

2011

Efficacy of genres in training videos for emergency first responders

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EFFICACY OF GENRES IN TRAINING VIDEOS FOR EMERGENCY FIRST
RESPONDERS

A Thesis
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts

in

The Department of Communication Studies

by
Kerry Jenkins
B.S., Louisiana State University, 2004
May 2011

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ABSTRACT

The actions of emergency first responders directly affect the safety of our society, and their expertise relies upon the training they receive in preparation to react to emergency events. The use of training videos has become more prevalent in recent years as a method of teaching vital response skills to first responders. Most of these videos are made in the expository mode, with little or no attempt to introduce elements or conventions from other modes of non-fiction or fiction film genres. This project extends the range of the training video in order to explore the potential impact of using conventions from other film modes and genres on learning. The study shows that participants performed equally well on information retention tests taken directly following presentation of the films. Further research could examine the efficacy of these same video conventions in long-term information retention.

CHAPTER 1. INTRODUCTION

In this chapter, I explore the need for effective videos in the training of emergency first responders. I present the definition of the first responder and address the functions of documentary films and videos. I demonstrate the need for more effective and up to date training videos and introduce this thesis project's goals.

1.1 Why Study the Efficacy of Training Videos for First Responders?

First responders are “those individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence, and the environment” (United States Department of Homeland Security, 2003). They include Federal, state, and local emergency public safety, law enforcement, emergency response, emergency medical (including hospital and emergency facilities), and related personnel, agencies, and authorities, as well as emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators) who provide immediate support services during prevention, response, and recovery operations (United States Department of Homeland Security, 2002, 6 U.S.C. 101). As such, these men and women are often placed in life or death situations in which previous training becomes a vital factor in their survival.

Morey, et al. (2002) found that training of emergency personnel can reduce errors. In this study, emergency personnel such as doctors, nurses, and technicians were given formal teamwork training. Over one year, members of emergency departments participated in the study by entering into a training course that focused on teamwork skills. The results showed “that the number of observed clinical errors was significantly reduced” within the departments given the training (Morey et al., 2002, p. 9). With the need for training so crucial, it is vital that the best training methods and tools be used to help first responders retain and apply information. In this

study, I experiment with the efficacy of one important tool used to train first responders: the training video.

Many studies address the idea of multimodal learning and suggest that presenting instructional material in multiple forms helps participants to improve recall of particular items (Tindall-Ford, Chandler, & Sweller, 1997). Incorporating video into training classes helps to promote multimodal learning and encourages participants to learn complex concepts in new ways (Tendall-Ford, Chandler, & Sweller, 1997). Any video incorporated into training programs for emergency first responders needs to be effective in aiding the learning of complex concepts.

The population I use to study the efficacy of alternative approaches to the training film in this study includes first responders who work on hazardous materials teams, in law enforcement, in fire suppression, as Emergency Management Service (EMS) officers, in health care, in emergency management, and with search and rescue teams. In these jobs, the first responders' ability to analyze the scene properly can mean life or death for victims, bystanders, and the responders themselves. As an employee with the National Center of Biomedical Research and Training (NCBRT), I am interested in finding the most effective methods for distributing technical and crucial information to this population.

The NCBRT is a federally funded organization that operates under Homeland Security through Louisiana State University. The core mission is to provide training to emergency first responders throughout the nation. As a part of the training process, the organization collects evaluations and feedback from the courses taught. Upon reviewing several evaluations, I came across many criticisms of the videos used in the training. First responders participating in the course want to see more videos with improved production quality. According to many course evaluations, participants at NCBRT training courses find the current videos “cheesy” and out of

date. A participant from the Awareness and Response to Biological Events class in March of 2010 claimed “the video was awful.” During an Emergency Response to Domestic Biological Incidents (ERDBI) course in November of 2009, one participant stated that the least valuable part of the course was the video. Another participant from an ERDBI class in October of 2009 stated that the “videos are too long. Make the point and move on.” In March of 2009 a participant stated that “some of the videos shown went on for too long and didn’t keep my attention.” A participant from the NCBRT Awareness and Response to Biological Events course in February of 2009 suggested “more visual stimulus in videos.”

I have had the opportunity to attend several NCBRT training courses for emergency responders. Typically, the training consists of lectures given by several highly experienced instructors, hands-on training exercises, and instructional videos. Typical training videos consist of an instructional documentary depicting an expert or trained actor relaying messages in an expository form. The video images usually consist of an expert explaining the material with some b-roll¹ to support key points.

Boring training methods, according to Ruben (1999), are “predictable, static, and unchallenging” (p. 500). Research has shown that training videos, when not produced or used properly, can be boring (Marx & Frost, 1998, p. 244). In my experiment, I tried to make the videos appealing to the targeted audience of first responders and thus more effective in communicating the important technical information that needs to be taught.

Traditionally, training videos are very dry. Usually the films consist of a person explaining the information methodically. The pace is slow and boring. The shots take a long

¹ B-roll is supplemental or alternate footage intercut with the main shot in an interview or documentary.

time to change and the film can become monotonous. For example, a training video currently used in the NCBRT ERDBI training course, *Terrorist Dissemination of Biological Agents*, changes scenes only six times during one minute of video. In contrast, a clip from Episode One of *Law and Order: Special Victims Unit: The Eleventh Year*, a popular fictional television series depicting law enforcement, contains 13 different angles in one minute of time. This is more than twice the number of scene changes in the traditional training video. While these traditional videos continue to be used in training courses, there are many other techniques of mise-en-scene and editing developed over the history of fiction and non-fiction film that may help to hold the attention of the audience and enhance learning.

The training video used in the NCRT ERDBI course, *Terrorist Dissemination of Biological Agents*, features an expert, Bill Patrick, explaining a technical subject. During the minute of video referenced above, the video shows him seated at a desk while he explains the topic. The next few shots feature someone spraying an aerosol can, a group of people seated at a conference room table, a shelf of supplies, and a title screen describing the types of devices used to spread biological agents. All of the shots are stagnant, wide, and show very little movement of the camera or actors. All of the scenes are very brightly and evenly lit. In contrast, the minute of film from *Law & Order: Special Victims Unit* shows movement of both the camera and actors. The camera pans to follow actors and frequently zooms for effect. Many of the shots are close up, which makes them feel more intense. The use of shadows and indirect lighting sets the mood and tone of the scene.

Training videos cannot really be classified as either documentary or fiction. They fall into a category of their own. However, because they share with documentary film the goal of conveying non-fictional information, I have found it useful to consider their characteristics in

light of classifications of documentary. According to Michael Renov, any given documentary film or video has at least one of four tendencies or purposes:

1. To record, reveal, or preserve
2. To persuade or promote
3. To analyze or interrogate
4. To express (Renov, 1993, p. 21)

The typical training video can incorporate all four tendencies in a tightly structured form.

The video records and preserves a training method, persuades audience members to follow this method, analyzes the method, and expresses a belief that the training is important. However, training videos have a specific emphasis on successfully teaching audience members and having them remember the information presented. Unlike documentaries made for wider publics, it is very unusual for a training video to contain narrative or aesthetic elements conventionally found in fiction film or video and, increasingly, in documentaries. Character development and plot are replaced with a “talking head” that conveys facts.

