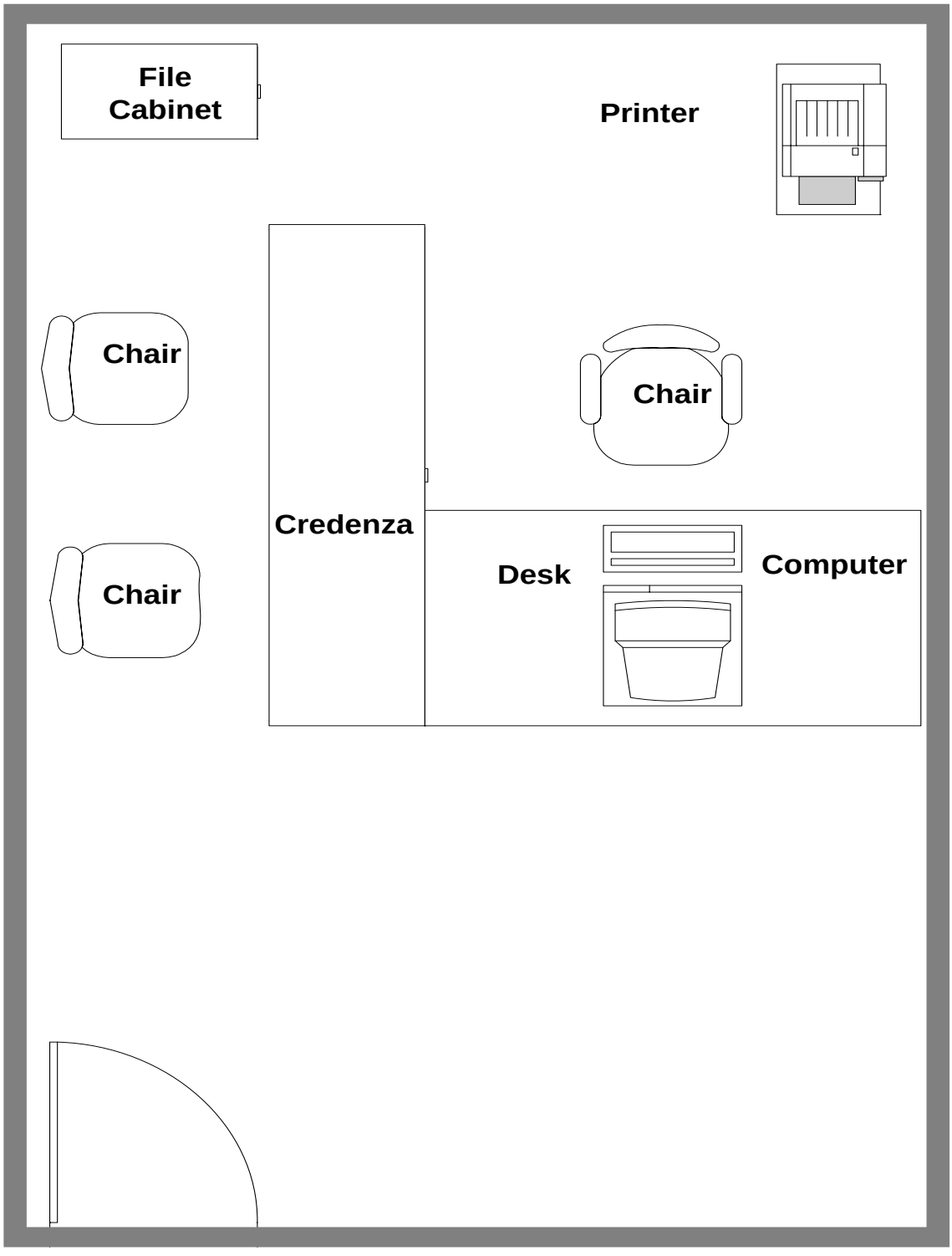

Figure 4.2 Brad's Office at the University Police Department

without any difficulty. During the course of taking the pretest, Brad seemed extremely focused on it. The only noticeable distraction detected by this researcher was some quiet conversation from an adjoining office and this seemed to have no effect on Brad.

After several minutes, another officer stopped into the office and asked Brad a question. Brad did not respond but continued working on the pretest. A few minutes later, another officer entered the office and asked Brad if he wanted a piece of candy. Brad declined the piece of candy and continued working on the pretest. At the conclusion of the pretest, Brad clicked on the "Finish" icon to submit the test for grading. However, Brad received an error message indicating that two questions had not been properly submitted. Brad quickly located the two questions, answered them, and properly submitted the test for grading.

Brad then downloaded module one. The download time was less than a minute. After the module downloaded, Brad received a message requesting his net ID and password again. After entering this information, the RealPlayer® program activated and began playing the first module. Initially, there was a problem as the video was "jerky" and the sound was not corresponding to the movement of the instructor's mouth on the video. However, this problem dissipated after a few minutes and the remainder of the video operated properly. During the course of the module, Brad had his workbook open and was observed to make entries into it. Brad allowed the video to play in its entirety and did not pause it. The observation period ended at approximately 11:18 a.m. for a total duration of approximately 48 minutes.

Charles

At approximately 1:30 p.m. on June 16, this researcher arrived at the Oktibbeha County Sheriff's Department to observe Charles interact with the training program. The researcher was directed to one of the offices normally used by deputies in the course of their duties. The office is shared by four deputies on different shifts. At the time of the observation, the subject was the only deputy using the office.

The office measures approximately 10 feet by 15 feet (see Figure 4.3). The back wall is constructed of concrete block while the remaining walls are of sheetrock composition. The floor is of tile composition. There were two overhead fluorescent light fixtures that were turned on at the time of the observation. The building, as a whole, was air conditioned and the temperature in the room felt comfortable. The office is off the main hallway that also provides access to several other offices and the front reception area. There was a door to the office that can be closed for privacy and security.

The furnishings in the room consisted of four lockers flush against the wall to the right as you walked into the room, two metal four-drawer file cabinets and one wooden four-drawer file cabinet flush against the back wall towards the left corner, a metal cart that contained a television set and VCR, and a metal desk that abutted the wall to the right. A chair was behind the desk and two chairs were in front of the desk. A computer monitor sat on top of the metal desk. Behind the monitor were speakers to the computer. To the right of the monitor was a telephone. Miscellaneous papers were piled on top of the desk, but not to excess.

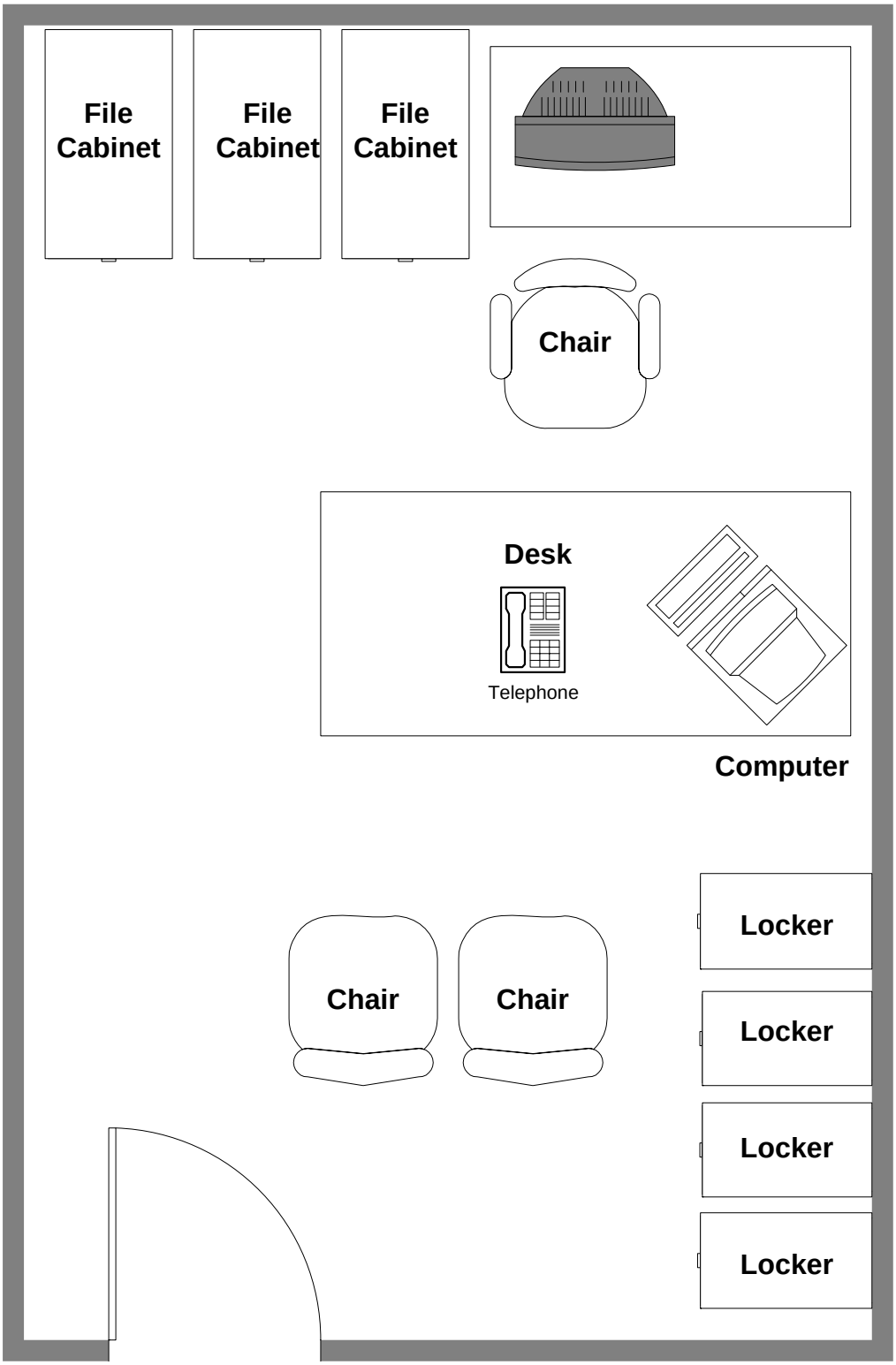

Figure 4.3 Charles' Office at the Sheriff's Department

Charles had already accessed the WebCT® program when the researcher arrived and was attempting to play module 1. Charles received an error message indicating that the program was not recognized. After several failed attempts, Charles logged out and allowed this researcher to log in to determine the nature of the problem. This researcher was able to get the modules to play without any problem. Charles then attempted to play the module again without success. However, after this failed attempt, Charles was able to get the module to play on the next try. No explanation was readily apparent to indicate why Charles had this problem.

Charles began observing the module. Charles did not have his workbook with him at this time. However, as the module progressed, Charles reached into a cabinet andobtained several sheets of blank typing paper. Charles began making notes on the paper. Charles was observed to make notations on the sections of the module that related to:

- the definition of CARD,
- the three types of encounters,
- the consequences of not making legal traffic stops, and
- during the summary portion of the video.

The opportunity for interruptions or distractions appeared to be minimal. During the course of watching the module, a verbal announcement occurred over the telephone's public address system. Charles did not appear to notice the announcement and continued focusing on the module. Light conversation was periodically heard from down the hallway but it appeared to pose no distraction to Charles. At the conclusion of the

module, Charles looked at this researcher and made the comment, “that was professional.” The observation period ended at approximately 2:22 p.m. for a total duration of approximately 52 minutes.

David

At approximately 1:10 p.m. on June 14, this researcher arrived at the Oktibbeha County Sheriff’s Department to observe David interact with the training program. This researcher met David in the lobby and David escorted this researcher into an office. This office is shared by four deputies on different shifts. At the time of the observation, David was the only deputy using the office.

The office measures approximately 10 feet by 15 feet (see Figure 4.4). The back wall is constructed of concrete block while the remaining walls are of sheetrock composition. The floor is of tile composition. There are two overhead fluorescent light fixtures that were turned on at the time of the observation. The building, as a whole, was air conditioned and the temperature in the room felt comfortable. The office is off the main hallway that also provides access to several other offices and the front reception area. There is a door to the office that can be closed for privacy and security.

The furnishings in the room consisted of four lockers flush against the wall to the left as you walked into the room, a metal four-drawer cabinet flush against the back wall towards the right corner, a metal desk that abutted a wooden desk at a 90 degree angle. The wooden desk was flush against the wall to the left as you walked into the room. A chair was behind the desk and two chairs were in front of the desk. A computer monitor sat on top of the metal desk. To the right of the monitor were the speakers to the

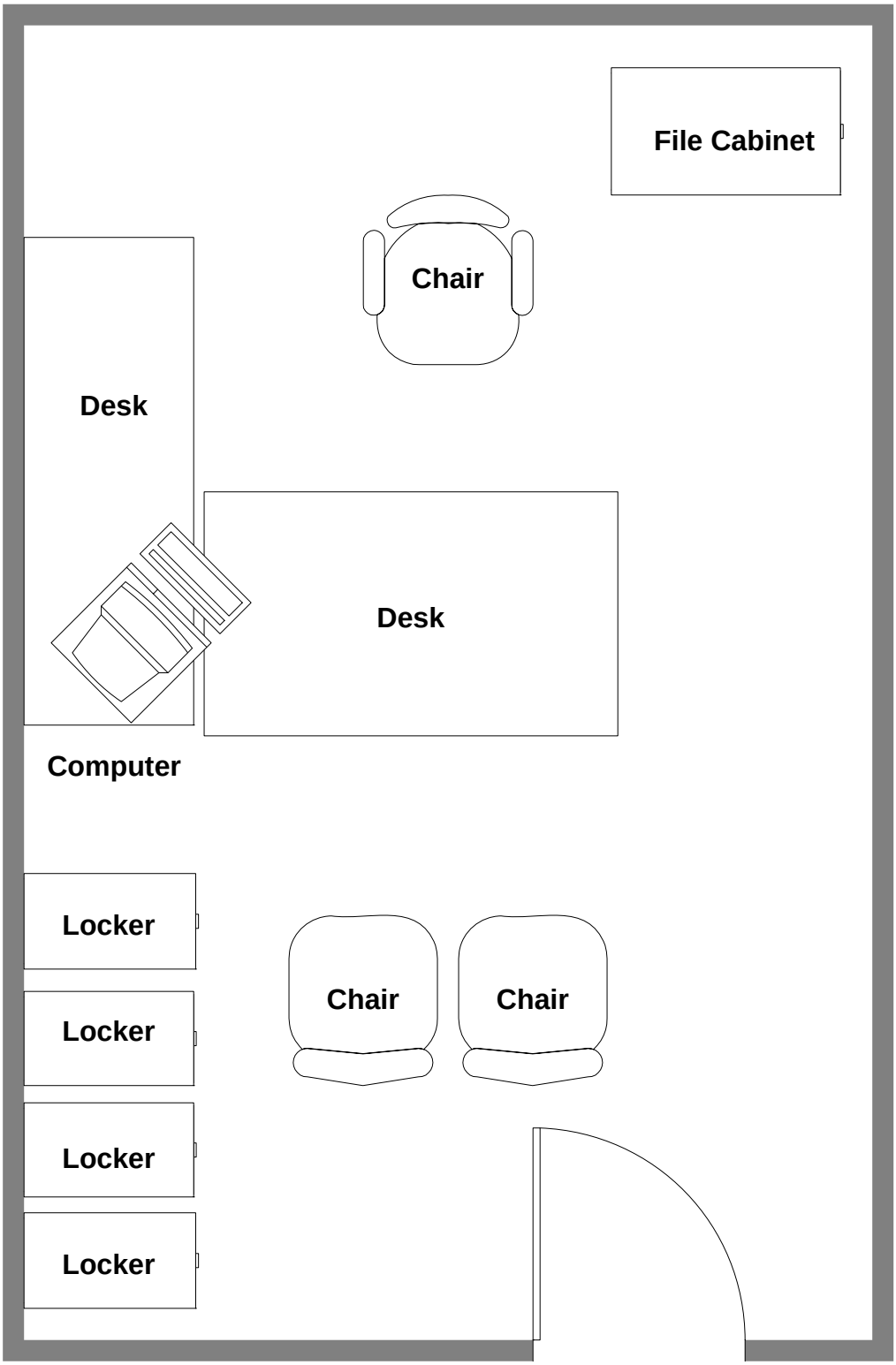

Figure 4.4 David's Office at the Sheriff's Department

computer. To the left of the monitor was a telephone. Miscellaneous papers were piled on top of the desk but not to excess.

David attempted to access the WebCT® program and had difficulty logging in. The program continued to not recognize David's login net ID and password. David was attempting to login through Internet Explorer®. After several failed attempts, David switched to Netscape® and was able to log in successfully.

During the observation period, there were frequent opportunities for distractions and interruptions. During the time that David was attempting to access WebCT®, several deputies were standing in the hallway outside of the office and discussing an upcoming funeral escort. However, although this conversation was readily apparent and could be distracting, it did not seem to detract from David's efforts to log in to the computer. There were at least two more occasions where deputies and others engaged in conversation outside the room. None of these activities seemed distracting to David and this suggests that these types of activities are commonplace with David accustomed to working around them.

The reception area was located approximately 20 feet down the hall from the office in which David interacted with the training program. During the observation period, this researcher could hear the police radio as radio traffic was transmitted and received. As with the conversation from the deputies down the hallway outside of the office, David did not appear to notice although it was noticeable to this researcher. David admitted he had never used WebCT® before. Additionally, David admitted he was not very proficient with computers. Once David was able to log into WebCT®, he spent

several minutes studying the program contents on the screen. David then proceeded to the pretest and spent approximately two minutes looking over the screen with the information on the pretest. Once David figured out how to navigate the pretest, he began to move through the questions at a quicker pace. According to WebCT®, David took 8 minutes and 30 seconds to answer the 25 questions.

After David completed the pretest, he was interrupted by a telephone call from one of the receptionists. After he completed the call, David returned to working on the training program. He began to download the first video module, a process that took approximately 2 minutes and 45 seconds. David opened the workbook to the accompanying page for the first module. Once the module was downloaded, David began to watch it.