In my experiment, I added narrative and poetic aesthetic elements into the training film and then, in my analysis, compared and contrasted their effectiveness as learning mechanisms with those of the conventional expository training film that deemphasizes aesthetic elements. Do the stories, characters, and aesthetic devices of the narrative and poetic documentary distract from the facts presented in a training video, or do they help maintain the attention of participants in order to encourage information retention?

1.2 Organization of Thesis

Chapter 1 describes the traditional training video and presents a need for improvement. Chapter 2 provides an evaluation of previous research done in the field. Chapter 3 discusses the methods used in the present study. Chapter 4 displays the results from the study, and Chapter 5

gives a description and discussion of how the results can be applied to pedagogical processes.

Chapter 5 will also discuss possibilities for future research.

CHAPTER 2. LITERATURE REVIEW

2.1 Pedagogy and Adult Education

In “Evaluation of Factors Influencing Student Class Attendance and Performance,” Stephen Devadoss and John Foltz recommend several methods for improving student performance. They suggest that supplemental materials, including real world examples, can improve results (1996, p. 506). Employing different types of supplemental materials can affect the learning experience differently. In the case of the training video, as one variety of supplemental learning tool, measures should be taken to ensure that the video is effective.

Studies have shown that humor can increase enjoyment and even help increase the recall and retention of information. According to Garner (2006), “humor has been shown to have both psychological and physiological effects on learners” (p. 177). Including humor in learning can decrease stress and give the classroom a relaxed atmosphere. Humor can even improve a student’s blood circulation and respiration (Berk, 1996). However, the use of humor also can cause complications and hinder learning when used improperly. Garner (2006) suggests that “for humor to be most effective in an academic setting, it must be specific, targeted, and appropriate to the subject matter” (p. 178).

In addition to humor, narrative can increase audience enjoyment. An enjoyable media experience can transport audience members to a new world. Being fully engaged in a story can lead to enjoyment, and perhaps to an increase in information retention (Green, 2004). The use of real world examples can improve results (Devadoss, 1996), so incorporating such examples into a narrative can increase the audience’s enjoyment and attention.

The adult learner is a unique spectator who has different needs from that of the high school or college student. In the 1960s, Merriam was the first to define adult learning education

through his theories of andragogy and self-directed learning. Merriam's theories focus on the individual as a self-motivated and experienced learner. While Merriam's theories have been challenged, they helped to set the stage for a new way of thinking about adult education. The unique characteristics of the adult learner suggest the need to develop a comfortable and enjoyable learning environment with a focus on mutual respect between teacher and pupil (Merriam, 2001). Adding training videos based on different genres could help increase this feeling of gratification.

According to Stolovitch and Keeps (2002), "learning is change" (p. 13). Training should encourage participants not only to retain information, but actually to change the way they do things. Stolovitch and Keeps claim one way to create change is to generate a learner-centered environment. This means considering the participants' needs and applying the information to their own experience. Adding narrative and poetic elements into training videos could help participants to relate to the material more fully. Stolovitch and Keeps (2002) conclude their study with the helpful notion that "training is one heck of a lot more than simply telling" (p. 175).

2.2 Documentary Film and the Use of Narrative Elements

Documentary theorist Bill Nichols classifies documentary films into six modes: poetic, expository, observational, interactive, reflexive, and performative.² These modes describe the way a documentary is presented, including the intentions of the documentarist, elements and conventions of the film itself, and the audience's perception of the documentary. These modes are thus similar to genres. The table below demonstrates the modes and provides a brief

² Nichols posits four modes in his work *Representing Reality* (1991, p. 32), but extends and modifies the list to include the six modes listed here in *Introduction to Documentary* (2001, p. 99).

description of each. The description is an adaptation of Nichols' work as defined by Patricia A. Suchy in her documentary seminar at Louisiana State University.

Table 1
Nichols's Modes and Descriptions

Mode	Description, Goals and Methods	Example
Poetic	Emphasizes visual associations, tonal or rhythmic qualities, descriptive passages, and formal organization and shares a common terrain with the modernist avant-garde; reality is represented by assembling fragments of the historical world in an aesthetic frame.	Example: Humphrey Jennings's <i>Listen to Britain</i> (1942)
Expository	Employs the disembodied and authoritative voice-over, illustrated with images that aim to be descriptive and informative.	Example: news stories; conventional training videos
Observational	Aims to present a "slice of life" and efface the filmmaker, who is an uninvolved bystander.	Example: Albert Maysles and David Maysles' <i>Salesman</i> (1968)
Interactive	The filmmaker's presence is prominent, predominantly in interviews with subjects. The audience interprets the argument from a juxtaposition of limited perspectives – usually that of the filmmaker.	Example: Michael Moore's <i>Roger & Me</i> (1989)
Reflexive	Exposes the audience to the conventions of representation operating in the film; calls attention to the fact that it is a film, focuses on how the subjects are filmed, vs. the subjects themselves; challenges the documentary's ability to represent reality or truth.	Example: Dziga Vertov's <i>Man With a Movie Camera</i> (1929)

(table continued)

Performative	Deflects attention away from the world and toward the expressiveness of the film, often poetically; stresses subjective aspects of the conventionally objective discourse that has historically been documentary's domain; allows viewers to experience an event or emotional feeling that they may not have been able to experience in their real world.	Example: Errol Morris's <i>Fast, Cheap & Out of Control</i> (1997)
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Nichols labeled the most familiar or conventional mode of documentary film the expository mode: "This is the mode closest to the classic expository essay or report and it has continued to be the primary means of relaying information and persuasively making a case since at least the 1920s" (Nichols, 1991, p. 34). Although the modes often overlap, the expository mode generally contains a text "directed toward the viewer; images serve as illustration or counterpoint" (Nichols, 1991, p. 34). The film is guided by a figure of authority (often expressed by a disembodied authoritative narrator's voice-over) and often presents the solution to a problem. The conventional training video is made using predominantly elements from the expository mode. While narrative elements like plot and character can be found throughout any of Nichols's modes, the typical training video is not likely to emphasize those elements.

Most people would claim that a film centered on facts defines documentary, while one rooted in myths and imagination falls into the fiction category. In reality, the relationship is much more complicated. Errol Morris, a contemporary filmmaker who explores these boundaries in his work, states in an interview:

I wouldn't say that our relationship with the fact is unmediated, but there is a fact out there... the world leaves a trail, and it is our job as investigators--or, specifically my job

as an investigator--to try to lead myself back to the world. (Grundmann & Rockwell, 2000)

Morris finds facts and shows them to the public. His presentation of facts, however, causes critics to question their nature as documentary. His narrative style and use of pointedly stylized re-enactments change the way documentary traditionally displays information, especially in the expository and observational modes. In his film *The Thin Blue Line* (1988), Morris uses several devices more usually found in fiction film, including slow motion, stylized cinematography that evokes the *film noir*, character development, and plot. This film in particular follows the story of a man wrongly convicted of murder. The story maintains tension between the characters, and the audience begins to relate to the man wrongly imprisoned. According to Nichols (1994), “inevitably, the distinction between fact and fiction blurs when claims about reality get cast as narratives” (p. ix).