During the course of watching the video module, David was interrupted several times. The telephone system also serves as a public address system for the department and a number of announcements were made during the time David was watching the video. Additionally, early into watching the video module, David received a telephone call from one of the receptionists. At that time, David paused the video until he had completed the telephone call.

Several minutes after resuming his watching of the video module, David was interrupted by the County Fire Coordinator who walked into the office to talk to David. They discussed a suspicious fire that had occurred in the county the week before. The conversation lasted approximately five minutes after which the County Fire Coordinator departed and David resumed watching the video module.

A few minutes later, David's cellular telephone rang and David paused the video module to answer the call. The call related to personal business that David and his wife operate. After discussing their services with a potential customer, David finished the call and resumed watching the video module.

Shortly after resuming his watching of the video module, David was interrupted by yet another telephone call. This conversation related to property or evidence. After the call, David resumed watching the video module. At this time, several individuals congregated in the hallway outside of the office and began talking loudly. David was observed to turn up the volume on the computer speakers as he continued to watch the video module.

A few minutes later, David's cellular telephone rang again. This was a personal call to David. After he completed the call, David resumed watching the video and was able to complete the module without further interruption. David made no complaints regarding the interruptions or distractions. David was able to complete the first video module despite these interruptions and distractions. However it was observed that he did not take any notes in the workbook during this module. The observation period ended at approximately 2:10 p.m. and had lasted for approximately one hour.

Edward

At approximately 11:20 a.m. on June 15, this researcher arrived at the West Point Police Department (WPPD) to observe Edward interact with the training program. This researcher met Edward in the telecommunications area of the police department where Edward was serving as a relief dispatcher. Edward is a full-time police officer. However,

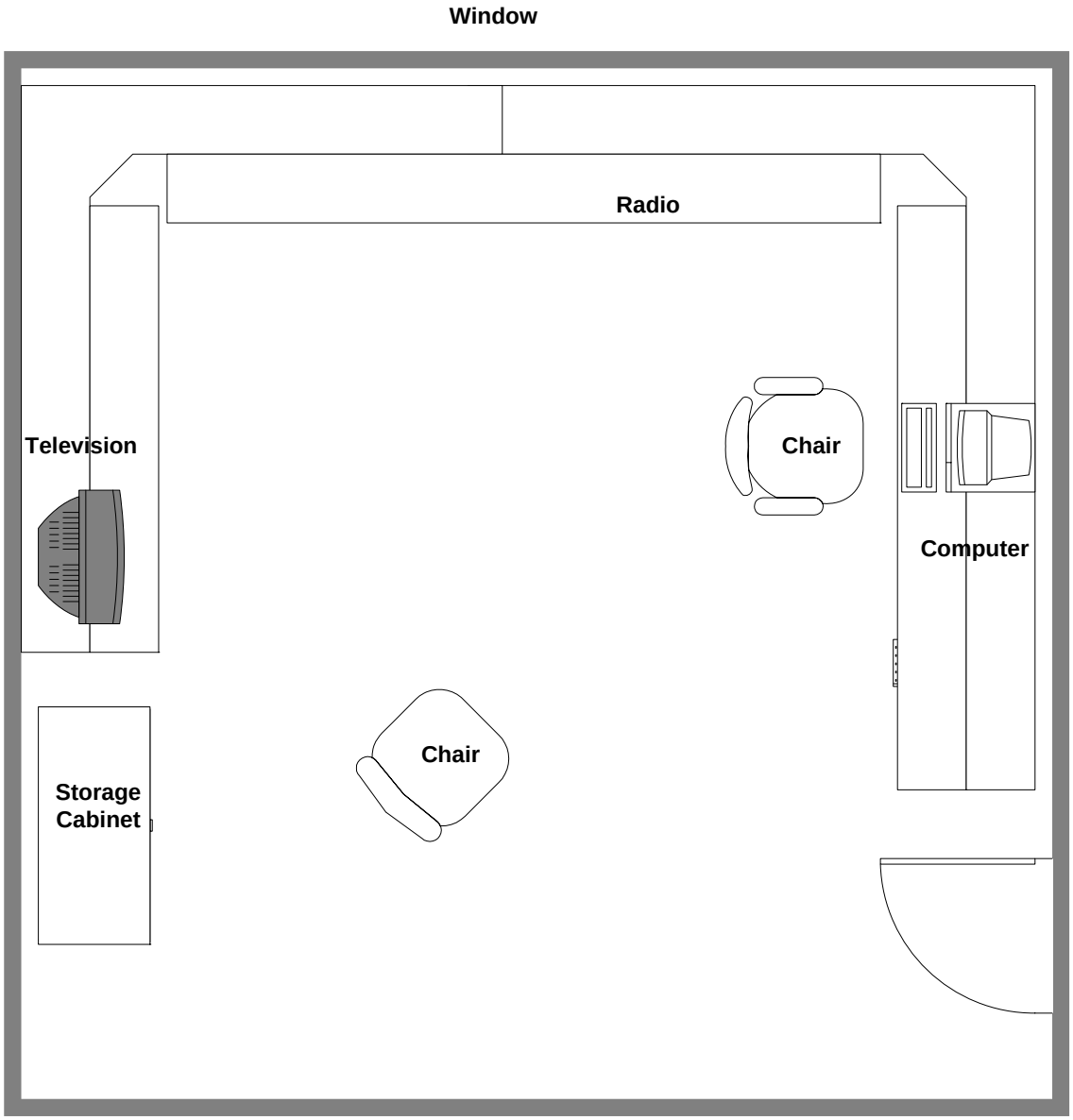

Figure 4.5 Telecommunication's Office used by Edward at the Municipal Police Department.

the WPPD uses its officers to provide relief for the full-time dispatchers so they may be able to periodically leave the dispatch area for breaks, meals, and other activities.

The telecommunications area measures approximately 15 feet by 15 feet (see Figure 4.5). The walls are of sheetrock composition. The floor is carpeted. There are two overhead fluorescent light fixtures that were turned on at the time of the observation. The building, as a whole, was air conditioned and the temperature in the room felt comfortable. The telecommunications area is off the main hallway that provides access to several other offices, the front reception area, and the municipal court room. There is also a window area in the telecommunications that allows visitors to the lobby to interact with the telecommunicator. The window is enclosed in Plexiglass® with a small opening at the bottom.

The furnishings in the room consisted of a wrap-around desk on which was situated the police radio, telephone, computer, and a television. Additionally, there were storage cabinets configured into the desk. In addition to the police radio, there was a secondary radio system situated on top of a storage cabinet that appeared to be a radio system for the county sheriff's department. The radio was turned on but the volume was low. A small television set was located on the section of the telecommunications desk that was opposite from the computer. The television set was turned on and tuned to Fox News. The volume of the television set was low. There were two chairs in the dispatch area.

A police telecommunications center is usually a very active area depending upon the department's activity level. The telecommunications center serves as the focal point

of police communications with pedestrian, telephone, and radio traffic constantly occurring. This level of activity can be distracting to a person engaging in an online training program. During the course of the observation of Edward, it was noted that he was interrupted 21 times including 4 “walk-ins” or pedestrians requesting service or information, 8 telephone calls, 5 radio transmissions or receptions, and 4 police department employees walking into the telecommunications area.

During the observation, Edward was principally engaged in taking the pretest. He was observed to login to WebCT® with no problem while following the instructions in the workbook. He spent several seconds scanning each screen as it appeared. Thisactivity is not atypical of subjects who have never used WebCT® previously. However, Edward indicated that he had never previously been enrolled in an online course.

Edward located the pretest without any noticeable difficulty. Edward began the pretest and it was during this time that the interruptions occurred. Since the interruptions were job-related, Edward responded to each one in a professional manner. Other than his response, the only other action Edward took to alter his environment was to turn down the volume on the television set. Despite the interruptions, Edward appeared to respond to the pretest in a focused and timely manner. Edward scored 13 on the pretest, close to the pretest mean score of 13.77. This suggests that the subject was able to handle the high level of distractions and effectively engage in the pretest.

After completing the pretest, Edward downloaded module 1. However, Edward discovered the computer he was using was not equipped for multimedia play. The computer system for the WPPD is on a network. Therefore, although Edward could not

play the module, he was able to save it to his personal file. After doing this and completing the relief assignment in the telecommunications area, Edward went to another office where there was a computer with multimedia capability. It was discovered that Frank was in this office and beginning to access the training program. Therefore, the observation of Edward was terminated.

Frank

At approximately 12:05 p.m. on June 15, this researcher had the occasion to observe Frank at the West Point Police Department interact with the training program. This researcher met Frank in an office in the police department. According to the sign on the office door, this office is reserved for use by some of the supervisors in the department.

The office measures approximately 12 feet by 12 feet (see Figure 4.6). The walls are of sheetrock composition. The floor is carpeted. There is a single overhead fluorescent light fixture that was turned on at the time of observation. The building, as a whole, was air conditioned and the temperature in the room felt comfortable. The office is off of the main hallway that also provides access to several other offices, the front reception area, and also leads to the municipal court room. There is a door to the office that can be closed for privacy and security.

The furnishings in the room consisted of a wooden desk on which was situated a radio, telephone, and computer. The desk abutted the right wall as you enter the office. There was a four-drawer lateral file cabinet on the opposite wall. Adjacent to the later file

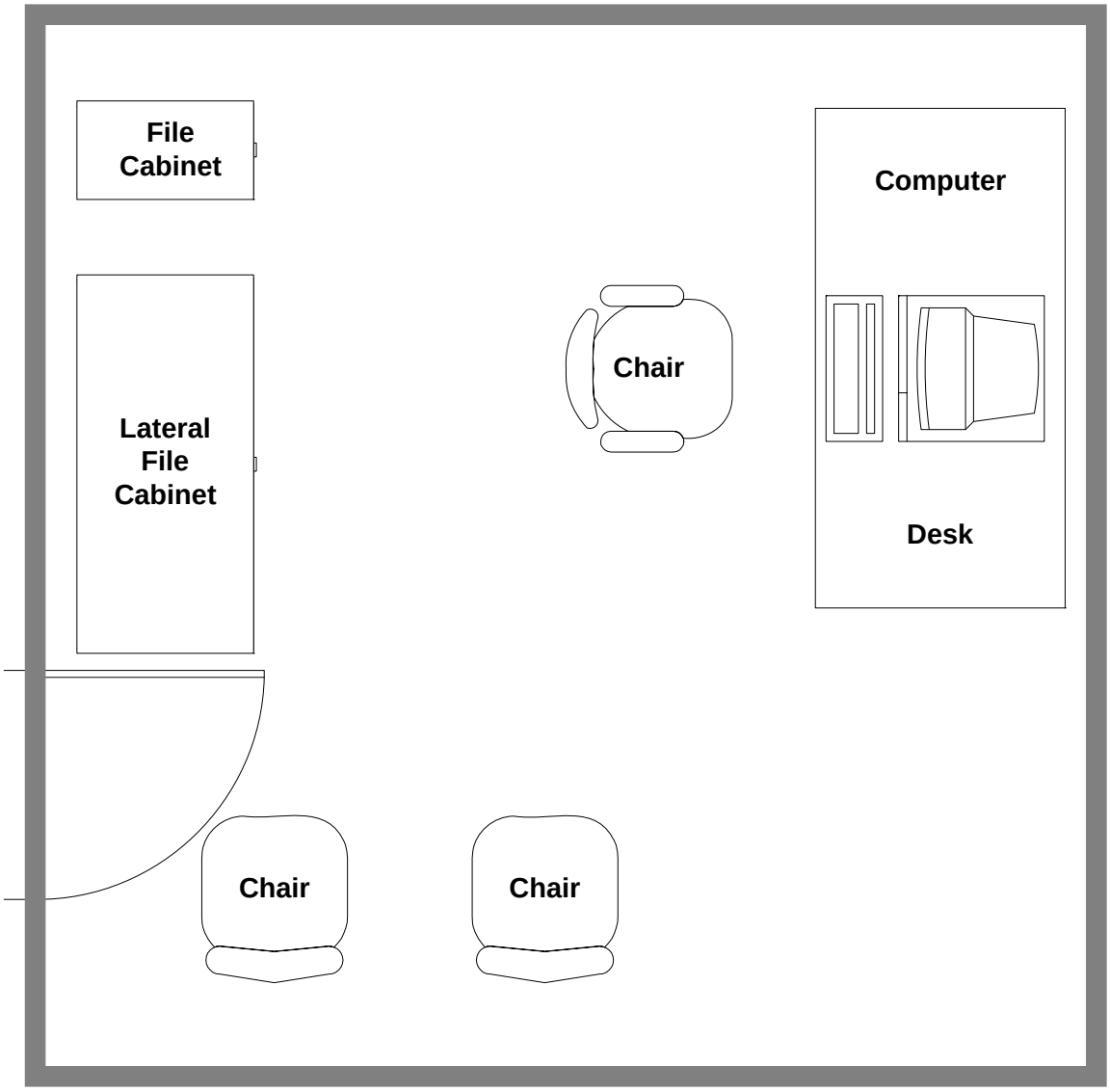

Figure 4.6 Frank's Office at the Municipal Police Department

cabinet was a two-drawer file cabinet. A chair was situated near the desk with two chairs fronting the wall adjacent to the doorway.

Frank seated himself at the desk and began to use the computer to access WebCT®. Frank was observed to have difficulty in accessing the program. He attempted to log in five different times before he was able to access the program. The principle problem was typing the correct web address into the address line of the Internet browser. Although Frank had the information from the workbook that gave the correct web address and the appropriate way to enter it into the address line, he continued to make mistakes. After his first attempt, rather than retyping the address on the address line, he exited from the Internet browser and then clicked on the icon on the "Start" menu to begin the browser again. During the course of attempting to access the WebCT® program, Frank admitted that his computer skills were not good.

Eventually, Frank was able to access the WebCT® program and logged into it. He reviewed the initial page and ascertained how to access the pretest. After he reached the pretest, he paused to make a telephone call that lasted less than a minute. After this, he began taking the pretest. Initially, Frank had problems using the correct procedure to answer the questions in order to ensure they were graded by WebCT®. This researcher observed Frank for several minutes to see if he would notice this problem. Eventually, this researcher pointed out to Frank the correct way to ensure that the answers were submitted to WebCT®.

While taking the pretest, Frank seemed extremely focused on the program. Another officer walked by the office and said hello to Frank. Frank responded to this

greeting but never removed his gaze from the computer and continued working on the test. Distractions for Frank were few. In addition to the other officer greeting Frank, the only other distractions noted were a radio playing music, but on a low volume, and conversation from an adjoining office. None of these distractions seemed to interfere with Frank's interaction with the program.

Upon completing the pretest, Frank submitted the pretest for grading by clicking on the "Finish" icon. This researcher noted an error message that appeared on the screen. To preserve the data, this researcher intervened with the program. However, this researcher could not determine what caused the error. To ensure the preservation of the data, this researcher recorded Frank's answers. Later, it was determined the answers were not submitted to WebCT®. This researcher was able to score Frank's answers, but was unable to record the amount of time Frank spent on the pretest. However, it appeared that Frank took longer than 20 minutes to take the pretest.

After completing the pretest and receiving the error message, Frank had to log out and then back into WebCT®. He began downloading the first video module. This researcher noted that it took approximately three-and-a-half minutes to download this module. This researcher was previously informed that the West Point Police Department computer network was connected to a fiber-optic system. The download time seemed excessive for a system using fiber optics.

Once the module was downloaded, Frank saved it to a file on the computer. He attempted to play it and received an error message. Frank asked for this researcher's assistance in determining why the module would not play. This researcher discovered

that, although the computer the subject was using had multimedia capability, it did not have the program RealPlayer® loaded. Once this researcher pointed this out to Frank, he immediately turned in his workbook to the subject on how to download RealPlayer®. This suggests that he had previewed the workbook and read the section on downloading players.

Frank attempted to download RealPlayer® onto the computer but experienced a problem. He received an error message that indicated that the computer system was protected and would not allow downloads without a password. Frank asked another officer if he knew the password or how to circumvent the protection. The other officer did not but placed a telephone call to City Hall to speak with the network administrator. The network administrator was out to lunch and unavailable.

Frank then inspected the computer to ascertain if it had Windows Media Player®. This is necessary since the supplemental video files require Windows Media Player® to be viewed. Frank downloaded the "60 Minutes – Racial Profiling" video. Once it was downloaded, the computer was able to play the video indicating that it had the Windows Media Player®.

While Frank was downloading the video, he was joined by Edward. After the video started, Frank and Edward watched it together. Both individuals seemed very focused on the video. During the course of observing this video, the Chief of Police walked into the room and watched the video for approximately a minute, then departed. After the Chief of Police left, another officer walked by the office and made a comment to the two officers. In both cases, Frank and Edward did not seem to notice the

distractions and remained focused on the video. At the end of the video, at approximately 12:47 p.m., the observation was terminated. The observation period lasted approximately 42 minutes.

In summary, all participants were able to interact with the training program in an office environment that offered sufficient privacy. No substantial distractions that interfered with the participants while engaging in the program were detected. The computer equipment appeared to be sufficient to access the WebCT program and the peripherals were appropriate for multi-media content.

Interviews

Participants were interviewed and information relative to the research questions identified in the interview results. Information was arranged by research question. The information relative to the research questions were grouped and reviewed.

Research Question #1

Research question #1 asked: "How effective is the delivery system in the presentation of subject matter?" Participants were provided with a workbook that contained information for logging into WebCT® The remaining course material, consisting of video modules, supplemental videos, and handouts, was contained within the WebCT® program. Participants addressed each of these course components during the interviews.

The workbook was developed to serve five purposes: 1) to provide participants with the instructions for participating in and completing the program, 2) to help the

student get started in accessing WebCT®, 3) to introduce the student to the components of the program, 4) to identify the course objectives, and 5) to help the student stay on-task with the program. The consensus from the participants is that the workbook was effective and helpful.