According to Nichols, “We hunger for news from the world around us but desire it in the form of narratives, stories that make meaning, however tenuous, dramatic, compelling, or paranoid they might be” (*ibid*). As audiences have grown more exposed to and arguably more comfortable with the blurred line separating documentary and fiction, narrative documentary that makes use of devices more commonly associated with fiction film has become not only accepted, but sought after.

My study conjectures that with the popularization of narrative forms of documentary that borrow techniques of fiction films, training videos made using the typical expository mode may not be as effective in training emergency first responders. Viewers yearn for a plot to hold their interest and for techniques more at home in the fiction film. According to Nichols (1991), “narrative documentaries are fictions with plots, characters, situations, and events like any other”

(p. 107). The drama, tension, and conflict hold the interest of the audience and lead to increased attention. “The global reach and structural complexity of late twentieth-century reality calls for storytelling that can appear to encompass it” (Nichols, 1994, p. ix).

In addition to narrative elements such as plot and character, poetic elements are also found throughout fiction film. When these predominate in a documentary, the film or video can be categorized in Nichols’s poetic mode. According to Nichols (2001), “the poetic mode sacrifices the conventions of continuity editing and the sense of a very specific location in time and place that follows from it to explore associations and patterns that involve temporal rhythms and spatial juxtapositions” (p.102). Without traditional continuity, the film or video forms a lyrical and more abstract form as in, for example, Humphrey Jennings’s *Listen to Britain* (1942), a montage of everyday life in wartime Britain that moves via associative links and without narration. In some poetic documentaries, techniques like slow motion and selective moments of color may build a tone and mood that add meaning and evoke emotion. When incorporated into documentary, these poetic elements invite the audience to form associations.

Different theorists have declared hundreds of fictional genres and subgenres. The term “genre” when used to describe film or video is broad and consists of categories and subcategories that span popular media. When it refers to fiction film, according to Kaminsky (1985), the term refers to “a body, group, or category of similar works, this similarity being defined as the sharing of a sufficient number of motifs that we can identify works that properly fall within a particular kind or style of film” (p. 9).

There is no particular standard list to which critics refer when studying genre. While several lists of film genres are available, one in particular developed by Harry Geduld and Ronald Gottesman (1973) contains over seventy-five genres. For this study, I will use a list

compiled by Stephen Neale (2000): Action-Adventure, Biopics, Comedy, Contemporary Crime, Epics and Spectacles, Horror and Science Fiction, Musicals, Social Problem Films, Teenpics, War Films, Westerns, Melodrama. While these genres can be broken down even further into subgenres (e.g. the romantic comedy, the slapstick comedy, etc.), for the purposes of this study I will refer to the broader generic terms. Because the subgenres share a multitude of different motifs and conventions with the parent genre, the use of the broad generic term will be sufficient.

I produced videos representing several of these modes and genres which subsequently I showed to first responders. In turn, the viewers were tested for memory retention of the technical information presented. Because I could not create a video for each mode and genre because of time and material constraints, I performed a pilot study to help me determine which videos to create. In formulating my choices for the modes and genres of the videos I produced, I experimented with Nichols' modes of documentary as well as with genres of fiction film. Further descriptions of the modes and genres chosen for this study will be provided in the Pilot Study section.

CHAPTER 3. METHODS

3.1 Population

The population used in this study is a group of participants who took the National Center for Biomedical Research and Training (NCBRT) Public Safety Weapons of Mass Destruction (WMD) Response – Sampling Techniques and Guidelines (Sampling) course. This course is geared towards first responders who are first on the scene of an emergency. In the NCBRT Course Catalog, the course is described as follows:

This course prepares hazardous materials (HazMat) teams within state and local emergency response agencies to safely and effectively conduct public safety operations at known or suspected weapons of mass destruction (WMD) incidents in a manner consistent with Federal Bureau of Investigation (FBI) recommended guidelines for procedures and protocols, including a sampling response in compliance with Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.120 (q). The course challenges participants to develop a systematic approach to managing a WMD scene in which the public's safety is at risk. The course evolves from traditional problem-based classroom activities into a series of scenario-based practical exercises. (National Center for Biomedical Research and Training, 2010)

Because several of the scheduled Sampling classes were cancelled due to reasons beyond my control, three other groups of first responders were asked to participate. These participants had not taken nor planned to take the Sampling Course. The three groups consisted of firefighters from Fire Station Number 12 in Baton Rouge, a group coordinated by the Walker, Louisiana Police Department, and a group coordinated by the Baton Rouge Emergency Medical Services Training Division. Overall, 87 people viewed the films, with 86 participating to completion. One record was dropped because the participant answered all seven true/false questions as true and three multiple choice questions as C in a row, showing he/she did not take the test seriously. The remaining 85 participants' scores were used in this study. One person did not answer the questions regarding attention and two people did not answer the question regarding enjoyment on the post test. These participants were not included in the analysis of

attention and enjoyment, but they were included in the analysis of overall score improvement. Of the 85 participants, 9 (11%) were female and 76 (89%) were male. The gender difference is quite extreme, but this is representative of the population as a whole; Emergency First Response is traditionally a male dominated field. For example, in 2000, only 13% of the US police force consisted of women (National Center for Women in Policing, 2000). The age of the participants was not tracked. In the future, age may be explored as another factor affecting the way participants view training videos.

An initial analysis of the population shows that many first responders participating in the study work on hazardous materials teams (HAZMAT), as Emergency Management Service (EMS) officers, in fire suppression, in emergency management, in law enforcement, and with search and rescue teams. Each participant was asked to list his or her job duties. Because some participants have job duties that span many categories, they were asked to select all job duties that apply. Specifically, forty-five (52.94%) work in HAZMAT, thirty-five (41.18%) work in EMS, thirty-two (37.65%) work in fire suppression, twenty-nine (34.12%) work in emergency management, and twenty-seven participants (31.76%) work as law enforcement officers. Sixteen (18.82%) are members of search and rescue teams, thirteen (15.29%) have military experience, eight (9.41%) work in government administration, six (7.06%) work in explosive ordnance disposal, five (5.88%) as safety officers, and four participants (4.71%) work in airport operations. Three participants (3.53%) each work in jurisdiction government, public safety communications, and other health care. Two participants each (2.35%) are members of a disaster board, work in higher education, work as a lab technician, work in the private sector, work in public health, work in public works, and work as security, and one (1.18%) participant works in Campus Law Enforcement, works as a nurse, and works as a physician.

3.2 Pilot Study

In order to determine the impact of narrative and poetic elements in the training film, I produced several videos. Because the list of documentary and fiction film genres and modes is incredibly large and time and resources were limited, a pilot study was conducted to determine which types of video I should produce. First, I analyzed a list of genres and modes to determine which videos could represent the technical information properly. Then this more finite list was given to a group of participants to rate their sensation value in order to determine which types of video I would make for further study.