Detailed instructions were included in the workbook including screen captures of the various WebCT screens. The screen captures were obtained with the use of SnagIt® software and printed in color. This provided both a textual and visual reference to instructions for logging into WebCT® and accessing the various modules and supplemental materials.

A theme that emerged from the interviews was that all of the participants found the workbook to be very helpful for providing information for accessing WebCT® and the modules. According to Brad, "I found the workbook real helpful. I found the workbook to be just as helpful as the material I'd get in a face-to-face class." Charles stated, "The workbook was very helpful for logging in."

A further theme that emerged and is relevant to the workbook is how the workbook helped the participants to stay on task with the program. Edward stated, "The workbook was very effective. It helped me to stay on task." Similarly, David stated, "The workbook was easy to follow and helped me stay on task." According to Adam,

> The workbook brought everything in, reading that gave me an idea of what I needed to do once I logged on. I feel the workbook and materials were just as effective as the material I'd receive in a traditional class. Reading the workbook before I logged in gave me a pretty good idea of where I was going and how to

prepare once I got into WebCT®. But it also gave me reference materials that relate specifically to the WebCT® program. Even now, I can go back into the workbook and go back to what was there and refresh my memory and use it for something else later on.

Adam was complimentary of the workbook. He felt that the fill-in-the-blank format helped students stay focused on what information to obtain from the video. He also felt that it could serve as a future reference for officers. Adam felt that this type of training could benefit law enforcement and he envisioned its tremendous potential.

Generally, these comments correspond with the observed usages of the workbook. During the observation periods, four of the participants were observed to use their workbooks. One of the participants who did not have his workbook during the observation period indicated that he preferred to simply watch a module first, then watch it again while following along with the workbook. He felt that it allowed him to take notes more effectively.

The participants with workbooks were observed to meticulously read the instructions and follow the course program. None of the participants who experienced problems initially logging into WebCT® seemed to do so from failure to read and follow the instructions in the workbook. The comments from and observations of the participants suggest that they found the workbooks to be helpful for logging into WebCT®, accessing the modules, and staying on task with the course. The comments and observations further suggest that the workbook issued for the online course is as effective as a workbook issued for a traditional face-to-face course.

The video modules were the core part of the program with all of the objective-driven information delivered through these modules. Although the videos were developed with a "talking head" concept, they also included Powerpoint® slides and short video clips to illustrate key points. Further, the video modules were designed so as not to exceed 20 minutes in length to allow for the participant to watch it while at work. The theme that emerged from the interviews is that the modules were effective, easy to watch, and of an appropriate length.

According to Brad, "I found the video modules helpful." Adam stated, "The information is very relevant. It was structured, but not rigid. It flowed very well and was easy to follow from a law enforcement training point of view. It was easy to follow." Edward commented, "The modules were very accessible. The length of the modules was perfect. I didn't think the modules were too long. It was a decent time." Charles indicated that, "the videos were good." Frank added, "The format of the modules is very interesting."

Adam has previously taken online courses through the University of Phoenix. This allows him the opportunity to compare this training program with those he took through UP. According to Adam,

> I've taken courses at the University of Phoenix before. Their courses were a lot more drawn out and it was really, it was really, it was dry. That's the best way to describe it. But, the course that we took here was, like I said, it was a little more interactive. You had the handouts, you had the downloaded videos. There, a couple of them I took with the University of Phoenix was basically textbook

> reading online. You know, where you fill in blanks and then submitted, you know, electronically as you are doing, taking the course. So, it was really dry and you could really lose your focus quickly unlike the program that you had had sent out, it was, like I said, pretty interactive even though it wasn't interactive but there was enough to say, 'I'm ready to go on to the next page now – I want to see what's going on.' So, it was more interesting, The University of Phoenix, the one that was early on, it was really dry.

The supplemental videos were designed to present the participants with perspectives on the subject matter from an other-than-law-enforcement point-of-view. The responses from the participants suggest that the supplemental videos contributed to the quality of the program. Frank stated, "I feel they added something to the training, you know, showed you stuff that was not in the regular videos." Charles indicated, "That one video (Mississippi State Secrets) sure opened my eyes." According to Brad, "The supplemental videos were real interesting. I had heard about that, but I had never read it. It added to the course. It enlightened me on a few things." Adam stated,

> I liked the supplemental videos, it was, it was, and if I remember correctly, the ones that I watched were the good kind in WebCT that really hammered home the point out of the curriculum itself. So there is a great, you, object lesson I guess you'd say that visual to help you understand exactly what was being talked about prior to that.

Similar to the supplemental videos, the handouts were designed to enhance the learning experience of the participants. The participants' responses suggest that the

inclusion of handouts was beneficial. Adam stated, “The handouts were good too. I printed them actually and put them in a file with that heading so I’d be able to refer back to them.” According to Brad, “The handouts were pretty good because it would stop and explain it to you. I can remember thinking it showed you what the guy did wrong.” Charles indicated that he found the handouts to be “useful.”

In summary, the participants found the use of distance education technology as a means of presenting training information to be effective. The workbook was especially helpful as a starting point and guide for the participants. The video modules were found to be effective, particularly when one participant compared it to his previous experiences through the University of Phoenix. The supplemental videos were useful in providing a non-law enforcement perspective on the subject matter. The handouts were helpful as supplemental materials to the video modules.

Research Question #2

Research question #2 asks, “How do student law enforcement officers perceive the physical characteristics of the distance education delivery system and how do they compare with the physical characteristics of the in-class training that law enforcement officers have previously received?” The classroom environment is the end-product of a collaborative effort between instructor and learner. In a traditional classroom, physical devices such as the chalkboard, screen, overhead projector, video player, and handouts are the principal means in which information is conveyed. In an online learning environment, the instructor manages these devices through a series of software programs such as WebCT®, Blackboard®, Microsoft Office® products, and media products. The

instructor can customize these devices to control variables such as how much information is shared and how much interaction is required.

The environment of the traditional classroom, including the carpet, chairs, paint color, lighting, temperature, sound, and smell, affects the student's comfort level that plays a role in learning. Generally, in an online environment, these factors are outside of the control of the course designer. Nevertheless, these variables are still crucial for determining a student's comfort level that contributes to his or her motivation to engage in the online program and learn.

A number of themes relating to the physical characteristics were discerned during the interviews. One such theme was the ease with which the participants could access the WebCT® program and move through the modules. Consistently, the participants found that this was very easy to do. According to Adam, "I had no problem logging in. It was not hard at all to navigate around." Charles stated that "It was very user friendly." Edward indicated "It was very easy. The instructions were very self-explanatory. It was very easy to navigate through the modules." These comments were made despite none of the participants having previous experience in working with WebCT®. Brad commented "This was my first time using WebCT®. I had no problems with it at all."

Some of these comments were interesting given that some of the participants did seem to experience problems initially when accessing WebCT®. For example, Frank initially had trouble logging into WebCT®. It was noted that his problem was caused by his keying in the incorrect web address. Additionally, when Frank attempted to download and view a video, he encountered a problem with his computer not having the latest

version of RealPlayer®. However, both of these problems were easily overcome and apparently Frank did not feel they detracted from the learning environment. Indeed, Frank commented that, "The software, once we got past the initial problem, it was easy to use. Once we got past the initial 'getting me logged in' problem, I didn't have any problem using it.

Edward also had an initial problem with his computer in that it was not equipped for multimedia use. Edward had to move to another office and use a different computer. Similarly, David experienced a problem logging initially. David was attempting to access WebCT® through Internet Explorer. Eventually, David switched to Netscape® and was able to access the program. Their comments regarding the ease of use of the program suggest that they do not view these issues as major problems that detracted from the learning environment. A major contributing factor that is believed that contributed to the ease at which the participants was able to access WebCT® and navigate through the modules was the comprehensive workbook that the instructor designed and disseminated. The use of the videos with their "talking head" approach and inclusion of Powerpoint® slides and short videos replace the tradition instructor standing in front of the classroom using the same tools. The interviews suggest that these characteristics of an online classroom work just as well as the traditional classroom. Frank indicated,

> The videos were good. The only thing I didn't like about them was that you couldn't pause them. If you stopped them, you had to start all over again. You would have to go back to the beginning and you couldn't fast-forward. Other than that, it was okay.

Frank's comments indicate a favorable response to the video modules, but also reflect his lack of knowledge in the use of this technology. With either RealPlayer® or Windows Media Player®, a video may be paused, fast-forwarded, or rewound. These comments suggest a lack of knowledge on Frank's part regarding the operation of these applications and suggest that this should be addressed in future online training.

During his interview, Charles stated that he was impressed with the use of the video modules and interested in learning how to do video work similar to that contained in this program. Charles indicated that he felt the use of this technology works just as well in the work environment as a traditional class. During the interview, Charles outlined an idea for a project for his department that would require the use of making and editing videos.

Indeed, other participants envisioned how this type of training would perform just as well in the work environment as sitting in a traditional classroom. Adam believed that training modules of this type would be beneficial as roll-call training. With the length of each video being between 16 and 20 minutes, Adam felt that this fit well with roll-call training. Adam explained that law enforcement officers assigned to patrol shifts typically meet before assuming their shifts to receive information relative to their patrol activities or discuss other issues of interest. This type of meeting typically lasts between 10 and 20 minutes. Adam stated that this type of meeting is frequently referred to as "roll-call, line-up, or muster." Adam further stated that roll-call training refers to "short intervals of training activity that can be presented during this short meeting."

Commensurate with the effectiveness of the modules are the computers used by the participants to engage in the training. The computers are the medium through which the training is presented and serve as the chalkboard, movie screen, flipchart, and lectern from which the information is obtained. It is crucial that participants have a computer that has sufficient memory, processing speed, and multimedia capability.

According to Edward, "The computer was very fast which was good for downloading and viewing the videos. We update our computers around here a little, but as far as what we had to listen to, it was effective." Frank stated, "The computer was fast enough and had all the necessary peripherals." Adam added, "The computer was powerful enough to operate the software and the modules downloaded in a reasonable amount of time. The computer had all of the necessary peripherals." David stated, "My department is pretty good about keeping its computer up-to-date. We get new ones every two to three years, so it wasn't hard to do this program with our computers."

Charles was the only participant that indicated that he had a problem with his computer. According to Charles,

> My computer wouldn't load the videos as fast. That was my personal computer. Now, the computer at the office, it spit them out real well, But my computer at home, it was just a little bit slower-paced computer. If my computer had been faster, it would have been a lot easier to download the modules. But it was very accessible on an up-to-date computer.

The theme that emerged from this portion of the interview is the necessity of having an up-to-date computer with sufficient memory, processing speed, and multimedia

capability. In addition to the problems that Charles encountered with his personal computer, Edward experienced a problem with a computer that had no multimedia capability and had to find another computer with such capability. It is apparent that failure to have a computer with sufficient memory, processing speed, and multimedia capability results in significant increase in the download time for video modules, inability to play modules, or inability to listen to the audio.

The environment in which the computer is operated by the distance learner frequently lacks the structure that is found in a traditional classroom. This makes the distance learner more vulnerable to distractions that may interfere with learning. However, a theme that was discerned is that there were no sufficient distractions that interfered with learning and any possible distractions could be controlled.

Edward and Frank both indicated that there were no noticeable distractions when they participated in the training. David indicated, “I didn’t find anything distracting when I worked on the course.” According to Brad, “I didn’t get any interruptions. There was no noise from outside of me. The thing that I liked least was that if I had something to do, I’d stop and do that first.” Charles stated,

> I didn’t have any distractions because I mainly worked on it at nights. If I had been in the daytime, I would have. I would have had telephone calls and things like that, but at night, I had very little distractions.

According to Adam,

> It was easy to stay on task as long as I had set aside the time to go to, log onto, to log on. If I just randomly clicked on during the day, I was going to be interrupted.

> But, say if I'd set aside, say on my lunch hour – answer no phones – set aside 30 minutes, 45 minutes, whatever I had for that day, it was very convenient. The phone is the main thing and the biggest distraction. Being at a time when you didn't have to answer the phone and where it wouldn't be critical that you didn't have to be on the phone. Other than that, it was just the foot traffic, which was easy to control – just shut the door. The phone was the biggest distraction. When I worked on the program, I'd just let the phone ring. We have voice mail and if it was important, they'd just call back.

The results of the interviews seemed corroborated by the observations. Few distractions were noted and the participants seemed to effectively ignore them.

In summary, several themes emerged from the interviews relative to research question #1. First, the participants found it easy to access the WebCT® program and navigate through the various modules, handouts, and supplemental videos. Second, the use of pre-recorded video modules compared to a live instructor is no less effective. Third, the modules were effective, easy to watch, and of an appropriate length. Fourth, it is crucial that participants have a computer that has sufficient memory, processing speed, and multimedia capability in order to effectively access and participate in the program. Finally, there were no sufficient distractions that interfered with learning and any possible distractions could be controlled.

Research Question #3

Research question #3 asked: "What is the amount and type of interaction between the student law enforcement officer and the presentation and the with other law

enforcement officers who may be present at the time the student law enforcement officer interacts with the presentation?" Interaction in a learning environment focuses on the relationship between the technology, the instructor, and the learner. In an online learning environment, the instructor and students share responsibility for interaction. Instructors must design interaction into an online course and students must assume responsibility for requesting clarification and feedback through online communication tools as well as participating in online activities.

Several themes related to interaction between the participants and the program and fellow students and instructor were discerned through the interviews. The first theme is that the participants do not feel that it is necessary to experience face-to-face interaction with the instructor for learning to occur. According to Edward,

> Well, that (not having an instructor) comes up, but I think it, ultimately you would just, if it's more than just you dealing with the course, I think you can interact with fellow officers. You can get a better understanding if you have a question come about because it's going to come about no matter if you are in there or out here, but if you are interacting with officers, you are working with on this same question that you have, then it will basically give you an understanding of what you are dealing with at that point.

Brad stated, "It seems that if you put all of the information in there and you cover everything, you wouldn't have any questions for the instructor." Charles commented, "The workbook answered a lot of my questions, so I didn't have any, I didn't feel I had anything I needed to ask the instructor." David indicated,

I think it depends upon what you are doing. I mean it could be a problem if you are doing something tough. But you know, if you've got somebody you can call that can maybe walk you through it, you know, not have to be present but, you know, somebody you can touch base with, that would be okay.

Frank said,

I think the job of the instructor is to make sure the students know what to do, you know, give them the information and assignments. I guess it doesn't really matter how they do. They can do it in the classroom with the students sitting there or they can do it like you did it, with a workbook and the information online. As long as students know something about using a computer, that would work.

Another theme that emerged is that even after the participants experienced an online course, they were still not certain they would be comfortable in learning without some type of face-to-face interaction or that some courses could effectively be presented without some type of face-to-face interaction. According to Adam,

I, of course, like the face-to-face, but I know that there are certain circumstances where you just don't have the luxury, or you need to get information out that you just don't have the time or the budget to be able to do face-to-face. I think we have to be careful as to the subjects that we do with online training because there are a lot of questions or a lot of misconceptions that might be left with the student without that ability to do question-and-answer type period. But I think it's very important but I just think we have to balance it between the subjects you need to have face-to-face versus those that don't need face-to-face.

Frank indicated,

> I think that face-to-face would help, especially if you're there with someone that knew what they were doing. They could answer your questions because there might be questions that I may not think of that somebody else could think of and you could kick ideas back and forth like that.

David commented, "Although I liked taking the online course, it felt different. I guess I'm use to being in classes with other officers." Charles declared, "It was interesting, but it was different not having anybody else there." However, one participant felt very comfortable with the absence of traditional face-to-face interaction. Brad stated, "I liked not having any other students around. I could move at my own pace."

Still another theme that was recognized was that the participants recognize that some type of interaction is possible with online courses. Edward stated, "Using e-mail was an effective way to interact. I do it every day now." David indicated, "I saw the chat room feature with WebCT®. That seems like a good way to talk online to others if you have questions." According to Adam,

> Well, again, I'm kind of stuck in that traditional aspect, you know, where you need to have that debate, I guess, that occurs. I know there are ways and we are progressing towards where there's some more, a little bit more immediate feedback, you know, with web training, where you can actually ask questions in a chat room or, you know, that type of thing.

Charles commented, "Even though this was an online course, I knew that 'David' was taking the course also. So, sometimes we'd talk about it and if I had a question or he

had a question, we'd talk about it." Frank said, "I felt that if I had any questions or problems, I could e-mail you or one of the other students. I think it is a good tool and for certain topics, I think it is a very good especially with the message board" Brad stated,

> Working at the University, you get to learn a lot about computers. We also do online messaging here so you know how to get in touch with others using the computer. I guess you can do that same sort of thing with an online course, using instant messaging or e-mail or something along those lines.

A final theme that emerged is that despite concerns for face-to-face interaction, the participants believed that the subject of racial profiling was appropriate for an online training course. Frank stated, "With certain topics, I would prefer face-to-face classes. But with certain topics, such as this, I think computer-based would do well. I feel that the topic of Racial Profiling is important for law enforcement officers to learn" Charles indicated, "I think this course needed to be presented, period. But online was great." Brad said, "This was a good class. I think all officers should be required to take it and with it being online, there's no excuse not to take it." According to Adam,

> I don't know if this class would have been any more interesting or less. I think there may be some conversation that may stem from this class or any other class that you would miss on WebCT®. But this particular subject was able to be covered quite well through WebCT®. The thing I liked least about the program and I guess it's a personal preference, I think it's just that I wanted someone to talk to sometimes. Not specifically in this particular program, but it just made me feel that I was all alone with my computer.

David stated, “I wasn’t sure I was going to like this course. But the way you presented it, it was actually pretty interesting. Especially the extra videos and handouts and stuff.” Edward commented, “I feel that this was an appropriate topic to present with this technology.”