Film genre and mode are similar terms that represent the categories of fiction and documentary film. Nichols defines six different modes of documentary, and other studies have documented countless fiction film genres. While the different modes and genres overlap in many ways, the chosen videos emphasize distinct differences to keep them apart. Because of the vast number of genres and modes, only six of these videos, three documentary modes and three fictional genres, are represented in the initial pilot study. Of these six, I produced four videos. In the section below, I describe genres and modes in detail and narrate the selection process.

According to Harrington, et al. (2003), high sensation seekers, as determined using Zuckerman's Sensation Seeking Scale, tend to respond better to videos that are considered to have a high sensation value. The Sensation Seeking Scale is a type of personality test that measures the optimal level of stimulus an individual requires during waking hours. Because emergency first responders rate high on some areas of the scale, the types of videos I created were chosen according to their expected sensation value. Synopses of six different videos were given to a group of emergency first responders. These research participants' responses to a survey were analyzed according to Zimmerman's Sensation Value Scale to determine the sensation value of the different videos. Using these results, I chose four videos to make for the

present study. The chosen videos represent both high and low sensation value. Following the selection process, the videos were shown to participants to determine the efficacy of these videos as a training tool.

As discussed in the literature review section (Table 1), Bill Nichols classifies documentary films into six modes that describe the way a documentary is presented.

Of the six modes listed in Table 1, three were chosen for use in the pilot study. The modes were chosen according to the potential to present properly the technical information meant to be used in the videos. The table below references the specific reasons the videos were chosen for use in the pilot study.

Table 2
Chosen Modes and Explanations

Mode	Chosen	Explanation
Poetic	Yes	The technical information can be presented in the poetic mode by using poetic elements.
Expository	Yes	This mode was chosen because it most clearly represents the traditional training video.
Observational	Yes	The observational mode can be presented by following first responders in a realistic setting to teach information.
Interactive	No	The technical information presented in the training video should not be viewed by the audience as merely the perspective of the filmmaker, but rather as a standard that should be adhered to.
Reflexive	No	Overlaps significantly with one of the fictional genres that will use this same technique so it was eliminated to keep all films mutually exclusive.
Performative	No	The audience will experience the actions taking place in the training video themselves, so the video will not be able to bring them to an unfamiliar place.

The following table describes each film genre from the list created by Neale (2000) that was discussed in the literature review and the reasons some were chosen to be used in this study.

Table 3
Chosen Genres and Explanations³

Genre	Description	Chosen	Explanation
Action-Adventure	Characterized by special effects, stunts, and explosions	No	Eliminated because of production costs
Biopics	Depiction of a person's life	No	Not logical within duration of short video
Comedy	Jokes hold together a narrative plot	Yes	Technical information can be adopted into this format
Contemporary Crime	Gangster films and suspense thrillers	Yes	Technical information can be adopted into this format
Epics & Spectacles	Usually refer to a time set far in the past	No	Technical subject matter demands a current time period
Horror & Science Fiction	Usually set in the future	No	Technical subject matter demands a current time period
Musicals	Usually a comedic story told through musical pieces	No	Overlaps with the comedy so will be eliminated to keep films mutually exclusive
Social Problem Film	Displays a social problem	No	Has considerable overlap with other genres and will be eliminated to keep films mutually exclusive
Teenpics	Geared towards a teenage audience	No	Target audience is above the age of 18
War Films	Set during a particular war	No	Technical subject matter demands a current time period
Westerns	Set during the American time period known as the 'Wild West'	No	Technical subject matter demands a current time period
Melodrama	Action, tension, and suspense	Yes	Technical information can be adopted into this format

³ Definitions adapted from Stephen Neale (2000).

For the pilot study, I wrote six synopses of potential training videos following the conventions of the chosen modes and genres: poetic documentary, observational documentary, expository documentary, melodrama, comedy, and contemporary crime. The following paragraphs describe each chosen mode or genre in detail, adapted from the works of Nichols and Neale.

The Poetic Documentary uses visual associations matched with tonal or rhythmic qualities to cause the audience to strike associations with the material presented. The knowledge portrayed is presented in a fragmented way to encourage the audience to develop a subjective impression based on the tone or mood of the piece. The authoritative voice is ambiguous, but the filmmaker's voice comes through by giving glimpses of the world in a lyrical and elegant way.

The Expository Documentary uses a "voice of god" approach, employs an often disembodied authoritative voice that objectively presents an argument, and presents the argument in an accessible and straightforward manner. The footage illustrates the text, with the voice-over signifying to the viewers what they are supposed to think and feel about the images they are watching. Most news stories are filmed in this form, with news anchors and reporters talking about events that are demonstrated with film footage.

The Observational Documentary is presented as a "slice of life," where the filmmaker is an uninvolved bystander. There is no interaction between the filmmaker and the subjects. The film gives the audience a sense of immediacy and transparency. Usually the film consists of lengthy shots and handheld camera movement. The filmmaker works as a "fly on the wall" trying to capture the surroundings without influencing the actions of the people being filmed. Documentaries in this mode are associated mostly with the direct cinema and cinema vérité movements of the 1960s, when cameras became more portable and portable audio recording and

faster film stocks made it possible for documentarists to shoot on location. An example of an observational documentary is *Salesman* (1968), the story of four bible salesmen who knock on the doors of American citizens.

Comedies are light-hearted plots consistently and deliberately designed to amuse and provoke laughter with one-liners and jokes by exaggerating the situation, the language, action, relationships and characters. There are many subgenres of comedy, including slapstick and parody. The subgenre chosen for this study was parody. According to Neale (2000), parody “involves imitation, citation, and reference” (p. 64). A recent example of a parody is *Vampires Suck*, a 2010 film that plays upon the popular new vampire series, *Twilight* (2008).

Contemporary Crime Films are developed around the sinister actions of criminals or mobsters, particularly bankrobbers, underworld figures, or ruthless hoodlums who operate outside the law, stealing and murdering their way through life. According to Neale (2000), the contemporary crime film “can be charted with respect to three major figures, the criminal, the victim, and the agent of law and order, and two major aesthetic effects, suspense and surprise” (p. 65). An example of a contemporary crime film can be seen as early as 1904 with *The Bold Bank Robbery*, a film that follows a gang of thieves who rob a bank (Neale, 2000).

The Melodrama is a serious, plot-driven presentation, portraying realistic characters, settings, life situations, and stories involving intense character development and interaction. Usually, they are not focused on special effects, comedy, or action. An example of a melodrama is the popular television series, *Law and Order* (1990). A melodrama can be “characterized by a plot to appeal to the heightened emotions of the audience” (Dirks).

Using the above descriptions, I developed six synopses representing the chosen modes and genres (see Appendix A for the written synopses). While it is possible and likely for these

modes and genres to overlap, care was taken to make them as mutually exclusive as possible. To ensure the synopses accurately reflected the appropriate modes and genres, the list was given to a group of three graduate students and faculty in the Department of Communication Studies at Louisiana State University who have studied and researched these concepts. They were given all six synopses and instructed to categorize each according to the six genres and modes. During this manipulation check, all three coders categorized the synopses identically and in the manner expected.

The synopses were given to a group of NCBRT instructors and staff. These participants are familiar with the traditional videos currently available in training courses for emergency first responders. The participants were given the Perceived Message Sensation Value Scale (PMSV), created by Harrington, for each synopsis. They were asked to envision each synopsis as a video and answer the scale items accordingly. (See Appendix B for PMSV questions.)

In order to ensure that the individual PMSV questions represented only sensation value and not any other construct, I calculated Cronbach's Alpha reliability coefficient on the responses for each synopsis. A high reliability coefficient means, for example, that all questions designed to calculate a particular construct like sensation value do indeed measure sensation value and not some other unknown construct for a particular synopsis. If the Cronbach's Alpha reliability coefficient is above .7, it is considered acceptable in most social science fields (Nunnally, 1967). In this study, all reliability coefficients for each synopsis are listed above .7, showing that the question items are indeed reliable. The results can be seen in the following table.

Table 4
Pilot Study-Cronbach's Alpha

Synopsis Construct	Cronbach's Alpha
Poetic Sensation Value	.916
Melodrama Sensation Value	.947
Contemporary Crime Sensation Value	.953
Expository Sensation Value	.958
Comedy Sensation Value	.946
Observational Sensation Value	.960

After Cronbach's Alpha was calculated to determine reliability of the sensation value scale, descriptive statistics were run to determine the means and standard deviations for each synopsis and construct. These calculations show us which synopses had the highest and lowest sensation value. On a scale rated 1-7, participants rated each question. The poetic documentary and melodrama both rated very high in sensation value. The Contemporary Crime, Comedy, and Observational rated in the middle, and the Expository rated the lowest. The results are as follows:

Table 5
Sensation Value Descriptive Statistics

Synopsis	Mean	Standard Deviation	N
Poetic Documentary	5.4882	.78952	60
Melodrama	5.2510	1.13645	60
Contemporary Crime	4.6382	1.05532	60
Comedy	4.5255	1.13433	60
Observational Documentary	4.3520	1.23956	60
Expository Documentary	3.2245	1.15069	60

Eta-squared shows which percentage of the variability can be explained or accounted for by the independent variable. In this case, eta-squared tells us how much the difference in means is caused by the different genres and modes as opposed to some other unknown variable. Partial eta-squared for the means of sensation value is .724, meaning that 72% of the difference in the sensation value means can be accounted for by the difference in mode and genre.

Having determined that film mode or genre has an effect on the differences between variables, I ran a between subjects ANOVA, which told me which means contain significant differences. A significant difference was found between most of the synopses from this study using the Perceived Sensation Value Scale. The Poetic Documentary and the Melodrama are not considered significantly different from one another, but are both significantly different from the other three. There was no significant difference found between the Contemporary Crime, Comedy, and Observational Documentary, but all three are significantly different from the melodrama and poetic documentary.

In table form, the results are as follows for sensation value. The table is based on estimated marginal means and an * shows that the mean difference is significant at the .05 level. Adjustment for multiple comparisons is made using Bonferroni.

Table 6
Sensation Value Significant Differences

					Lower Bound	Upper Bound
Poetic	Melodrama	.237	.152	1.000	-.229	.703
	Crime	.850*	.143	.000	.412	1.288
	Expository	2.264*	.187	.000	1.693	2.835
	Comedy	.963*	.147	.000	.513	1.412
	Observational	1.136*	.187	.000	.563	1.710

(table continued)

Melodrama	Poetic	-.237	.152	1.000	-.703	.229
	Crime	.613*	.172	.011	.087	1.139
	Expository	2.026*	.220	.000	1.352	2.701
	Comedy	.725*	.181	.003	.171	1.280
	Observational	.899*	.216	.002	.239	1.559
Crime	Poetic	-.850*	.143	.000	-1.288	-.412
	Melodrama	-.613*	.172	.011	-1.139	-.087
	Expository	1.414*	.167	.000	.903	1.924
	Comedy	.113	.142	1.000	-.322	.548
	Observational	.286	.201	1.000	-.330	.903
Expository	Poetic	-2.264*	.187	.000	-2.835	-1.693
	Melodrama	-2.026*	.220	.000	-2.701	-1.352
	Crime	-1.414*	.167	.000	-1.924	-.903
	Comedy	-1.301*	.190	.000	-1.882	-.720
	Observational	-1.127*	.193	.000	-1.719	-.536
Comedy	Poetic	-.963*	.147	.000	-1.412	-.513
	Melodrama	-.725*	.181	.003	-1.280	-.171
	Crime	-.113	.142	1.000	-.548	.322
	Expository	1.301*	.190	.000	.720	1.882
	Observational	.174	.197	1.000	-.430	.777

Of the six videos analyzed, I produced four based on the results. Both the poetic documentary and the melodrama rated high on the sensation value scale, but were not significantly different from one another. To ensure that at least one of them is high in sensation

value when actually produced, both were created. Of the three video synopses that fell in the middle, the contemporary crime, comedy, and observational documentary, I produced the comedy because it rated in the middle of the three. The expository rated the lowest on the scale and was significantly different from all others, so it was also produced.

3.3 Current Study

3.3.1 Videos. The four videos, which will be referred to as the drama, the comedy, the expository, and the poetic, were all created using the same high definition digital video cameras and the same crew members. Some actors remained consistent throughout the film, and although some actors varied due to the nature of the different videos, the amount of experience held by the actors was consistent throughout. For example, the actor playing the role of the police chief in the drama held a similar experience level to the actor who played the same role in the comedy. At the time of filming, both actors were graduate students in Performance Studies in the Department of Communication Studies at Louisiana State University. The videos ranged in length from 13 minutes to 27 minutes.

Each video describes the FBI Twelve-Step Process for assessing a crime scene. Within each video, identical title frames stayed on screen with the name and a short description of that step. These screens were read aloud. This is an example of how some of the genres and modes overlap. The title screens are a technique conventionally employed in the expository documentary. They were placed in all four videos to maintain some consistency in presentation. Truly, each of the videos produced has some element of the expository mode. The purpose of each film is to explain a process, which is an underlying purpose of this mode. The difference in the videos is contained in the other elements that are featured; although each step was introduced with the same title card, the scenes in between were presented in a comedic, dramatic, poetic, or

traditional way. Both the comedy and drama followed the true story of a doctor who was convicted of attempted murder. Further descriptions of the four videos can be found below.

The comedy has a run time of 27 minutes. The longest of the videos, this video parodies popular crime scene television shows; thus it also shares aspects of Nichols's reflexive mode. The comedic elements of the film lend themselves to a longer video. For example, a single line in the drama lets the audience know that it is not appropriate for personnel to be in a crime scene photograph. In the comedy, the actors stop and gaze off into the distance, imagining photographs in the past in which the protagonist has included himself into the photos (Figure 1). In crafting my videos, I found that this interjection of comedic elements takes a lot longer than the execution of a single line of dialogue.

The comedy references several popular crime scene television shows, including and most significantly *Law and Order* (1990). The plot follows the protagonist, a law enforcement officer, on his journey to solve the mystery of a man dressed as Abraham Lincoln (Figure 2), who attempts to murder a prominent doctor. The narrator antagonizes the protagonist throughout the video, telling him he is performing steps incorrectly and irritating him with the famous *Law and Order* "noise."