In summary, several themes emerged from the interviews relative to research question #3. First, the participants do not feel that it is necessary to experience face-to-face interaction with the instructor for learning to occur. Second, is that even after the participants experienced an online course, they were still not certain they would be comfortable in learning without some type of face-to-face interaction or that some subjects could effectively be presented without some type of face-to-face interaction. Third, is that the participants recognize that some type of interaction is possible with online courses. Finally, despite concerns for face-to-face interaction, the participants believed that the subject of racial profiling was appropriate for an online training course.

Research Question #4

Learning effectiveness usually focuses on learning outcomes. Key to this research question is the participants’ perceptions of whether they felt they learned from this program and how that learning compared with their perceptions of learning in a face-to-face environment. Also, key to the research question is the supervisor’s perceptions of the effectiveness of the training upon their subordinates.

Several themes relevant to the participant’s perceived effectiveness of the distance learning program emerged from the interviews. One theme was that the participants

found the use of the online program to be very convenient. Frank stated, "It was convenient learning." Adam indicated,

> I like it a lot, because, like I said, you can sometimes get tied down and just don't have the chance to get out for classes, so you can always click onto some type of WebCT® type of training and get stuff quickly and even use it to teach your own classes.

Brad commented,

> I liked it because you could do it at your own pace. It was real easy to stay on task. It seems like I moved through it pretty fast. I liked that you could go back to it, you know when you had a problem or something, you could go back to it. If somebody was teaching it, you would have to try to focus on them and listen to them.

Charles said, "It was real convenient. I could come in at the beginning of my shift and log on and spend a few minutes doing it. Then, if I got a call, I could always come back to it." David stated,

> This type of training has a lot of potential since it's hard for many officers to get to go to training working shifts and court and all. If a course is offered online, all someone has to do is get to a computer, log on, and do the course. That can be done from almost anywhere. I mean, it's real convenient, real accessible.

Edward said, "I think it's very good, very economic to where you don't have to do a lot of moving about. You just log on in your free time and you can get most of your course done easily."

A second theme focuses on how effective this online program is compared to a face-to-face course. The participants feel that this course is at least as effective as a traditionally presented course and, in some ways, more effective. According to Brad,

> I like sitting at the computer better than in the classroom. I don't know how you'd compare them. There's no comparison to it. It's 10 times better to be at your own computer than having to, you know, go and sit and after you finish a class, you have to return back home and things like that.

Edward stated,

> I think it is more effective because you have more one-on-one with the reading and listening to, that as you go along where you have more one-on-one so if you have to repeat it, listen to what you just heard, you get a better understanding.

Adam indicated,

> On a scale of 1 to 10 in terms of quality of training that I've had, I'd rate this about a 7. The two things I liked best about this course was the convenience and secondly, it was presented in a way that was interesting. I mean, there was actually, you were actually willing, when you clicked off, you were ready to come back to it, you know when time allowed. It wasn't like, "oh my gosh, I've got to do this again." It flowed very well, the information was there, and it kept your attention.

Charles commented,

> I liked learning with the computer much better than in the classroom. You're self-motivated, self-paced. You get to pace yourself, you can learn at your own pace.

> You can restart it and rewatch things if you need to, where you can't ask the professor to rewind every time you wanted to go back and look at something again. I feel that this technology is good for law enforcement.

Frank said,

> This was my first time doing this. I think it was just as effective as the training that I've gotten in regular classes. I mean, the information was the same and I learned it just as well as I do in regular classes. The movies were good and I could watch them, see the movies when I had the time to do. You don't get that in a regular class where you have to be there at a, by a certain time and stay a certain time.

David indicated,

> This was good. This was real interesting. It is, like, in a lot of ways, like a regular class. You had the workbook and handouts like a regular class. You got to watch the instructor like you would in a regular class. You also had the extra videos like you would get in a regular class. But I like that you could, you could do it, watch it when you were ready to.

A third theme addressed the expectations of the participants with this course and if those expectations were the same for a face-to-face course. The participants indicate that their expectations for this course were met. According to Adam,

> Everything was pretty specific and to the point and did everything that we wanted it to do here. Knowing the subject matter from having taking it before when I was in Arizona, everything was what I expected there and the content was what I

expected. I think the first thing that caught my eye was the amount of time over it. But again, I think it was just a misconception when you looked at it that, "oh my goodness, this looks like it's going to take forever," but in fact it didn't. The content was very much what I expected and everything else was just fine.

David said,

> I really liked it. I wasn't sure what it was going to be, you know, what it was like. I mean, I don't know that much about computers. We do reports and stuff like that around here on the computer and I use it to look at the Internet, you know. But I wasn't sure what it was going to be. But it turned out to be different than what I thought, I mean I wasn't sure what I thought, but it was different and okay.

Brad stated, "This was my first online course. I enjoyed it. It was pretty useful and relevant. I'm not sure what I expected, but it was helpful." Edward commented, "Well I really didn't have much expectation. This was my first online course, but it was pretty much interesting where I would do it again." Frank indicated, "I have had other computer course training, so I expected pretty much the same thing that I had then. But this course was different. This was good. I'd consider taking another online course again."

Charles' expectations were focused more on the perspective of younger officers who seem to be more technology-oriented than older officers. According to Charles,

> For the younger generation of law enforcement, it is very effective. I don't mean that with any disrespect at all. I think it's just the technology thing, the younger ones are more successful, more susceptible to that, where the older ones don't

want anything to do with a computer. Some of them, some of them. But for younger officers, I believe this course, I think they would like this course and others like it. They would find this course is good and they would like doing it on the computer.

Several of the participants are law enforcement instructors and the final theme focused on their perceptions on how distance education technology could be an effective means for presenting some of the courses that they instruct. The participants who are instructors felt that distance education technology would be an effective means for presenting some of the courses that they instruct. Edward stated, "I would say T-CAP, I would say gang-related training, and I would say drug interdiction are good courses for this type of training."

Brad stated, "I'm a Pepper Spray instructor and I feel I could do the course portion online. Then all we would have to do is the practical. It would save me some time." Adam indicated,

I mentioned investigations. There are so many of them. Basic approaches to crime scene management, you know, the preliminary investigation of sex crimes, you know, I could name off a whole bunch of stuff with the investigations that could be done without having to go, where you really don't even go out and do any practical exercises. It's basically classroom, you know, type of setting that could be handled on WebCT® that would still be available as a reference later on.

Another component of research question #4 is the supervisor's perceptions of the effectiveness of the online training course. The six officers who were selected for

observations and interviews are from small agencies that have less than 25 officers or deputies each. In providing law enforcement services on a 24 hour-a-day basis everyday, these officers or deputies work regularly without direct supervision. Therefore, the chief of police (Chief) for the municipal police department and chief deputy (Captain) for the sheriff's department were interviewed. Further, this researcher served as the chief of police for the university police departments at the time the research was conducted and provided his perspective on the effectiveness of the training. In conducting the interviews, two themes emerged as principle concerns. These themes focused on the effectiveness of the training and the cost of the training.

Regarding the effectiveness of the training, all supervisors desired that their officers or deputies benefit from the training. According to the Chief, "We have to meet mandatory training requirements that deputies and highway patrolmen do not. However, we usually exceed that. We give our officers at least 40 hours a year, but we want the 40 hours to be worthwhile training." The Captain stated, "It's hard to get training around here. We usually have to send them off somewhere. Right now, we send them to Meridian or Pearl for most of their training. So, it's important that we get our money's worth."

According to this researcher,

> It's important that university police officers receive frequent and high-quality training. Typically, university police officers do not engage in the same frequency of the investigative or enforcement activities that traditional agencies do. Yet, if a major crime occurs on campus, we're expected to handle it in the same manner as

a competent, traditional agency. Additionally, university police conduct their law enforcement activities in a unique environment. It is a combination of essentially juveniles and professionals. It's a very vulnerable population with high expectations. All of this makes it mandatory that university police officers continuously engage in training to upgrade and refresh their skills.

All of the supervisors indicated that their perception of the effectiveness of the online training program on their subordinates is based upon comments they've received from their subordinates who participated in the training. The supervisors agree that in order to determine the effectiveness of the training, it would have to result in a positive behavior change. According to the Chief, "In a small department, training is so important. You don't have the luxury of keeping people in training all the time, so when they go, it has to be good." Since the interviews with the supervisors occurred soon after the completion of the course by the participants, the supervisors did not believe they could comment on the effectiveness of training based upon participant performance in the field.

However, the general consensus is that the supervisors believed that the participants benefited from the training. According to the Captain, "They said they enjoyed it and it was worthwhile." The Chief indicated that he was impressed with the comments he received from his officers and intended to explore additional online training options for his officers. The Chief said, "I'd like to see if mine (officers) can get Constitutional law updates, state law updates, and many of them need to go to basic report-writing." The Chief indicated that it is important that officers received this type of training, particularly to prepare them for promotion. In referring to training preparing

officers for promotion, the Chief said, “A lot of police chiefs get on these people and won’t promote them” if they do not have the proper training and skills.

This researcher indicated,

> All of my officers participating in this study indicated how much they benefited from this training. One indicated that he had heard of some of the atrocities committed based upon race during 1950s/1960s-era Mississippi but had not learned of it first-hand until he viewed one of the supplemental videos contained in this course. This officer also indicated that he learned where he had been making traffic stops and approaches improperly. Further, he felt that other officers in the department could learn from this information. The other officer participating in the study is an experienced law enforcement trainer having worked in a police academy setting in Arizona. Additionally, he has taken an online course at the University of Phoenix. That officer rated this course high and felt it was much better than what the University of Phoenix offered. He also felt it offered great potential as a delivery system for law enforcement training.

The issue of cost-effective is also addressed through interviews with supervisors. A couple of themes were discerned as a result of the interviews. The first theme was oriented towards the technology used to facilitate the online course. According to the Chief, his department purchases, on average, two new computers a year. The Chief estimates the cost of each computer to be approximately $800 each for a total of $1,600. However, the Chief is uncertain what the costs are for Internet access. This is because the city owns the fiber system and the costs for the system are incurred by the city rather than

the police department. However, it is a high-speed system and at one point, according to the Chief, the city actually offered commercial Internet access service. However, it was legally challenged by local businesses and eventually dropped the commercial aspects of its service. This information was corroborated during the observation period. With the exception of the computer in the dispatcher area missing its speakers, the computers observed appeared to be up-to-date.

Similarly, according to the Captain, the sheriff's department periodically updates its computers to ensure that they are up-to-date in terms of memory and processor speed. According to the Captain, in Fiscal Year 2005, the sheriff's department spent between $8,000 and $10,000 on new computers. However, this replaced all of the computers within the sheriff's department. None had been replaced in recent years. The Captain stated that the county also provides Internet capability to the sheriff's department. This system has existed for approximately four years. The costs for the system are incurred by the county and are not passed on to the sheriff's department.

The researcher indicated that his departments maintained their computers so that they have large enough memories and fast enough processor speeds to access multimedia. This researcher found it difficult to estimate an annual expenditure on computers since computers are not replaced on a regular basis but only when they become obsolete. However, computers are updated with more memory, faster processors, and/or larger hard drives at least biennially, so costs are less than for replacement of the entire system. This researcher estimates this cost to be less than $1,000 annually. Additionally, Internet

access is provided through the university's network. No cost is assessed to the university police department for this service.

The second theme related to actual costs spent on training. For Fiscal Year 2006, the Chief budgeted $10,000 for his department's training expenses. He estimates that most of that fund is spent on travel expenses with only a small portion related to the course registration fees. According to the Chief, with these funds, "They can go to a training center, the U.S. Attorney's Office, the RCTA Center; there's a lot of different places they can go to get this training. You can go to an academy when they are offering courses." The Chief also indicates that this training fund does not include vehicle costs for travel. If the training location is within a reasonable driving distance, officers are allowed to drive a departmental vehicle and use a credit card for gasoline that is charged to a different fund. Therefore, travel expenses related to training is supplemental by another operational budget account that covers vehicle expenses.

This situation is also experienced by the sheriff's department and the university police department. According to the Captain, the sheriff's department budgets $8,000 annually for training costs. The Captain stated, "This allows us to send eight different deputies off to eight different schools each year." These 8 deputies represent less that one-half of the sheriff's department's 20 deputies. The university police department budgets $15,000 annually for training costs. However, some of these funds are used to send newly employed officers to the police academy. Therefore, approximately $9,000 is available to send officers to advance training courses. To maximize travel expenses, the university police department sends at least two officers to every advanced training

school. Officers are expected to travel and room together. Despite this effort, there is still a limit on the number of officers that may attend advanced training.

Neither the municipal police department nor the sheriff's department has explored options for acquiring online training despite their up-to-date technology and the increasing number of agencies and organizations offering online training for law enforcement agencies. An interesting fact uncovered during the interviews is that all agencies expect their officer/deputies to have computer skills that will allow, among other things, their ability to participate in online training. The municipal police department inquires of a candidate's computer skills during the employment interview.

According to the Chief, new officers must be able to operate the department's Computer Aided Dispatch system or "we don't need them." The sheriff's department does not specifically inquire of a candidate's computer skills, however, the Captain assumes that "most kids going though school now have some type of keyboarding skill and our software is real easy to use." While neither the Chief nor the Captain have explored online training options for their officers or deputies before this study, both indicated that they would do so in the near future.

The university police departments have taken the greatest steps toward preparing its officers to engage in online training. These steps were taken based upon the researcher's role as Chief of Police. A media room has been established in the researcher's former department to allow for the development of training videos that may be "pushed" online. Indeed, this is where the videos used in this study were developed. Additionally, technology has been obtained that allows for developers to capture

programs on videotape and convert them to digital files for inclusion into training programs. Thus, even older video training programs as well as video-recorded news stories, TV specials, or video interviews may be converted into training modules. Indeed, since the data collection portion of this study was completed, some of the participants in this study who are members of the university police department have used the media room and technology to begin developing their own online training programs.

In summary, several themes emerged from the interviews relative to research question #4. First, the participants found the use of the online program to be very convenient. Second, the participants were still not certain they would be comfortable in learning without some type of face-to-face interaction or that some courses could effectively be presented without some type of face-to-face interaction. Third, the participants feel that this course is at least as effective as a traditionally presented course and, in some ways, more effective. Fourth, the participants indicate that their expectations for this course were met. Fifth, the participants who are instructors felt that distance education technology would be an effective means for presenting some of the courses that they instruct.

In the interviews with the supervisors, three themes emerged. First, the supervisors believed that the participants benefited from the training. The second theme was oriented towards the technology used to facilitate the online course. All of the supervisors indicate that their departments have up-to-date technology that allows them to engage in online learning. This technology is updated in some form on a regular basis and the cost for updating this technology is far less, on an annual basis, than the costs

associated with officer/deputy training. The third theme related to actual costs spent on training by each department. The training budgets of these departments range from a low of $8,000 to a high of $15,000. The bulk of these funds are spent on travel expenses rather than course registration fees. Further, since vehicle travel is frequently used to transport officers or deputies to training schools, some travel costs associated with training are hidden in other budgets. All supervisors agree that online training can increase training opportunities for their officers or deputies without requiring an increase in training budgets. All supervisions stated their commitment to explore future online training opportunities for their officers or deputies.

Document Analysis

Documentation relating to the surveys completed by the participants and training budget reports of the departments were analyzed. Information was arranged by research question. The information relative to the research questions were grouped and reviewed.

Surveys

For survey questions 1 – 11, participants were offered the opportunity to make comments in addition to indicating a response on a Likert-type scale. Additionally, participants were afforded the opportunity to comment on the environment in which they participated in this study, what they liked best about the online learning experience, and what they liked least. Several participants chose to make comments. The nature of the WebCT® survey feature ensured anonymity for the respondents. Therefore, it is not possible to identify the participant for follow-up information.

Research Question #1

Research question #1 examines how effective is the delivery system in the presentation of subject matter. Two themes emerged from the survey comments. The first theme that was discerned is that the participants felt that the materials they received for this course were just as effective as materials that they would receive in a traditional class. One participant commented, "I retained this material just as much as I would in a classroom environment. If there was a question that you needed repeating, just rewind and listen again." Another participant indicated,

> Great class! I believe that I got just as much out of it as if I had actually been in a classroom listening to a speaker. The good thing about it is that I could do it at my own pace.

Other comments included, "Everything was taught" and "The workbook was easy to follow."

The second theme that emerged was that participants' perceptions on the characteristics of distance education technology are that it is an effective means for delivering law enforcement training. For example, some participants indicated that the technology itself was effective with comments such as, "I enjoy not having to listen to lectures" and "It helps with time issues." One participant who prefers the traditional classroom even admitted that, "This is an effective system for training officers." However, some participants do recognize the limitations of courses that may effectively be taught with distance education technology. One participant commented, "It depends on what subject is being taught. Some law enforcement subjects are better taught with

hands-on examples." Another indicated, "This would work fine for a lot of courses, but it wouldn't work for driving or firearms."

In summary, the comments from the surveys suggest that the use of online technology as an effective means for delivering training material. Two themes emerged from the comments. The first is that the participants felt that the materials they received for this course were just as effective as materials that they would receive in a traditional class. The second is that the participants' perceptions on the characteristics of distance education technology are that it is an effective means for delivering law enforcement training.

Research Question #2

Research question #2 asks, "How do student law enforcement officers feel about the physical characteristics of the distance education delivery system and how do they compare with the physical characteristics of in-class training that officers have previously received? In essence, it assesses the environments in which these two different learning methodologies exist. The first theme that emerged from the majority of the responses indicates that the participants found the WebCT® program easy to learn. For example, one respondent commented, "I enjoyed the ease of the software and the information received – great videos!" Other respondents' comments included, "Not having a time limit on this does not put a lot of pressure on me and allows me to relax and learn," "The courses were easily learned and well-presented," and "Very informative." However, one respondent expressed his or her concern with this issue by commenting, "Because it is less structured, it became a little more difficult to stay focused on course material."

Another theme that is not so clear concerns the ease with which the participants were able to navigate through the computer environment. Some participants indicated that they were able to logon and navigate through the program with few problems. Comments from these participants included, “Easy to log on, easy to use,” “Very easy, everything was step-by-step,” “Was very easy,” and “Course was easy.” However, some participants reported difficulty with logon and/or navigation through the program. Comments from these participants includes, “Once it did freeze and I had to wait three hours to log back on,” “Login was easy, however, gaining access to the training videos sometimes took a little longer to get access to,” “It was tough at first,” and “Lots of trouble trying to logon.”

A follow-up question to this asked participants if they felt they would have less trouble navigating through the computer environment if they were allowed to spend more time working with it. There were just a few comments, but they included, “It would be easier to learn if a person didn’t have to view the information while on shift or when time just doesn’t permit,” “Unless there is time set aside to complete the course, WebCT® allows too many opportunities for disruptions,” and “The courses would have been achieved better for myself had I been able to sit down and pay full attention to the videos rather than stopping and restarting due to a call for service.” Other comments derived from the general question regarding environment assessment were, “Course is extremely difficulty to complete during normal scheduled work hours” and

I took this online course in our patrol room. There are a lot of distractions and the noise is a bit much. But all of that being said, I really enjoyed this class and hope to participate in more online learning.

Finally, in response to the question about what the participants liked least about the course, some participants indicated, "The time it consumed," "Nothing other than having to answer the phone or radio," and "I felt that I was on a timeline to finish and sometimes I had trouble finding time to sit down and take the course." The theme derived from these comments suggests that, for some participants, time-management and disruptions are major issues.

The third theme is that participants found the workbook and the instructions contained therein to be very useful and helpful. Comments from the participants included "Instructions were simple," "WebCT® appears to be a very good way to access training that is not readily available otherwise," "The workbooks guided us with ease," "Very plain and easy to understand," "Very plain instructions," and "Once logged on, the instructions were very easy to follow."

In summary, several themes emerged from the survey comments that relate to the differences in the physical characteristics between the traditional and online learning environments. First, the majority of the participants found the WebCT® program easy to learn. Second, it was not as clear as to how easy the participants were able to navigate through the computer environment. A peripheral theme to this suggests that, for some participants, time-management and disruptions are major issues. A final theme is that the

workbook and the instructions contained therein were found by the participants to be very useful and helpful.

Research Question #3

Research question #3 addresses the issue of interaction in a distance education course. No specific responses were identified from the survey comments that addressed this issue. However, a couple of participants indicated their preference for the traditional classroom with comments such as "It's really up to the officer and what they prefer. I know several that prefer the computer and some, like myself, that prefer the classroom" and "I just do not like using the computer for online learning. I prefer the classroom." However, there were no clarifying comments to indicate why these participants had such a preference for the traditional classroom. Therefore, no discernable themes emerged for this research question from these comments.

Research Question #4

Research question #4 investigates the student law enforcement officers' opinions about the learning effectiveness of the distance learning presentation and how it compares with the effectiveness of in-class instruction. The first theme that emerged from the comments is that the participants felt that the objectives of the course had been achieved. Comments received from participants included, "I learned a lot," "The objectives and materials were very well presented and covered," and "I am a better officer for having taken this course."

A second theme was that many participants found the course interesting and felt that it held their attention. A frequent word heard in their comments was “easy” such as “Easy to follow,” “It was very easy,” and “The course was easy.” One participant indicated, “The information was useful. The program was easy to follow.” The participants did not elaborate of what aspect of the course they found easy, so it is inferred that they are referring to accessing and following the course modules. Ease of access suggests that officers are more willing to engage in the program.

Participants’ comments suggested a third theme in that many enjoyed using the computer to learn. One participant commented, “I am behind most people with today’s technology. I do not own a computer at home. The way this class was presented was easy to learn.” Other participants commented, “It was a good learning tool,” “Computers make it easier to complete a course at your discretion,” “I enjoy being able to relax while I learned this material. I was not rushed,” and “I liked how the computer presented the videos.” However, one participant expressed his or her lack of confidence in his or her computer skills by indicating, “I would prefer to be in a classroom if at all possible. It’s just too easy to hit the wrong button and lose everything you have completed. I’m just old-fashion, I guess.”

In summary, three themes were discerned regarding research question #3. First, the participants felt that the objectives of the course had been achieved. Second, is that the participants found the course interesting and felt that it held their attention. Finally, is that many participants enjoyed using the computer to learn.

Budget Documents

Research question #4 examines how cost-effective is the use of distance education technology as a training delivery system for rural and small law enforcement agencies when compared to costs associated with sending officers to traditional in-class training sessions. In addition to interviews with department administrators, department budget reports provide a source of data comparison. Travel budget reports were requested from the municipal police department, university police department, and sheriff's department.

University Police Department

During 2005, 14 employees of the university police department participated in external training activities. All of these external training activities required travel to a remote training site. These external training activities and their costs are summarized in Table 4.9. Each training activity was analyzed to determine its suitability to be replaced with a similar training program presented via distance education technology.

The Investigations Seminar in Biloxi, Mississippi was conducted to provide officers with basic investigative skills. This training was presented in a traditional classroom environment and did not require any outside activities. This seminar appears to be capable of being presented with distance educational technology. Therefore, it appears that the travel costs from this seminar could be saved.

The IACLEA Seminar in New Orleans, Louisiana was comprised of a series of workshops along with a vendor's display area, a Southeastern Regional Business Meeting, and networking among college and university security directors and police chiefs. While it is possible to present the workshops via distance education technology,

Table 4.9 2005 Training Costs for the University Police Department.

Number of Participants	Type of Training	Location of Training	Registration Costs	Travel Costs*
2	Investigations Seminar	Biloxi, MS	$500.00	$594.51
1	IACLEA Seminar	New Orleans, LA	$175.00	$643.70
10	CALEA Conference	Birmingham, AL	$3,400.00	$2,399.25
2	Firearms Instructor Course	Morehead, MS	$1,050.00	$88.25
1	SEC Police Chief's Conference	Lexington, KY	$0.00	$494.64
1	Drug Investigation Course	Meridian, MS	$0.00	$233.72
1	MS Association of Chiefs of Police Conference	Biloxi, MS	$0.00	$418.06
1	Drug Investigation Course	Nashville, TN	$175.00	$755.41
2	MS Campus Law Enforcement Association	Vicksburg, MS	$150.00	$317.10
1	MS Command College	Oxford, MS	$275.00	$186.00
1	MCJIS Training Course	Grenada, MS	$395.00	$280.78
1	Executive Development Program	Princeton, NJ	$850.00	$916.90
1	MS Association of Chiefs of Police Conference	Tunica, MS	$250.00	$108.74
1	Social Work Conference	Tupelo, MS	$75.00	$97.20
1	PDM Course	Columbus, MS	$150.00	$35.64
1	Social Work Conference	Louisville, MS	$10.00	$25.92
		Total:	**$7,455.00**	**7,595.82**

*Travel costs include meals, lodging, gasoline, vehicle rental, mileage reimbursement, and parking. Where a departmental vehicle was used, mileage costs were computed at the IRS rate of $0.405 per mile.

many college and university security directors and police chiefs would argue that the vendor display and networking make attending this type of seminar invaluable and impossible to replace with distance education technology. Therefore, it is questionable as to whether distance education technology could replace this type of seminar.

The CALEA Conference in Birmingham, Alabama served two purposes: it provided the opportunity for officers to attend a series of training workshops and it was the conference at which the university police department received its national accreditation certification. It was necessary for 2 of the 10 officers to attend the conference in order to receive the accreditation certification. However, most of the officers attending the conference only did so for one day each due to staffing requirements. Further, the workshops were presented in a traditional classroom environment and did not require any outside activities. Therefore, it seems that the travel costs associated with eight of the officers could have been saved if the workshops had been offered via distance education technology.

The Firearms Instructor Course in Morehead, Mississippi served to train two officers as firearms instructors for the department. In order to successfully complete this course, the officers were required to spend a major portion of their training time on a pistol range shooting a series of firearms. While there was some classroom material that possibly could be presented via distance education, the majority of this course required the officers to be present for the firearms range portion. Therefore, it is believed that the use of distance education technology would not be cost-effective or even practical for this type of training.

The SEC Police Chief's Conference in Lexington was the first meeting of police chiefs from SEC institutions. While there was training associated with this conference, its primary purpose was to provide a forum for SEC police chiefs to come together and discuss mutual problems. Nevertheless, this could have been accomplished with distance education technology through a videoconference, thus saving the travel expenses of this conference.

The drug investigation courses in Meridian, Mississippi and Nashville, Tennessee were both offered in traditional classroom formats. As part of these courses, static displays of different types of drugs are frequently included. These visual references serve to enhance the officers' education and knowledge regarding drugs. However, many examples of drugs are available in counterfeit form that may be sent to the officer before the start of the course. It is believed that by providing officers with counterfeit examples of these drugs, these courses may be presented with distance education technology and that travel costs associated with these costs may be saved.

The Mississippi Association of Chiefs of Police conferences in Biloxi and Tunica, Mississippi are similar to the IACLEA conferences in that they are.comprised of a series of workshops along with a vendor's display area, a business meeting, and networking among police chiefs. Given the high level of interaction between Mississippi police chiefs, it is believed that the networking that occurs at these conferences is extremely valuable and cannot be replaced videoconferencing or similar distance education technology. It is believed that there would be no cost savings for these conferences.

The Mississippi Campus Law Enforcement Association meeting is similar in its purpose to the SEC Police Chief's conference; that is to bring Mississippi campus police officers together for some training but whose primary purpose is to provide a forum for officers to discuss mutual issues. A major concern with this association is the small number of attendees at the meetings. This is exemplified by the university police department only sending 3 of its 26 officers to this meeting. It is believed that if these meetings were conducted using teleconferencing technology, more officers would have the opportunity to participate in these meetings while saving travel costs.

The Mississippi Command College in Oxford, Mississippi is an executive development course for law enforcement command officers. It is offered in a traditional style class format. This course is well-suited for presentation via distance education technology. Further, it is believed that presentation of this course via distance education technology will allow the course to employ more renowned experts and reach more experts. Use of distance education technology will allow for travel cost savings for this course.

The Mississippi Criminal Justice Information System (MCJIS) course in Grenada, Mississippi is required for police telecommunicators. It is a computer training course and is well-suited for being presented via distance education technology. A pre-requisite for this is that an agency must have a computer dedicated to training that is connected to the MCJIS system. However, the cost of such a computer will be more than offset by the savings in travel costs.

The Executive Development Course offered in Princeton, New Jersey is similar to the Mississippi Command College. This is a course that may be offered using distance education technology and result in travel cost savings. Similarly, the social work conferences offered in Tupelo and Louisville, Mississippi along with the PDM course offered in Columbus, Mississippi are traditionally offered courses that may be presented via distance education technology. These courses may result in travel cost savings.

In summary, many of the training courses attended by university police officers may be presented via distance education technology. A review of the training courses attended during 2005 suggests that the university police department could have saved $5,115.82 in travel costs had these courses been offered via distance education technology. This represents a savings of approximately 34% of the university police department's training budget. Courses that require extensive "hands-on" training such as firearms and conferences that promote networking are not well-suited for presentation via distance education technology.

Municipal Police Department

This researcher requested that the municipal police department provide copies of travel reports that documented officer travel for training during the fiscal year of July 1, 2005 through June 30, 2006. This researcher was advised that individual travel documents were not available. However, this researcher learned that the municipal police department spent $7,630.00 on training during the previous fiscal year. According to a clerk with the municipal police department, $2,205.00 was spent on travel.

The travel costs represent almost 30% of the training budget. Unfortunately, no data were available to describe how many officers attended training courses, how many training courses were attended, what type of training was obtained, and whether the travel costs included travel by personal vehicle or departmental vehicle. However, from a previous interview with the chief of police, it is apparent that officers are allowed to take departmental vehicles to attend training courses. If this municipal police department's budget operations are similar to many other departments, costs for gasoline are paid from another account and not included in travel costs. Therefore, it is believed with reasonable certainty that the travel costs are higher than the reported $2,205.00.

In summary, insufficient data exists to identify the type, number, and location of training courses attended by officers of the municipal police department. However, it is known that travel accounted for approximately 30% of the training budget. If additional gasoline costs were paid from another account, this would increase the amount of travel expenses. It is reasonable to believe that at least some of the training courses attended by officers of the municipal police department could be presented via distance education technology, resulting in a savings of some of the travel budget.

Sheriff's Department

This researcher requested the captain provide copies of travel documents for the sheriff's department for calendar year 2005 for analysis. This researcher was referred to the county's budget office. The budget office is located in the county courthouse, a facility separate from the sheriff's department. This researcher spoke with an accounts payable clerk who advised that she could not provide the records requested. According to

the clerk, the manner in which the county compiles its records requires that this researcher furnish the name of the deputy, the date(s) of the training course(s), and the name or type of training course in order for her to retrieve the records. As this researcher did not have this information to provide, the records were not obtained.

In summary, document analysis was only performed for one agency due to the lack of availability of budget documents for the remaining agencies. However, the document analysis for this one agency suggests that this agency could have saved approximately 34% or $5,115.82 of their travel budget had some of the training that this agency's officers attended been offered online. While no documents were available from the remaining agencies, it was ascertained through other sources that they expended approximately the equivalent of 30% of their training budget on travel. It is believed that had some of the training courses attended by their officers and deputies been offered online, these agencies would have realized savings in their travel budgets.

SUMMARY

In summary, data were collected and analyzed using qualitative and quantitative techniques. Qualitative data were collected and analyzed using surveys, observations, interviews, and document analysis. Survey data indicate that the majority of participants agreed or strongly agreed that the use and accessibility of the WebCT program was easy and convenient, the physical characteristics were not distracting, comfortable, adequate, and accessible, interaction with the instructor was not necessary for learning to occur and the interaction that occurred was satisfying, and the online course was comparable to a traditional face-to-face class. Observational data suggest that the locations in which the

participants engaged in the online training were reasonably free from distraction, contained computer equipment that appeared to be sufficient to access the WebCT® program, and contained computer peripherals that were appropriate for multi-media content.

The interviews discerned several themes related to the various research questions. Regarding research question #1, the participants first found it easy to access the WebCT® program and navigate through the various modules, handouts, and supplemental videos. Second, they found the workbook to be very helpful in providing instructions for participants to log onto WebCT® and access the various modules, handouts, and supplemental videos. Third, they found the workbook to be effective in helping the participants stay on task with the program. Fourth, they found the modules were effective, easy to watch, and of an appropriate length. Additionally, the handouts and supplemental videos were found to be effective. Finally, the participants felt that the materials they received for this course were just as effective as materials that they would receive in a traditional class.

Regarding research question #2, participants found that they needed to have a computer that has sufficient memory, processing speed, and multimedia capability in order to effectively access and participate in the program. They also believed there were no sufficient distractions that interfered with learning and any possible distractions could be controlled.

Regarding research question #3, the participants did not feel that it is necessary to experience face-to-face interaction with the instructor for learning to occur. Second, even

after the participants experienced an online course, they were still not certain they would be comfortable in learning without some type of face-to-face interaction or that some subjects could effectively be presented without some type of face-to-face interaction. Third, the participants recognize that some type of interaction is possible with online courses. Finally, despite concerns for face-to-face interaction, the participants believed that the subject of Discriminatory Profiling and Professional Traffic Stops was appropriate for an online training course.

Regarding research question #4, the participants first felt that the objectives of the course had been achieved. Second, many participants found the course interesting and felt that it held their attention suggesting that they were motivated to learn. Third, many participants enjoyed using the computer to learn. Supervisors felt that their subordinates learned using this technology and that use of this technology was cost-effective.

Document analysis was attempted on the training budget records for the university police department, municipal police department, and sheriff's department. A review of the university police department training budget records discerned that many of the training courses attended by university police officers may be presented via distance education technology. The records suggest that the university police department could have saved $5,115.82 in travel costs during 2005 had these courses been offered via distance education technology. This represents a savings of approximately 34% of the university police department's training budget. The municipal police department and sheriff's department were unable to produce independent training budget records.

CHAPTER V

DISCUSSION

Although previous research has been published regarding the use of distance education technology by law enforcement agencies, (Waggoner & Christenberry, 1997; Zolkos, 1999), little research has been directed toward its use as a delivery system for training programs to rural and small law enforcement agencies. To this end, I have attempted to address this gap in the knowledge base by determining if the use of distance education technology as a delivery system for a training program to officers with rural and small law enforcement agencies is effective. In other words, did law enforcement officers with rural and small law enforcement agencies perceive the training that they received from their participation in a class delivered by distance education technology to be as effective as if they attended the class in a face-to-face environment?

There is substantial research revealing that the use of distance education to present course information is at least as effective as presenting the information in a face-to-face class (Clarke, 1999; Goodwin, 1993; Hinnant, 1994; Johnstone, 1991). This study supports this conclusion through both its quantitative and qualitative components. The implications and significance of this research suggest a need for further study concerning the skills required for a student in an online course to effectively manage his or her time.

While the majority of the participants rated their experiences with the online training course favorably, examining the characteristics of the online training program becomes important. This researcher's goal is to identify specific characteristics of the online program that the participants found appealing with respect to their feelings of online training versus traditional face-to-face training. This chapter integrates data from the surveys, test scores, individual interviews, and previous research studies to draw conclusions.

CONNECTION OF FINDINGS TO REVIEW OF THE LITERATURE

The themes that emerged in this research from the results of the pretest/post-test comparisons and surveys used in this study, and individual interview findings from six law enforcement officers are echoed in the current literature. Effective training is necessary to improve the skills of law enforcement officers employed with rural and small agencies (Eastern Kentucky University, 2002). However, effective training is not always available to rural and small agencies because of limited staffing and budget considerations. Distance education technology offers an alternative to rural and small law enforcement agencies if it is deemed effective in providing training.