During each scene change in the television series *Law and Order* (1990), a distinct non-diegetic two beat sound effect that resembles a deadbolt locking is heard by audience members. In the comedic video, this noise distracts the protagonist, and he constantly searches for its source (Figure 3). The video concludes with the criminal being caught by the protagonist.

The drama runs 17 minutes and resembles a crime scene television show that is based on a true story, roughly the same story told in the comedy. The story, like the story in the comedy, is based on the experience of Robert Stout, an NCBRT instructor who assessed the crime scene

of a warehouse belonging to Dr. Ray Mettetal Jr. in Tennessee (R. Stout, personal communication, July 14, 2009).



Figure 1: Actors gaze into the distance, imagining previously taken photographs



Figure 2: Criminal, still dressed as Abraham Lincoln, defends himself in a court of law



Figure 3: Protagonist listens to the *Law and Order* “noise” with irritation

Dr. Ray Mettetal Jr. was arrested on the Vanderbilt campus for trespassing, which led to charges of attempted murder. A warehouse was found soon thereafter, registered under an assumed name, but belonging to Dr. Mettetal. Within the warehouse, the law enforcement officers on the scene found significant evidence that Mettetal was attempting to murder another physician using hazardous chemicals. Later, the doctor was released from prison on the grounds that he was not given proper warning before his arrest for trespassing.

The protagonist of the drama video is a police officer who assesses the crime scene with his rookie partner (Figure 4), showing him the ropes. The two assess the crime scene together and go through all twelve steps of the FBI twelve-step process (Figure 5). The video ends dramatically, just as the story did in real life, with the perpetrator being released from prison on a technicality.



Figure 4: Protagonist tells the rookie what to be prepared for at the crime scene



Figure 5: The protagonist and the rookie enter the crime scene together

The poetic video runs 13 minutes and begins by showing scenes of United States citizens safely and happily going about their lives. The scene very suddenly changes to that of tragedy, showing the importance of first responders in keeping the United States safe. These images show recognizable United States disasters, including the fall of the twin towers in New York on September 11, 2001. Scenes of fires and explosions show how vulnerable the United States can be. This use of montage is typical of a poetic documentary and is often used to evoke emotion. The montage in the poetic training video is filled with beautiful scenery (Figure 6), patriotic images (Figure 7), and tragedy (Figure 8).



Figure 6: Image of beach at sunset

Within the poetic video, the twelve-step process is described with the use of images and powerful music, with very little dialogue. Because of this, the poetic is shorter in length than both the drama and comedy. The poetic begins with the montage of United States life, delves

into United States tragedy (Figure 8), shows each of the FBI twelve steps, and then returns to United States citizens going about their lives safely and happily. The steps are described using title screens and imagery of the step being performed. Much of the footage used to represent the twelve steps was borrowed from the drama, but the characters are not named nor developed except as archetypes. The order of the presentation was chosen to encourage first responders to realize the importance of training and how it affects the lives of United States citizens.



Figure 7: Patriotic image of child at play layered with image of American flag



Figure 8: American tragedy

The expository video most closely represents the traditional training video. The length is 13 minutes, and the format is focused on an interview with an experienced HAZMAT fire fighter, Joe Wilson. He explains the twelve steps with supplementary footage of people performing the actions. His explanations are short and to the point, and he explains each step in detail. Wilson introduces himself and then goes directly into the twelve steps. (Figure 9)

Much of the illustrative footage (Figure 10) representing the performance of the steps is also used in the drama, comedy, and poetic videos. However, in this video Wilson's voice carries over the demonstrations of the steps, and the images are treated as illustrations of what he is explaining.



Figure 9: Joe Wilson, HAZMAT firefighter



Figure 10: Example of illustrative footage that is used in all videos

3.3.2 Procedure. The videos were shown to seven different groups of first responders. Of these groups, 61 were participants from an NCBRT Sampling courses. Each video was shown to two separate groups, with the exception of the poetic, which was shown to one large group. The number of participants that watched each video is shown below:

1. Drama – 24
2. Comedy – 26
3. Poetic – 18
4. Expository – 17

Participation in the study was voluntary, and participants were told that they were helping NCBRT to develop better training videos. They were given a pre-test and a post-test that consisted of the same informational questions. Thus, the two tests contain the same 16 informational questions, nine multiple choice and seven true/false (see Appendix C and Appendix D). I developed both the pre-test and post-test with the help of Joe Wilson, an NCBRT Instructor who is certified to teach the NCBRT Sampling course and the narrator of my

expository video. The questions were developed based on the NCBRT Sampling Course Instruction Manual, which addresses the FBI Twelve-Step Process within Module 2. The list of job duties the participants can select is the same one available on the NCBRT participant registration form. To ensure that all answers to the questions were available in all videos, a group of NCBRT staff members volunteered to watch the videos with the ability to stop and fast forward in order to ensure the answers were present. I determined through this analysis that the question addressing considerations while taking a crime scene photograph (question number nine on both the pre-test and post-test) was not thoroughly answered within the poetic documentary, so that question was dropped from the analysis of all four videos.

The tests were distributed at Sampling classes throughout the United States. Because I was unable to attend all classes, detailed instructions were given to the NCBRT instructors to preserve consistency in the administration of the tests (see Appendix E). I performed the administration of the test myself on two occasions with a total of 17 participants. Each participant was given a code number to print on both the pre-test and post-test to ensure anonymity during the succeeding comparative analyses.

In addition to questions pertaining to the technical aspects presented in the videos, questions were asked regarding how well the video held attention and generated enjoyment. Participants were asked to comment on how the video compared to other videos they had seen previously and why they liked or disliked the video.

CHAPTER 4. RESULTS

The current chapter presents the quantitative results from this study and analysis of qualitative data. Discussion of the results will be presented in Chapter 5. I performed a power analysis as well as comparisons between the mean scores of the different videos. In addition, correlations were done to find trends between enjoyment, attention, and score.

4.1 Learning Outcomes

In order to determine if the different videos had any effect on retention of technical information, a one-way ANOVA was conducted. The ANOVA was run to test the difference in the pre and post-test scores to track improvement rather than overall score. No significant differences were found in the improvement of the scores of the tests from the different videos. Although insignificant, participants made the most improvement from the poetic and the least improvement from the drama. The results of the ANOVA and the descriptive statistics are displayed below:

Table 7
Descriptive Statistics of Score Improvement

Video Type	Mean	Standard Deviation	N
Poetic	3.6667	1.87867	18
Comedy	3.0385	1.92833	26
Expository	2.6471	1.61791	17
Drama	2.5	1.56038	24

Table 8
Significant Differences of Score Improvement

Video Type	Video Type	Mean Difference	Std. Error	Sig.
Drama	Comedy	-.53846	.49814	1.000
	Poetic	-1.16667	.54871	.219
	Expository	-.14706	.55785	1.000

(table continued)

Comedy	Drama	.53846	.49814	1.000
	Poetic	-.62821	.53959	1.000
	Expository	.39140	.54889	1.000
Poetic	Drama	1.16667	.54871	.219
	Comedy	.62821	.53959	1.000
	Expository	1.01961	.59516	.543
Expository	Drama	.14706	.55785	1.000
	Comedy	-.39140	.54889	1.000
	Poetic	-1.01961	.59516	.543

Because all of the videos did contain all of the information on the test, and the participants were given the test directly after watching the video, it is not surprising to me that there were no significant differences found between the video type and the improvement in test scores. All participants watched the video with the understanding that there would be a test following the presentation. Despite the fact that many of the participants claimed some of the videos did not hold their attention, it seems most of them were still watching the videos intently. With the exception of two people, all participants improved their scores on the post-screening test. Because no significant differences were found, all videos were equally effective in helping participants retain information.