Use of Distance Education Technology as Delivery System in the Presentation of Course Material

Four themes emerged from this study regarding the use of distance education technology as a delivery system in the presentation of subject matter. First, the technology to deliver the training program is easy and enjoyable to use. Second, the

structure of the training program is important to participants' learning. Third, the goals and objectives of the online training program are important for communicating learning outcomes to participants. Finally, the organization of the training program greatly assists the participants with staying on task and completing the program.

Ease of Use of the Technology

The ease of use of the technology to deliver the training program is important since it is computer technology that offers law enforcement officers employed with rural and small law enforcement agencies the opportunity to participate in online training (Ravitz & Silver, 2004). Law enforcement officers employed by rural and small law enforcement agencies must be proficient with the use of computer technology since this is the predominant forum used for presenting online training. Although many officers are familiar with the television, videotape, and CD-ROM technology (Zhang, 1998), it is the use of computer-based technology that is currently the dominant form of technology used for online training with its immediate access to more resources including Internet resources (Waschull, 2001).

The prevalence of computer technology in law enforcement applications (Seaskate, Inc., 1998) suggests that law enforcement officers should be comfortable with the use of computer-based applications, including learning technology. Data from this study supported that notion in that law enforcement officers find distance education technology easy to use. Participants found it easy to stay on task and the course to be interesting. During the observations of selected participants, only one participant required this researcher's assistance in accessing the WebCT® software. While the majority of

participants are younger in age and, thus, would be expected to be more comfortable with technology, no difficulties with the use of this technology were detected in older participants. Further, the fact that the majority of the participants indicated that they would take another online course suggests that they are not intimidated by the use of technology.

Northrup (1993) reminds us that law enforcement officers enjoy using the computer to learn and, in this study, data support that finding. The participants enjoyed using the computer a learning tool. Additionally, the participants believe that effective learning can occur with the use of distance education technology. The participants' belief is consistent with the finding of a FBI pilot study that found that the quality of training from a distance education course can be good (Zolkos, 1999).

Structure of the Online Training Program

The structure of the program is another factor contributing to how effectively information may be presented with distance education technology. Course structure generally consists of a syllabus, study guide, course delivery format, and a schedule (Kearsley & Lynch, 1996). Each of these components of course structure guides the instructor in developing the course. The data from this study indicate that the structure of the course was very good.

Participants believed the study guide was very effective and helped them to stay focused on the program and key learning concepts. According to McGivney (2004), since law enforcement agencies employ adults as learners, their age, social, and personal circumstances make their learning abilities and expectations different from those of

younger students. The participants' comments during the interviews suggest that the structure of this online training program was the same as they would expect from a face-to-face training course.

The participants indicated that they found the video modules, supplemental videos, and handouts to be effective. This finding is important since the type of technology used can contribute or detract from the learning environment. According to Chen (2000), each of the various technologies that may be used has its own strengths and weaknesses that can be used to meet the needs of the adult learner. Jonassen (2000) states that adult learners use technology as intellectual partners. These statements underscore the importance of matching the technology to the learner.

In this study, several different software packages were used to develop the course content. The content was then disseminated through another software program where participants received it over computers and their peripherals. No participant was unable to complete the course due to technology issues, although some problems initially occurred. However, the participants that did encounter those problems were able to adapt and overcome them. Further, the participants found that the sequencing of the modules and supplemental material was appropriate and helped hold the participant's interest. The participants also found the ability to access the program any time from any location with a computer and Internet connection, as opposed to a rigid time schedule for attending class, to be convenient.

Goals and Objectives of the Online Training Program

Course objectives were developed and included within the study guide. Course objectives are important as they communicate to the student the intended learning outcomes. Failure to develop clear goals and objectives that relate to problem-solving often produce major problems (Thibault, Lynch, & McBride, 1995). Additionally, the goals and objectives served as the basis for program development (Willis, 1993).

Although the training program was based on a course developed by the Florida Department of Law enforcement, it was developed for presentation in a traditional face-to-face class. Additionally, there was no test that accompanied the program. The goals and objectives were instrumental in helping me design all components of the course for presentation via the distance education technology. This included the study guide for the course, which many participants indicated was very helpful. The pretest and post-test used in this study were also developed based upon the course goals and objectives. The participants felt that the goals and objectives were communicated in an effective manner, that they understood the goals and objectives, that the goals and objectives helped them focus on key concepts, and that the goal and objectives were achieved. These results support the importance of clear and concise goals and objectives to course development and presentation.

Organization of the Online Training Program

The unique nature of the online environment offers advantages and disadvantages to the adult learner. Its advantages include that it is location independent and asynchronous (Harasim, 1996; Shrivastava, 1999). Its disadvantages include that students

must be disciplined enough to stay on task and complete the program. According to Huang (2002), adult learners between the ages of 30 and 50 years of age typically complete an online training course successfully. The data from this study suggest that one of the reasons that an adult student may be motivated to complete an online course is how the course is organized.

According to one of the participants who had previously taken an online course through the University of Phoenix, he found that course to be extremely dry and uninteresting since the information was presented only in a text-based format. This same participant found the training course used in this study to be much more interesting due to different uses of media that included the workbook, video modules, supplemental videos, and handouts. This participant was not alone in his finding. The majority of participants found the video modules, supplemental videos, and handouts to be effective.

The workbook provided text-based information as well as a guide to help keep participants on task. The video modules presented information orally, visually, and textually that required auditory and visual senses to acquire. The handouts presented supplemental information textually that required the visual sense to acquire. Finally, the supplemental videos provided information orally, visually, and textually that required the auditory and visual senses to acquire. The ability of humans to acquire information visually and audibly enhances their capability for learning since both senses process information differently and allow for deeper processing of information. (Mayer, 2003).

Course organization is determined by the developer. The expertise of the developer largely determines how effectively a course will be organized. As the course

developer, this researcher has received training through the Mississippi State University in course development using WebCT®. Additionally, this researcher developed the video modules using Visual Communicator Pro®, whose technical staff had provided helpful information. Developer support, such as this, is critical as Norton, McRobbie, and Cooper (2000) state that an important aspect of the teaching site is the provision of professional development and support for online course developers and instructors. Data from the study indicate that participants found the researcher's knowledge in online course development, the organization of the presentation, and the style and delivery of the program to be exceptional. These findings support the importance of instructors being properly trained and supported for effective online course development to occur.

Physical Characteristics of the Distance Education Delivery System

Two themes emerged from this study regarding how participants felt about the physical characteristics of the distance education delivery system and how these characteristics compare with the physical characteristics of the in-class training officers previously have received. First, accessing the course through the computer and WebCT® software was easy. Second, the environment in which the participants engaged in the course was comfortable.

Accessing the Course through the Computer and WebCT® Software

The online course transforms the participant's computer location into the classroom. The chair, desk, chalkboard, podium, and instructor of the traditional classroom are changed into the computer and peripherals, computer room, and chair of

the online classroom. These elements are outside of the control of the course developer/instructor. Additionally, these elements have a direct impact on video and audio quality as well as the presentation of information.

Understanding the needs and capabilities of the intended audience is key to course development and the eventual success of the students in successfully completing this course. In this study, the course was presented through computer technology using the WebCT® software program to an audience that consisted of law enforcement officers from rural and small law enforcement agencies. Since one purpose of this study is to address the deficiencies in the research literature that address online training by rural and small law enforcement agencies, it is important to understand the characteristics of this audience.

This audience is unique since the needs and resources of rural and small law enforcement agencies differ substantially from those of large and urban law enforcement agencies. Large and urban law enforcement agencies frequently have specialized training units and address a variety of crime and safety problems that are germane to urban environments. Conversely, rural and small law enforcement agencies have no such specialized training and address crime and safety problems that may differ significantly from those of the large and urban law enforcement agencies. Therefore, a primary consideration in presenting this training was ensuring that participants have access to computer technology that is capable of accessing the Internet and the WebCT® software program. A similar consideration is ensuring that participants are comfortable with using this technology to learn. The findings of this study are irrelevant without ensuring that

officers with rural and small law enforcement have sufficient skills to operate computers and that their agencies have computers with Internet connectivity.

Other concerns regarding an audience comprised of law enforcement officers from rural and small law enforcement agencies is their knowledge, skill, comfort level, and self-efficacy for participating in an online training program. These are legitimate concerns since use of computers in the workplace is lower in rural areas than urban areas (Kusmin, 2002). Also, the more isolated a rural area is, the greater the technology challenges that exist particularly in terms of trusting technology and obtaining technology support (Flora & Bregendahl, 2006).

Green (2003) has identified emerging trends in rural areas that address some of these concerns. First, community colleges, and to a lesser extent, vocational-technical schools, provide general job skill training that include computer skills. Second, job-specific training, such as that found in a police academy, often enhances skills that are necessary to use the technology found in the workplace including computers and computer-based equipment. Finally, employers provide job- or task-specific training that includes use of the equipment specific to the task. In law enforcement, the computer is an integral part of most reporting systems and other applications.

Data from this study revealed that the computers housed in the rural and small law enforcement agencies participating in this study and used by most participants were fast and powerful enough to access the Internet and the WebCT® software program, and to download the training modules and supplemental materials. Additionally, participants indicated that their computers had all of the necessary peripherals in order for them to

effectively interact with the program. The only exception noted to this was this researcher's observation of one of the participants who used a computer without speakers. This participant remedied this by simply moving to a computer with speakers. Finally, with the one exception noted during the observation period, all subjects were observed to operate the computers and access the online program with minimal problems. No negative feelings related to issues of knowledge, skill, comfort level, and self-efficacy over computer use or accessing the program were detected.

Environment in Which the Participants Engaged in the Course

In anticipation of most of the participants having no previous experience with using the WebCT® software program, this researcher developed a workbook for the participants to use that included instructions on how to find the WebCT® software program through the Internet, log into the WebCT® software program, and download all of the modules, videos, and handouts. Data from the study indicate that, using the workbook, most participants found the WebCT® software program easy to use and easy to log onto. Participants also indicated that they found the workbook to be very helpful. Among the characteristics of the WebCT® software program that the participants found appealing was the ability to access the WebCT® software program from any location with a computer with Internet access. This characteristic is echoed in the literature (Harasim, 1996; Shrivasta, 1999; Wernet, Oliges, & Delicath, 2000).

Several characteristics have been identified as being crucial to facilitating an online environment including room layout, light, and temperature (Maine Department of Education, 1999). Data from this study show that participants felt the environment in

which they engaged in the online training was not distracting. Specifically, the participants felt that the room in which they engaged in this online training was adequate for the purpose, the room and computer used to engage in the online training was always accessible, the noise level was not distracting, the lighting level was adequate, and the temperature was comfortable. The data indicate that the only aspect about the environment with which they felt was marginally adequate was the comfort of the chair. These findings are consistent with the literature with regards to noise level and lighting (Video Development Initiative, et al., 2004).

Amount and Type of Interaction that Participants Experienced in this Course

Previous research has consistently identified the amount, type, and quality of interaction between students, and between students and instructors as being critical to success in online programs (Furst-Bowe & Dittman, 2001; Smith, Smith, & Boone, 2000; Zirkle, 2002). While face-to-face instructor-student or student-student verbal exchange is a common form of interaction in the traditional face-to-face classroom, e-mail and discussion boards facilitate most of the interaction in an online environment. In this study, the WebCT® software program was used. Features of the WebCT® software program include the capacity for chat rooms, discussion boards, and e-mail. However, the WebCT® software program was not the only means by which e-mail interaction was encouraged. A workbook was provided to the participants with instructions on how to access the various aspects of the training program. Included within the workbook was the researcher's personal e-mail address and telephone number.

Despite the opportunity for interaction, the data from this study demonstrate that participants did not feel that they needed to interact with the instructor in order to learn. Additionally, study data indicate that participants did not feel that they needed to interact with other students in order to learn. These two findings are contrary to the findings of Furst-Bowe and Dittman (2001) who report that a major criticism of online programs is the isolation that is experienced by students who receive little attention from their instructor or fellow students.

Rost (2000) states that well-designed online programs promote a level of interaction that mimics the level of interaction found in face-to-face programs. Interaction opportunities existed in the training course used in this study. Indeed, participants were encouraged to post questions or comments, and discuss issues that they noted as they engaged in the training program. Hassenplug and Harnish (1998) indicate that instructors can promote the type and frequency of interaction by encouraging participants to contact them by e-mail, telephone, or fax. Participants were also encouraged to contact this researcher via e-mail or telephone with any questions or issues they wished to discuss. However, many participants did not avail themselves of this opportunity.

Study data indicate that participants who did seek interaction with others still found the experience of participating in the course to be reasonably satisfying. According to Charles, “Even though this was an online course, I knew that ‘David’ was taking the course also. So, sometimes we’d talk about it and if I had a question or he had a question, we’d talk about it.” While other participants may not have engaged in any interaction, they were at least aware of their ability to do so. Charles also stated, “I felt that if I had

any questions or problems, I could e-mail you or one of the other students." David stated, "Using e-mail was an effective way to interact. I do it everyday now."

Although participants were encouraged to post questions or comments, and discuss issues that they noted as they engaged in the training program, most participants chose to simply proceed through the modules and complete the workbook in the process. Study data show that the level of interaction experience by most participants was moderate at best and that they found the interaction to be neither supporting nor distracting. Sullivan (2001) reports that student-to-student interaction can increase the quality of the learning environment; however, it seems that the participants in this study did not seem compelled to seek interaction with other students or with the researcher.

Learning Effectiveness of Distance Education Technology Compared with the Effectiveness of In-Class Instruction

Numerous studies have been conducted that suggest that learning in online courses is as effective as in traditional courses (Clarke, 1999; Goodwin, 1993; Hinnant, 1994; Johnstone, 1991). Russell (1997, 1999) concluded that there is no significant difference between some forms of distance learning and traditional learning and that student and teacher satisfaction is very similar for both formats. The participants in this course feel that they benefited from this course and that learning from an online course is just as effective as learning in a traditional face-to-face class.

The participants felt that course objectives were achieved and that the materials used were as effective as materials that would be used in a traditional face-to-face class. According to Hoover (1998), the effectiveness of a course may be determined by how it

allows the law enforcement officer to engage in self-directed activities or how to be proactive in response to a situation or problem. Participants also found that the information that they received in this course was useful in and relevant to their work.

From a law enforcement perspective, data from this study suggest that the online course fits well with the schedule and staff availability of small departments. Participants found the course structure to be flexible and arranged in a manner that provided them with sufficient time to complete the course. The further believed that the course was well-conducted and its length adequate.

One issue that the data revealed was that participants felt that not all law enforcement topics are adequate for presenting via distance education technology. Courses that require "hands-on" training or the use of instruments such as RADAR or Intoxilyzer instruments would not be appropriate topics for online training although some of the participants feel that portions of those courses may be presented online. For example, one participant, who is a Pepper Spray instructor, feels that he could present the legal issues and canister nomenclature associated with the training course in an online format. In this study, all participants felt that the topic of Discriminatory Profiling and Professional Traffic Stops presented in this course was appropriate for an online course.

The course topic is an appropriate topic and one of concern for many law enforcement agencies. It was not surprising to learn that some of the participants had previous instruction in this topic. The previous instruction that they had received was presented in face-to-face classes. Despite this, data from the study reveal that the participants' appreciation, knowledge, and skills relating to this topic increased as a result

of taking this course. Study data further indicate that, compared to traditional face-to-face courses, the use of distance education technology is just as effective, that participants had a favorable impression of this type of program, that they would consider taking another online course, and that they would recommend for other officers to take online courses (Tele-Education, 2000).

CONCLUSIONS

Administrators of rural and small law enforcement agencies cite small staffs and limited budgets as reasons for their officers not receiving the amount and level of training they need. Further, the needs of rural and small law enforcement agencies can be different that those of agencies located in large, urban areas. This suggests that even if training is available to the small agency located in a rural area, this training may not meet the needs of the department (Eastern Kentucky University, 2002).

Addressing training needs is essential if small law enforcement agencies in rural areas will be able to effectively serve their communities and combat crime and safety problems. Effective training also affects officer competency and morale as well as other issues such as officer retention and policy development. If agencies invest in officers with quality training, officers tend to be more satisfied with their work environment and have greater confidence in their and their department's ability to address crime and safety issues. Effective training often leads to administrators developing effective policies and procedures for officers to follow in performing their duties.

Because research supports the notion that small law enforcement agencies in rural areas often have little to no access to training (Gibson, 2002), these agencies can benefit

from having access to distance education technology and ensuring that their officers are trained in the use of this technology. However, many rural and small agencies do not engage in online training for a variety of reasons. This study was undertaken to determine if the use of distance education technology as a delivery system for training programs to rural and small law enforcement agencies is effective. From this study, the following conclusions are drawn:

1. The use of distance education technology as a delivery system for the presentation of course material to officers with rural and small law enforcement agencies is effective. Law enforcement officers from rural and small law enforcement agencies with reasonable computer skills find using the computer as a learning instrument and distance education technology as a mechanism for presenting information enjoyable. The structure of the course is important to its effectiveness. The use of multiple forms of media (video modules, supplemental videos, and handouts) is effective in promoting learning. The development of clear and concise course goals and objectives is important for course and assessment development. The communication of course goals and objectives and their understanding by law enforcement officers with rural and small officers aid in learning. A strong background by the course developer in the software and technology used to develop the training program is important. Further, the developer should invest sufficient time in course development to ensure that the end result is a professional and effective program. As a result of the manner in which this course was

developed and the material presented, law enforcement officers from rural and small law enforcement agencies who participated in this study found the course interesting, it easy to stay on task with the material, and that the use of distance education technology to present material is effective in building a learning environment.

2. The physical characteristics of the distance education delivery system in rural and small law enforcement agencies should be comparable to those of in-class courses. A well-developed instruction manual is essential to helping law enforcement officers from rural and small agencies navigate the software that is used to present the online course. With the use of software delivered via an Internet connection, law enforcement officers from rural and small law enforcement agencies should be able to access the program from any computer with an Internet connection. Computers with sufficient CPU speed, memory, video, and sound cards along with speakers, or at least a speaker jack for headphones, monitor, and mouse should be used to ensure quick download and effective playback of the course material. The location of the computer in a rural and small law enforcement agency should be free of distractions, with sufficient lighting and comfortable temperature. Additionally, the sound level or extraneous sound should not be distracting. If the law enforcement officers are to be seated for an extended period of time engaging in the online program, the chair should be comfortable. Finally, given the accessibility of courses over the Internet at any time, the location of the computer in the rural

and small law enforcement agency should be accessible to officers working different shifts.

3. For law enforcement officers in rural and small law enforcement agencies, student-instructor and student-student interaction is not essential for learning to occur. Law enforcement officers from rural and small law enforcement agencies, who are use to working alone, may not feel the isolation that traditional students do within an online course. While most law enforcement officers from rural and small law enforcement agencies may not feel the need for interaction, older law enforcement officers who have spent a great deal of time in traditional classrooms early in their career may miss having other officers or the instructor with whom to interact. Those law enforcement officers from rural and small law enforcement agencies who chose to engage in online discussions or other forms of interaction found the opportunities to be satisfying.
4. Materials developed for an online course for officers with rural and small law enforcement agencies should and can be just as effective as those found in traditional face-to-face courses. Further, these materials should be designed to hold the law enforcement officer's interest. The information presented in a course should be relevant and useful to law enforcement officers with rural and small law enforcement agencies and address issues that are germane to their policing environment. The information should also be consistent with what the law enforcement officers expect to receive from the course.

Information presented in an online course should improve the law enforcement officers' appreciation, knowledge, and skills for the subject. The course structure should be flexible and well-conducted, of appropriate length, and allowing sufficient time for the law enforcement officers to complete the course. The subject matter should be appropriate for presentation in an online format.

RECOMMENDATIONS

Based upon the conclusions, the following recommendations are made:

1. Consideration should be given to developing online courses with a multitude of technologies or media that employ as many learner sensory modalities as possible to enhance learning. Materials designed for online courses should not only include the core information of the subject matter, but the same or similar type of supplemental material, such as videos or handouts, as found in traditional face-to-face courses.
2. Law enforcement administrators need to provide a distraction-free, comfortable environment in which their officers or deputies may engage in online training. The environment should be suitable for the purpose of engaging in online courses and include appropriate lighting, comfortable temperature, and comfortable furniture. Finally, the environment should be accessible for officers or deputies on all shifts.
3. Law enforcement agencies that intend for its officers or deputies to engage in online learning should ensure that they have new or upgraded computer

systems and Internet connection to facilitate the accessing and/or downloading of learning materials and that the officers or deputies have sufficient skills for using computers to facilitate online learning.

4. Online courses need to be developed with the same structure as found in traditional face-to-face courses. This includes developing a syllabus, goals and objectives, study guides, and assessment instruments. When developing a course, the developer should have sufficient training, support, and resources to ensure they can develop a profession program. Since law enforcement officers who engage in online learning are often at a remote site, detailed instructions, such as those found in a workbook, must be shared with them so as to provide easy access to the delivery program. Developers should be prepared to invest an appropriate amount of time in producing a quality online program. Finally, developers should explore methods for designing interaction into an online program using available tools such as chat rooms, discussion boards, and e-mail.

FUTURE RESEARCH

The following issues are recommended for consideration for future research:

1. Future researchers may wish to explore time management issues related to officers from rural and small agencies participating in online training. Four officers did not complete the study. The primary reason they cited for failing to complete the study was interference from duties. However, online training is accessible from any place with a computer and Internet connection and at

any time. Therefore, even if there was an interruption in their participation in online training due to their duties, it is difficult to believe that this interruption is of such a nature as to totally exclude the officer from participating in the training. Rather, this may be a time management issue.

2. This study focused on officers from rural and small law enforcement agencies who participated in an online training course. There was no control group used in this study. Future studies may wish to include a control group for comparison. Indeed, if a large enough sample can be found, the use of the Solomon Four-Group Design is recommended.
3. It is believed that other employees of rural and small law enforcement agencies, besides law enforcement officers, may benefit from participating in online training. This includes telecommunicators and clerical staff. Future studies may examine the participation in online training by non-sworn employees of rural and small law enforcement agencies.
4. While there are many rural and small law enforcement agencies in the United States, some are more isolated than others. For example, areas such as west Texas, Montana, and Alaska not only are sparsely populated, but suffer from extreme climatic conditions that exacerbate feelings of isolation. Future studies may wish to explore the benefits and use of this technology among the more isolated rural and small law enforcement agencies.
5. Current research suggests that computer usage is not as great among employees in rural areas as opposed to urban areas. Future studies may wish

to explore the conditions that promote computer use and online learning by law enforcement officers with rural and small agencies.

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APPENDIX A

MISSISSIPPI STATE IRB FORM

Appendix A

BEFORE SUBMITTING YOUR PROTOCOL FOR IRB REVIEW, MAKE SURE YOU HAVE INCLUDED THE FOLLOWING (IF APPLICABLE):

__X_ Survey, Questionnaire or Interview Questions
__X_ Consent and Assent forms
__X_ Recruiting materials
_N/A Permission letters from participating institutions
__X_ Signed Investigator Assurance form
__X_ Clear, concise description of procedures to be used (Feel free to also attach any proposals that may further explain your project.)
Additionally, these assurances must be made:

__X_ All personnel listed must have completed IRB/Human Subjects Training. If not, your application cannot be approved until the training has been completed. See our website for training dates and times.
http://www.msstate.edu/dept/compliance/irb/irbregistration.htm

_N/A_ If applicable, the advisor has thoroughly reviewed this application to ensure readability and accuracy.

PLEASE NOTE:

- **THE DETERMINATION OF THE IRB WILL BE COMMUNICATED TO YOU IN WRITING. SUBMISSION OF AN APPLICATION TO THE IRB DOES NOT EQUAL IRB APPROVAL. YOU MAY NOT BEGIN THIS RESEARCH UNTIL YOU HAVE IRB APPROVAL.**

- **IF YOUR RESEARCH HAS NOT YET RECEIVED FUNDING NEEDED TO CREATE INSTRUMENTS AND OTHER ASSOCIATED MATERIALS, PROVIDE A TIMELINE OF WHEN THOSE ITEMS WILL BE DEVELOPED. YOUR APPLICATION WILL BE REVIEWED FOR "118 DESIGNATION"(SEE http://www.msstate.edu/dept/compliance/irb/irbawardchanges.htm FOR MORE DETAILS).**

If you have any questions, please feel free to contact our office at 325-3994 or by email jerri@research.msstate.edu or tarwood@research.msstate.edu.

Send to:
IRB
Campus Mailstop 9563
PO Box 6223, Mississippi State, MS 39762
8A Morgan Street
INVESTIGATOR'S ASSURANCE
Mississippi State University

Institutional Review Board

Project Title: Effect of the Use of Distance Education Technology on Police Officer Training for Rural and small Law Enforcement Agencies

As Primary Investigator, I have ultimate responsibility for the performance of this study, the protection of the rights and welfare of the human subjects, and strict adherence by all co-investigators and research personnel to all Institutional Review Board (IRB) requirements, federal regulations, and state statutes for human subjects research. I hereby assure the following:

The information provided in this application is accurate to the best of my knowledge.

All named individuals on this project have been given a copy of the protocol and have acknowledged an understanding of the procedures outlined in the application.

All experiments and procedures involving human subjects will be performed under my supervision or that of another qualified professional listed on this protocol.

I understand that, should I use the project described in this application as a basis for a proposal for funding (either intramural or extramural), it is my responsibility to ensure that the description of human subjects use in the funding proposal(s) is identical in principle to that contained in this application. I will submit modifications and/or changes to the IRB as necessary to ensure these are identical.

I and all the co-investigators and research personnel in this study agree to comply with all applicable requirements for the protection of human subjects in research including, but not limited to, the following:

- **Obtaining the legally effective informed consent of all human subjects or their legally authorized representatives, and using only the currently approved, consent form (if applicable); and**
- **Making no changes to the approved protocol or consent form without first having submitted those changes for review and approval by the Institutional Review Board; and**
- **Reporting serious and unexpected adverse effects to IRB Administration verbally within 48 hours and in writing within 10 days of occurrence, and all other unexpected adverse events in writing within 10 days of occurrence; and**
- **Promptly providing the IRB with any information requested relative to the project; and**
- **Promptly and completely complying with an IRB decision to suspend or withdraw its approval for the project; and**
- **Obtaining continuing review prior to the date approval for this study expires. I understand if I fail to apply for continuing review, approval for the study will automatically expire, and study activity must cease until IRB current approval is obtained.**
- **Your study and any associated records may be audited by the IRB to ensure compliance with the approved protocol.**

Name of Primary Investigator/Researcher: Thomas C. Johnson

Signature:

I assume responsibility for ensuring the competence, integrity and ethical conduct of the investigator(s) for this research project. The investigator(s) is/are fully competent to accomplish the goals and techniques stated in the attached proposal. Further, I certify that I have thoroughly reviewed this application for readability and accuracy and the study is clearly described herein.

Name of Advisor: Dr. Connie Forde

Signature:

THE MISSISSIPPI STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH

Protocol Submission Form

PRINCIPAL INVESTIGATOR / RESEARCHER INFORMATION
Name: Thomas C. Johnson
Daytime Phone Number: 662.325.1810
Mailing Address: MSU Police Department: Mail Stop 9506
City/State/Zip: Mississippi State, MS 39762
E-Mail Address: tjohnson@saffairs.msstate.edu
Department: Police
IRB and Human Subjects Protections Education completed on 05/10/04.

FACULTY ADVISOR (Faculty member supervising the student for this project)
If you are a student, you must have an advisor for this project.
Advisor: Dr. Connie Forde
Daytime Phone Number: 662.325.2280
Advisors E-Mail Address: cmf1@colled.msstate.edu
Department: Instructional Systems, Educational Leadership, and Workforce Development
Campus Mail Stop: 9730
IRB and Human Subjects Protections Education completed on September 5, 2003.

ADDITIONAL INVESTIGATORS/RESEARCHERS
Will additional researchers be involved with this project? If so, list them along with their phone number, address, and email address. Indicate the date in which they completed IRB and Human Subjects Education.

No additional investigators.

***TITLE* of project:** Effect of the Use of Distance Education Technology on Police Officer Training

***PROJECT PERIOD*: upon IRB approval to 05//01/05**
Includes both data collection and data analysis
**NOTE: Beginning date cannot predate IRB approval date. If you intend to begin immediately upon IRB approval, list beginning date as "upon IRB approval".*

STUDY FUNDING
Provide information about how the study costs will be supported

____Department funds ____Personal Funds _X_No cost study ____Other, specify:

____External Funding

Agency:
SPA Proposal or Fund/Account Number:
PI of Award (if different than Principal Investigator/Researcher listed above):

ADDRESS EACH OF THE FOLLOWING ITEMS IN YOUR WRITTEN PROTOCOL.

I. Personnel & Qualifications

NOTE:

- **As principal investigator, it is your responsibility to ensure that all individuals conducting procedures described in this application are adequately trained prior to involving human participants.**
- **All personnel listed on this application are required to successfully complete the MSU IRB & Human Subjects training course or an MSU IRB approved alternative. APPROVAL WILL NOT BE GRANTED UNTIL ALL INDIVIDUALS HAVE COMPLETED THIS TRAINING.**
- **As personnel change, you must submit a modification request to the IRB for approval before they can work with human subjects or identifiable or confidential information.**

A. Including **yourself**, provide the name of each individual who will be responsible for the design or conduct of the study, have access to human participants, or have access to identifying or confidential information.

Thomas C. Johnson

B. For each person identified above, identify his/her role in the project and clearly state the procedures or techniques he/she will be performing.

Thomas C. Johnson – investigator and designer of the study. The study consists of administering a pretest and post-test to police officers enrolled in an online police training course. Additionally, students will be observed and interviewed regarding their perception of the effectiveness of this training style.

C. For each person identified above, describe his/her level of experience with the procedures or techniques he/she will be performing.

Thomas C. Johnson – I have previously conducted research for my master's thesis at the University of West Florida. I have also conducted research for an article that was published in the American Journal of Psychology. I am currently enrolled in a doctoral program and have taken Advanced Educational Statistics (EPY8214), Advanced Analysis (EPY9213), Educational Research Design (EDF9373), and Function and Methods of Research (EDF8363).

D. Indicate where did each of the personnel listed receive training to perform the identified procedures and who supervised or provided the training.

Thomas C. Johnson – Mississippi State University – Tracy Arwood and online tutorial.

Explain how these skills/abilities will be periodically reviewed.

Consultation with academic advisor – Dr. Connie Forde. Also, consultation with Dr. Jianzhong Xu**,** my professor for Qualitative Techniques in Educational Research (EDF9453) and a member of my committee.

Research Protocol

1. ***SITE OF WORK*:**
List each site where the research procedures will be performed. If any of the sites are off-site (i.e. not at MSU or MSU remote or branch sites), please provide information about that site (address, type of business/institution, etc.). If a cooperating institution (school, hospital, prison, etc.) is involved, append letters that have been prepared on the official letterhead of the cooperating institution and signed by an authorized representative.

The MSU Police Department will be primary site with volunteers from the MSU Police Department participating in this research. However, since this research is based upon an online police training course, volunteer law enforcement officers from the West Point Police Department, West Point, MS, Columbus Police Department, Columbus, MS, and the Oktibbeha County Sheriff's Department, Starkville, MS, will be selected as subjects to participate in this study.

2. **Brief description of the *GENERAL PURPOSE of the project*:** contribute to the body of knowledge regarding the effect of online training for law enforcement officers.

In your view, what *BENEFITS* may result from the study that would justify asking the subjects to participate?

I engage in literature research as a requirement for the class "Function and Methods of Research (EDF8363)." I found that there is limited research information regarding the subject of online training for law enforcement officers. I plan to collect this data for use in future publications.

3. **Give details of the *PROCEDURES* that relate to the subjects' participation, include at a minimum the following information (append additional page(s) if necessary):**

a) List ALL vulnerable subject populations to be included and additional precautions being taken to ensure their protection.
Examples include: Minors (under age 18), College students, Prisoners, Employees, Pregnant women/Fetuses, Adults with Cognitive Impairments, Substance abusers and Non-English Speaking people

None.

b) How will the subjects be selected and recruited?

Voluntary participation by law enforcement officers from participating agencies. The course will be announced through official administrative channels to law enforcement officers with the participating agencies who are encouraged to attend. No coercion or additional compensation is offered for taking the course.

What inducement will be offered?

None, beyond the enhancement of job skills.

How many subjects will be used? List any salient characteristics of subjects, i.e., age range, sex, institutional affiliation, other pertinent characterizations.

Approximately 20 - 30 subjects will be used. Subjects are law enforcement officers with the MSU Police Department, West Point Police Department, and Oktibbeha County Sheriff's Department. Subjects are males and females. Ages range from early 20s to mid-40s.

c) Number of times researchers will interact with each subject?

Approximately five times.

d) What will the subjects do, or what will be done to them, in the study?
APPEND COPY OF QUESTIONNAIRES OR TEST INSTRUMENTS, DESCRIPTION OF PROCEDURE TO BE CONDUCTED ON THE SUBJECT. If the procedures involve observation, please include the type of behavior or action you expect to observe and record. If the procedures involve an interview, attach a sample of questions you plan to ask.

The Florida Department of Law Enforcement's Discriminatory Profiling and Professional Traffic Stops curriculum is the basis for a course that is offered online via WebCT®. Subjects will take a pretest before taking the course. Subjects are then allowed approximately three weeks to complete the "classroom" component of this course. At the end of the "classroom" portion, the subjects will take a final examination into which are embedded all questions from the pretest. The results for these questions between the two tests will be analyzed.

While taking the online course, the investigator will periodically observe the subjects' interactive behavior with the online course. The investigator will document his observations of subject interactive behavior.

Upon completion of the course, the investigator will interview each of the subjects regarding his or her perceptions of the course. Further, the investigator will interview supervisory and/or administrative personnel regarding their perceptions of the benefits of this type of training.

4. How do you intend to obtain the subjects' *INFORMED CONSENT*?
N/A is not an acceptable answer to this question.
If in writing, attach a copy of the consent form. If not in writing, include a written transcript of what is to be said to the subject(s), and justify the reason that oral, rather than written, consent is being used. Each subject should be fully informed by written or oral statement that indicates at a minimum: the purpose of the project, the benefits to be derived, a full description of the procedures to be carried out in which the subjects are involved, the amount of time that is required of subjects and who to contact with questions.
Is it clear to the subject that their participation is fully voluntary? Is it clear to the subjects that they may withdraw at any time? Is it clear to the subjects that they may refuse to answer any specific question that may be asked of them? Is it clear to the subjects who to contact in case of research-related questions? If the subjects are minors, you must obtain minor assent in addition to parental consent. Please attach assent form/procedure.

Subjects are required to sign an informed consent form before participating in the study (see attached).

5. Assessment of *RISK*

Do you see any chance that subjects might be harmed in any way? Do you deceive them in any way? Are there any physical risks? Psychological? (Might a subject feel demeaned or embarrassed or worried or upset?) Social? (Possible loss of status, privacy, reputation?)

There is no foreseeable physical or psychological harm in participating in this study. No deception is used.

6. How do you ensure *CONFIDENTIALITY* of information collected?

<u>At a minimum, provide the following information</u>:

Who will have access to the data? Where will data be stored? Where will signed consent forms be stored (be specific regarding location)? What identifiers (direct or indirect) will be collected? What purpose do the identifiers serve? When will identifiers be removed or "de-linked" from the data? (Identifiers include a code number, which may be linked to another document containing names or other identifying information.) **Will the data be retained or destroyed? If the data will be destroyed, how and at what point in time?**

Data collected will be stored in a locked file credenza in the investigator's office. No subject identification information will be collected other than to identify tests for the purpose of scoring. An exception to this may be if the participating agency wishes to give their officers credit for participating in the course. Afterwards, identification information will be deleted. Records will be kept for ten year after which they will be shredded (if paper) or erased (if electronic).