4.2 Attention and Enjoyment

Two one-way ANOVAs were conducted to determine how participants responded to the different genres based on attention and enjoyment. The overall ANOVA for attention found a significant difference among the genres. A post-hoc analysis using Bonferroni reveals that the

drama and expository videos significantly held more attention than the comedy. Following the same format, participants also enjoyed the expository and the drama more than the comedy.

There was a significant main effect for attention, $F(3, 80) = 4.76, p=.004$, as well as a significant effect for enjoyment, $F(3, 79) = 5.80, p=.001$. Results of the attention and enjoyment ANOVAS and descriptive statistics can be found below:

Table 9
Attention Descriptive Statistics

Video Type	Mean	Standard Deviation	N
Expository	3.76	.970	17
Drama	3.52	.846	23
Poetic	3.22	1.353	18
Comedy	2.58	1.238	26

Table 10
Attention Significant Differences

Video Type	Video Type	Mean Difference	Std. Error	Sig.
Drama	Comedy	.945*	.320	.025
	Poetic	.300	.352	1.000
	Expository	-.243	.358	1.000
Comedy	Drama	-.945*	.320	.025
	Poetic	-.645	.343	.383
	Expository	-1.188*	.349	.006
Poetic	Drama	-.300	.352	1.000
	Comedy	.645	.343	.383
	Expository	-.542	.379	.935
Expository	Drama	.243	.358	1.000
	Comedy	1.188*	.349	.006
	Poetic	.542	.379	.935

* The mean difference is significant at the 0.05 level.

Table 11
Enjoyment Descriptive Statistics

Video Type	Mean	Standard Deviation	N
Expository	3.82	1.015	17
Drama	3.45	.912	22
Poetic	2.94	1.349	18
Comedy	2.42	1.301	26

Table 12
Enjoyment Significant Differences

Video Type	Video Type	Mean Difference	Std. Error	Sig.
Drama	Comedy	1.031*	.337	.018
	Poetic	.510	.370	1.000
	Expository	-.369	.376	1.000
Comedy	Drama	-1.031*	.337	.018
	Poetic	-.521	.357	.890
	Expository	-1.400*	.363	.001
Poetic	Drama	-.510	.370	1.000
	Comedy	.521	.357	.890
	Expository	-.879	.394	.171
Expository	Drama	.369	.376	1.000
	Comedy	1.400*	.363	.001
	Poetic	.879	.394	.171

* The mean difference is significant at the 0.05 level.

Overall, the study did not find any significant differences in the retention of information between videos. Among all the videos, participants did better on the test after watching the films they reported did not hold their attention and were not enjoyable. While these findings may seem strange, some of the comments and suggestions made by the participants can help explain this occurrence.

Participants commented the following regarding training videos they had seen in the past: “Not current or no longer applied”; “Very uninformative. Not any real life scenarios. Just fluff.”; “Often too long. Not interesting.”; “Boring with poor quality.” Despite many comments similar to the ones above, participants claimed that the expository video shown in this study held their attention and was very enjoyable. The expository was rated highest among the videos in these categories, and was found to be significantly more enjoyable and held more attention than the comedy. Participants claimed the video was “simple and to the point,” “very informative and helpful,” “short, concise, and orderly,” and “up to date.” These comments suggest that the expository video used in this study may not have been representative of other training videos that are currently being used; for instance, the high definition technology may have made a significant difference. The comments also suggest that the video type may not be the reason participants find the traditional videos boring. The length, pace, and technology used in creating the video may have more of an effect on enjoyment and attention.

4.3 Correlations Between Enjoyment, Attention, and Information Retention

Based on assumptions about the nature of the different genres and why each might be more or less effective as a teaching instrument, the variables of attention and enjoyment were used as proxies for overall engagement with the task of learning the material. Using a comparison of means with an ANOVA, it was determined that the participants enjoyed and paid attention to the expository the most, and the comedy the least. They performed best on the poetic, although the results were not significantly better than the other videos watched. Interestingly, the correlation, computed using Pearson, between both attention and enjoyment and the improvement of scores was negative, $r(82) = -.119, p < .05$, and $r(81) = -.170, p < .05$, respectively. The participants who didn’t like or enjoy the videos actually performed better on the test. After looking further into the results, I found that there was a significant difference

between the comedy and both attention, $r(24) = -.479, p < .05$, and enjoyment, $r(24) = -.469, p < .05$. When separating the comedy from the other videos, a positive correlation (although insignificant) exists with attention and score improvement, $r(54) = .078, p < .05$. Enjoyment remains a slightly negative correlation with score improvement, but not significantly, $r(54) = -.003, p < .05$. The following tables and graphs illustrate the correlations between attention, enjoyment, and score improvement.

Table 13
Correlations For All Videos

		Score Improvement	Enjoyable
Score Improvement	Pearson Correlation	1	-.170
	Sig. (2-tailed)		.124
	N	85	83
Enjoyment	Pearson Correlation	-.170	1
	Sig. (2-tailed)	.124	
	N	83	83
		Attention	Score Improvement
Score Improvement	Pearson Correlation	1	-.119
	Sig. (2-tailed)		.280
	N	84	84
Enjoyment	Pearson Correlation	-.119	1
	Sig. (2-tailed)	.280	
	N	84	85