7. Are approvals needed from another MSU regulatory committee (i.e. IACUC for animals or IBC for infectious agents or recombinant DNA)? If so, please attach approval letter(s) from appropriate committee(s). If approval has not yet been obtained, where are you at in the approval process?

No.

Mississippi State University

June 3, 2005

Thomas Johnson
Police
Mailstop 9506

Re: IRB Docket #05-145: Effect of the Use of Distance Education Technology on Police Officer Training

Dear Mr. Johnson:

The above referenced project was reviewed and approved via administrative review on June 2, 2005 in accordance with 45 CFR 46.101 b(1). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please refer to your IRB number (#05-145) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at jmiller@research.msstate.edu or 325-5220.

Sincerely,

[For electronic submission]

Jonathan E. Miller
IRB Coordinator

cc: Connie Forde

Office for Regulatory Compliance
P.O. Box 6223 • 88 Morgan Street • Mailstop 9563 • Mississippi State, MS 39762 • (662) 325-3994 • FAX (662) 325-8776

APPENDIX B

SAMPLE LETTER TO AGENCY ADMINISTRATOR

Appendix B

(Insert date here)

(Insert title here) (Insert name here)
(Insert agency name here)
(Insert agency address here)
(Insert agency city, state, and zip here)

Dear (Insert title here) (Insert last name here):

I am currently completing the requirements for a Doctor of Philosophy Degree in Instructional Technology. As part of these requirements, I am conducting research to complete a dissertation. The title of the dissertation is the "Effects of the Use of Distance Education Technology as a Delivery System for Law Enforcement Training to Rural and small Agencies."

I have developed a law enforcement training course entitled "Racial Profiling and Professional Traffic Stops." This course is based upon a curriculum established by the Florida Department of Law Enforcement for use by law enforcement agencies. The length of the course is approximately four hours.

I ask your support in conducting this research by allowing me to present this training to some of your officers. There is no charge for the training. All that is needed for your officers to participate in this training is for your department to have a computer with multimedia capability that is connected to the Internet. The training program will be offered over the Mississippi State University's web site.

In exchange for providing this training, I simply request that I be allowed access to officers consenting to participate in the study for the purpose of gather data. Data collection techniques will include observing officers engaging in the training, administering a pretest and post-test, conducting interviews with select officers, and administering surveys.

I will be in touch with you in the near future to follow up on my request. I appreciate your consideration and look forward to discussing this with you. In the interim, if you have any questions or comments, please feel free to contact me at 325.1810.

Sincerely,

Thomas C. Johnson
Chief of Police

APPENDIX C

INFORMED CONSENT FORM

Appendix C

Informed Consent Form

Thomas C. Johnson
Mississippi State University Police Department

Title of Study: Effect of the Use of Distance Education Technology on Police Officer Training

Study Site: Mississippi State University Police Department, West Point Police Department, Oktibbeha County Sheriff's Department, and the Columbus Police Department

What is the purpose of this research project?

To determine the effectiveness of online learning versus traditional police training course learning.

How will the research be conducted?

Participants will engage in an online course on Racial Profiling and Professional Traffic Stops. This course of study will consist of video and text materials presented via WebCT®. Additionally, a pretest will be administered prior to the participants engaging in the course of study. After the course of study, a post-test will be administered. During the course selected participants will be periodically observed and interviewed. Additionally, a survey will be administered to all subjects.

Are there any risks or discomforts to me because of my participation?

No.

Does participation in this research provide any benefits to others or myself?

Participation in this research will contribute to the body of knowledge in the field of online police training.

Will this information be kept confidential?

Unless the participating subjects and their department want to give training credit to the subjects, identifying information will be kept confidential and stored in the office of the Police Chief of the Mississippi State University Police Department. Only study data will be used and disclosed. However, if the participating subjects and their departments wish to be credited with the training, names and scores on the post-test may be released.

Who do I contact with research questions?

If you should have any questions about this research project, please feel free to contact Chief Tom Johnson at 662.325.1810. For additional information regarding human participation in research, please feel free to contact the MSU Regulatory Compliance Office at 662.325.0994.

What if I do not want to participate?

Please understand that your **participation is voluntary**, your **refusal to participate will involve no penalty or loss** of benefits to which you are otherwise entitled, and you **may discontinue your participation** at any time without penalty or loss of benefits. Further, if you are an employee of Mississippi State University Police Department, your participation or refusal to participate will have no bearing on your employment with the Department and Mississippi State University.

You will be given a copy of this form for your records.

_____ _____

Participant Signature Date

_____ _____

Investigator Signature Date

APPENDIX D

DISTANCE EDUCATION TECHNOLOGY TRAINING SURVEY

Appendix D

Distance Education Technology Training Survey

01. I found the WebCT program easy to learn.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

02. I found it easy to log onto WebCT.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

03. I found the instructions to be very useful in helping me work within WebCT.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

04. I feel that WebCT would be easier to learn and use if I am allowed to spend more time working with it.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

05. To what extent do you feel that the objectives of the program have been achieved?
   a. Not at all
   b. Little achieved
   c. Somewhat achieved
   d. Mostly achieved
   e. Fully achieved

06. The materials that I received for using the distance education technology were as effective as materials I would receive in an in-class training session.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

07. I found it easy to stay on task and complete the training program in a timely manner with the WebCT program.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

08. The course was interesting and held my attention.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

09. I enjoy using the computer to learn.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

10. I enjoyed using distance education technology as a delivery system for law enforcement training.
   a. Strongly agree
   b. Somewhat agree
   c. Neither agree nor disagree
   d. Somewhat disagree
   e. Strongly disagree

11. I believe the use of distance education technology as a delivery system for law enforcement training is an effective way for officers to receive training.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

12. I found the video modules to be:
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

13. I found the supplemental videos (60 Minutes - Racial Profiling and Mississippi Secrets) to be:
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

14. I found the handouts (The Best Verbal Approach to Minimizing Conflict and Gallop Poll on Racial Profiling) to be:
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

15. I found the structure (workbook and schedule) of this program to be:
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

16. The program goals and objectives were communicated in an _____ manner.
    a. extremely effective
    b. effective
    c. ineffective
    d. extremely ineffective

17. My understanding of the goals and objectives was:
    a. excellent
    b. good
    c. adequate
    d. poor

18. I found the developer's knowledge of the subject to be:
    a. Extremely knowledgeable
    b. Somewhat knowledgeable
    c. Little knowledge
    d. Not knowledgeable at all

19. I found the organization of the presentation and program to be:
    a. Very effective
    b. Effective
    c. Somewhat effective
    d. Ineffective

20. It appears that the amount of preparation the developer put into developing this program was:
    a. A great deal
    b. A fair amount
    c. Not a lot
    d. Very little

21. I fond the style and delivery of the training information to be:
    a. Very effective
    b. Effective
    c. Somewhat effective
    d. Ineffective

22. I found the developer's level of responsiveness to students to be:
    a. Quite a bit
    b. A fair amount
    c. Not much
    d. Not at all

23. I believe that in building a learning environment, the use of distance education technology is:
    a. Very effective
    b. Effective
    c. Somewhat effective
    d. Ineffective

24. I found the delivery of the training modules to be:
    a. Very consistent
    b. Consistent
    c. Somewhat consistent
    d. Inconsistent

25. I found the testing of students to be:
    a. Very consistent
    b. Consistent
    c. Somewhat consistent
    d. Inconsistent

26. My ability to access the WebCT program from any location at any time with a computer and Internet connection was:
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

27. The computer that I used in our department to access WebCT is fast enough to effectively download the training information and materials.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

28. The computer I used in my department has all of the necessary peripherals (speakers, mouse, keyboard, appropriate sized monitor, etc.) in order for me to effectively interact with the training program.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

29. The environment in which I used the computer to engage in this training was not distracting.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

30. I found the training course to be extremely interesting.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

31. I found the information I obtained from this training program to be extremely useful for my work.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

32. I found the subject matter of this training session to be extremely relevant to my work.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

33. I found the opportunity to engage in discussions (online or face-to-face) in this course to be satisfying.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

34. I found the structure of this course to be very flexible.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

35. I felt this course was well-conducted.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

36. I felt that I had sufficient time to complete this course.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

37. I felt that the length of this program was adequate.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

38. I feel that Discriminator Profiling and Professional Traffic Stops is a subject that can be effectively taught to other officers using this online program.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

39. I found the chair in which I sat to engage in this training to be comfortable.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

40. I found the room in which I engaged in this training to be adequate for participating in online training.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

41. I found the room and computer that I used to engage in this training to always be accessible.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

42. I found the noise level in the room in which I engage in this training to be adequate.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

43. I found the lighting level in the room in which I engaged in this training to be comfortable.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

44. I found the temperature in the room in which I engaged in this training to be comfortable.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

45. I feel I learned quite a bit from this program.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

46. To what extent do you feel you had prior knowledge of the material covered in this training?
    a. Quite a bit
    b. A fair amount
    c. A little bit
    d. None

47. This online course provided me with the information that I expected or needed to learn regarding this subject.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

48. To what extent do you feel your understanding of this subject has improved as a result of this training?
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

49. To what extent do you feel your skills in this area have improved as a result of this training?
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

50. To what extent do you feel that this training has increased your appreciated of this subject as it relates to your job?
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

51. I do not need to interact with the instructor in a face-to-face manner in order to effectively learn.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

52. I do not need to interact with other students in a face-to-face manner in order to effectively learn.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

53. I feel that interacting with the instructor and other students via e-mail and discussion boards is sufficient interaction for me to learn the material.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

54. I feel that using the computer to learn is just as effective as sitting in a classroom receiving the same training.
    a. Strongly agree
    b. Somewhat agree
    c. Neither agree nor disagree
    d. Somewhat disagree
    e. Strongly disagree

55. On a scale of 1 (none at all) to 5 (quite a bit), how would you rate the amount of interaction that occurred between you and other officers during the course of this training?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

56. On a scale of 1 (totally distracting) to 5 (totally supporting), how would you rate the interaction you had with other officers while you were taking this training course?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

57. Did this interaction interfere with your ability to effectively participate in the training?
    a. Yes
    b. No

58. When compared to traditional training methods, how effective do you feel the use of distance education technology as a delivery system for law enforcement training programs is?
    a. Less effective
    b. Just as effective
    c. More effective

59. Would you consider taking another distance education training program?
    a. Yes
    b. No

60. Have you previously taken an academic or continuing education class using distance education technology?
    a. Yes
    b. No

61. What is your overall impression of this type of program (online)?
    a. Outstanding
    b. Very good
    c. Average
    d. Below average
    e. Far below average

62. Would you recommend that other law enforcement officer participate in an online training program?
    a. Yes
    b. No

Please provide the following information:

What is your sex?

Male Female

What is your race?

a. White/Anglo-American
b. Black/African-American
c. Native American or Asian
d. Hispanic
e. Other

Please indicate your age bracket:

21 – 25 26 – 30 31 – 35 36 – 40 41 – 45 46 or older

Please indicate your number of years of full-time law enforcement experience:_____

Are you a certified law enforcement instructor?

Yes No

If you are a certified law enforcement instructor, would you consider teaching a course in an online or distance education format?

Yes No

Please indicate your current assignment with your department:

Patrol Investigations Administrative Traffic Other

APPENDIX E

RESEARCHER'S VITA

Appendix E

Vita

Thomas C. Johnson
Chief of Police
Western Carolina University
1 Camp Building Annex, Cullowhee, NC 28723
Tel: (W)828.227.3201; (Fax)828.227.7331
Email: tjohnson@wcu.edu

EDUCATION

M.A. Psychology, December, 1993. Thesis title: *"The Effects of a Traumatic Event Upon Recall by Police Officers."* Adviser: Dr. Claudia Stanny. The University of West Florida, Pensacola, FL.

B.S. (Magna Cum Laude) Criminal Justice, December, 1984. Troy State University. Troy, AL.

A.S. Law Enforcement, May 1975. Pensacola Junior College, Pensacola, FL.

COURSES INSTRUCTED

Western Carolina University, Cullowhee, NC:

PSY-150 - General Psychology
EMGT-CJ-352 - Research Methods
CJ-452 – Police Practices and Problems
Discriminatory Profiling and Professional Traffic Stops

Mississippi State University, Mississippi State, MS:

COE-8523 – Student Development Theory
PSY-1013 – General Psychology
PSY-4226 – Drug Use and Abuse
Accountability Based Management for Law Enforcement Supervisors
Field Training Officer Program
RADAR Speed Measurement
Human Relations
Discriminatory Profiling and Professional Traffic Stops

Northeast Mississippi Law Enforcement Training Center, Tupelo, MS:

Human Relations

Marshall University, Huntington, WV:
- PSY-201 - General Psychology
- Building and Maintaining a Sound Behavioral Climate
- Field Training Officer Program
- Accountability Based Management for Law Enforcement Supervisors
- Human Diversity
- ASP Baton Course
- Defensive Tactics
- Firearms

West Virginia State Police Academy, Charleston, WV:
- General Psychology

Morehead State University - Ashland, Ashland, KY:
- Riding and Street Skills Course (Kentucky Motorcycle Program)

Pensacola Junior College, Pensacola, FL:
- CCJ-2650 - Narcotics and Drug Education
- PR-24 Baton Course
- Building and Maintaining a Sound Behavioral Climate

Troy State University - Florida Region, Troy, AL:
- PSY-200 - General Psychology
- PSY-350 - Theories of Personality

The University of West Florida, Pensacola, FL:
- CCJ-3450 - Criminal Justice Management and Organization
- PR-24 Baton Course
- Firearms

Northwest Florida Regional Police Academy, Pensacola, FL:
- Human Diversity
- RADAR Operator's Course
- PR-24 Baton Course
- Defensive Tactics Course
- Crisis Intervention
- Organized Crime
- Report Writing
- Lindell Handgun Retention System
- Drug Abuse Awareness and Education
- Narcotics Identification and Investigation
- Community and Human Relations
- LASER Operator's Course
- ASP Baton Course
- Firearms Training Course
- Traffic Enforcement
- Physical Training
- Stress Awareness and Resolution
- Instructor Technique's Course
- Building and Managing a Sound Behavioral Climate

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Northwest Florida Safety Council, Pensacola, FL:
National Safety Council's Defensive Driving Course
National Safety Council's Motorcycle Safety Course
Florida Advanced Driver Improvement Program

EMPLOYMENT

Western Carolina University, Cullowhee, NC
2005 - Present - Chief of Police
2005 - Present - Lecturer (Department of Psychology)
2006 - Present - Lecturer (Department of Applied Criminology)

Mississippi State University, Mississippi State, MS
1997 – 2005 - Chief of Police
1998 – 2004 - Lecturer (Department of Psychology)

Marshall University, Huntington, WV
1995 – 1997 - Chief of Police
1995 – 1997 - Adjunct Professor (Department of Psychology)

Morehead State University - Ashland, Ashland, KY
1997 - Instructor (Kentucky Motorcycle Program)

The University of West Florida, Pensacola, FL
1986 – 1995 - Law Enforcement Lieutenant
1995 Adjunct Professor (Department of Government)

Troy State University - Florida Region, Troy, AL
1994 – 1995 - Adjunct Professor (Department of Psychology)

Pensacola Junior College, Pensacola, FL
1986 – 1989 - Adjunct Professor (Department of Public Service Careers)
1993 – 1995 - Adjunct Professor (Department of Public Service Careers)

George Stone Vocational-Technical Center, Pensacola, FL
1989 – 1995 - Adjunct Instructor (Criminal Justice Training Institute)

Gulf Breeze Police Department, Gulf Breeze, FL
1984 – 1986 - Police Sergeant
1983 – 1984 - Police Corporal
1981 – 1983 - Police Officer

Aegis Service Corporation, Houston, TX
1980 – 1981 - Senior Investigator

Pensacola Police Department, Pensacola, FL
1975 – 1980 - Police Officer

Northwest Florida Safety Council, Pensacola, FL
1973 – 1986 - Part-time Instructor

Publications

Johnson, T. (1992). Date rape: Differences in attitudes between genders. *The Florida Police Chief. 18*(6). 28 - 29, 61 - 62.

Johnson, T. (1993). Etherticism: The perception of danger by police officers. *Defensive Tactics Newsletter. II*(4). 1, 4-6.

Johnson, T. and Stanny, C. (1994). *The effects of a traumatic event upon recall by police officers.* A paper presented at the annual meeting of the Southeastern Psychological Association, New Orleans, LA.

Johnson, T. (1996). Workplace aggression. How safe is your department? *The West Virginia Police Chief. 3*(2). 24 - 28.

Johnson, T. (1997). Understanding workplace aggression on campus. *Campus Law Enforcement Journal. 27*(3). 21- 22, 24, 36.

Stanny, C. and Johnson, T. (2000). Effects of stress induced by a simulated shooting on recall by police and citizen witnesses. *The American Journal of Psychology. 113*(3). 359 - 386.

Johnson, T. (2003). *Virtual reality: No child left behind.* Paper presented at the annual meeting of the Association of Career and Technical Education, Orlando, FL.

Johnson, T. (Producer). (2004). *Workplace violence: What you don't know can hurt you.* [Motion Picture]. (Available from the Mississippi State University Department of Human Resources Management, Mississippi State University, MS 39762)

Johnson, T. (Producer). (2004). *RADAR speed measurement*. [Motion Picture]. (Available from the Mississippi State University Police Department, Mississippi State University, MS 39762)

MEMBERSHIPS

International Association of Chiefs of Police
International Association of Campus Law Enforcement Administrators
Mississippi Law Enforcement Accreditation Commission
Mississippi Chiefs of Police Association
Golden Triangle Law Enforcement Association – Past President
North Carolina Association of Chiefs of Police
North Carolina Association of Campus Law Enforcement Administrators

AWARDS

Medal of Valor – 1988
Gabor Award for Excellence – 1993
Distinguished Unit Citation – 2001