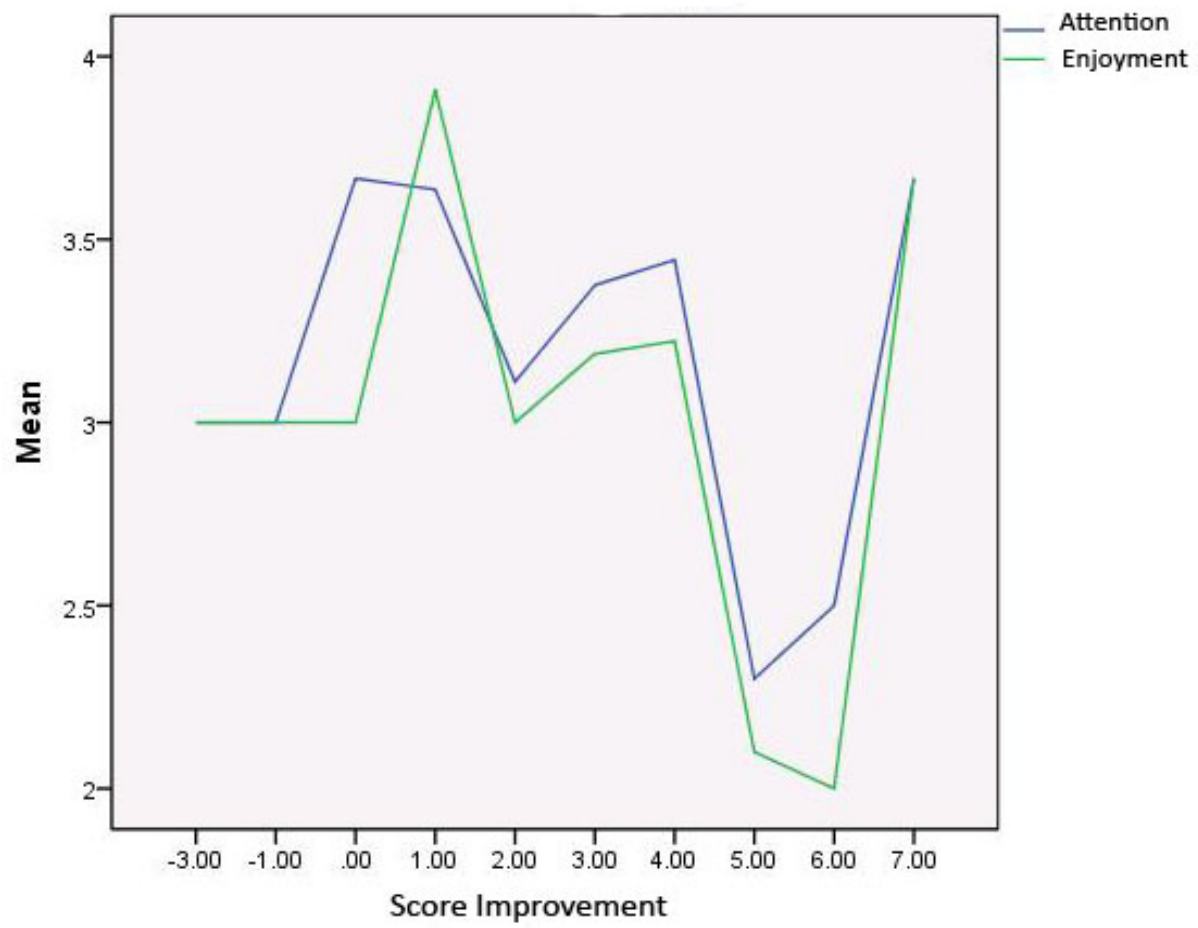


Figure 11: Attention and Enjoyment Graph

Table 14
Correlations Excluding Comedy

		Score Improvement	Enjoyable
Score Improvement	Pearson Correlation	1	-.003
	Sig. (2-tailed)		.981
	N	57	56
Enjoyment	Pearson Correlation	-.003	1
	Sig. (2-tailed)	.981	
	N	56	56
		Attention	Score Improvement
Score Improvement	Pearson Correlation	1	.078
	Sig. (2-tailed)		.562
	N	57	57
Enjoyment	Pearson Correlation	.078	1
	Sig. (2-tailed)	.562	
	N	57	57

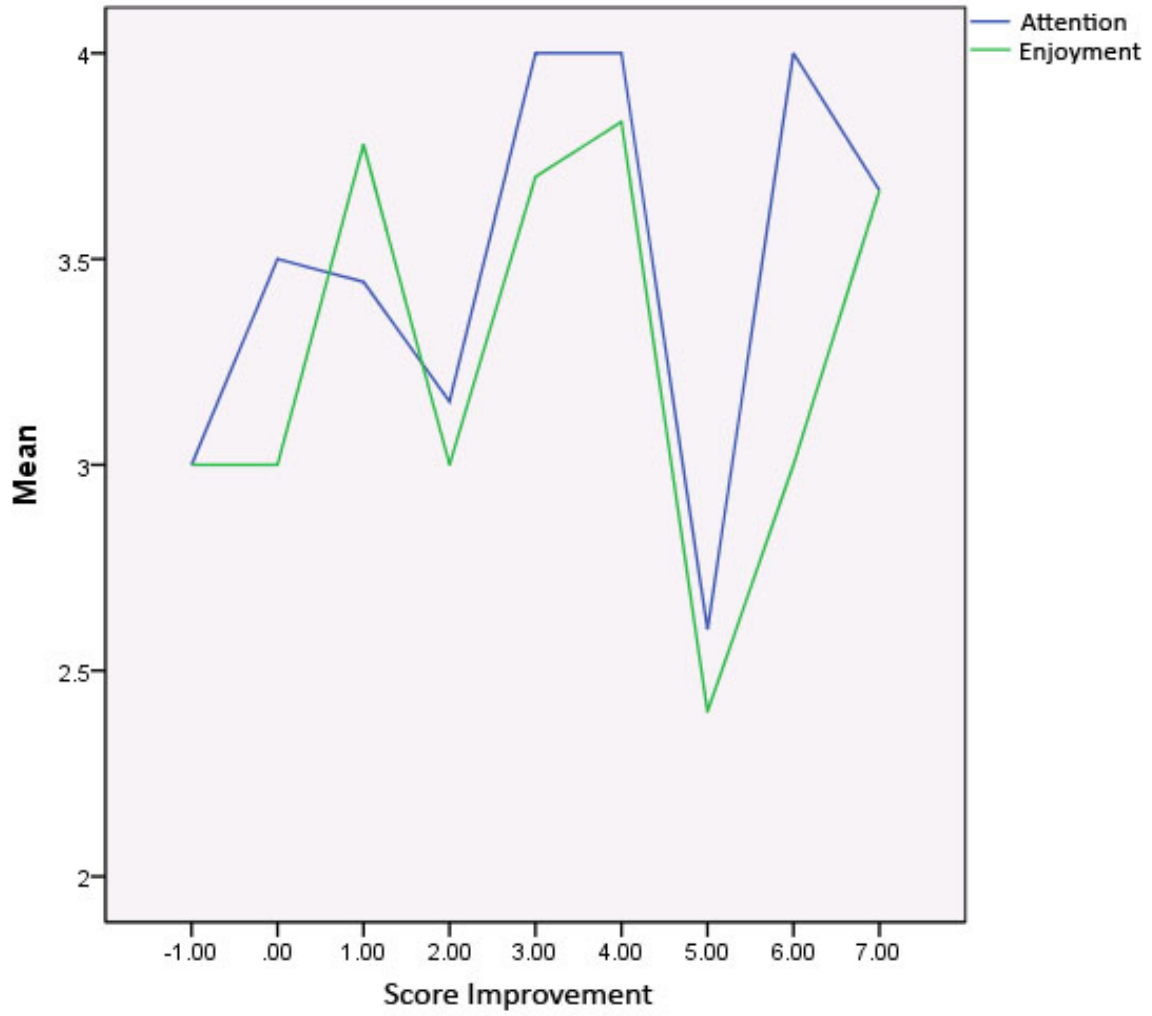


Figure 12: Correlations Excluding Comedy

Table 15

Correlations Between Comedy and Score Improvement

		Score Improvement	Enjoyable
Score Improvement	Pearson Correlation	1	-.569*
	Sig. (2-tailed)		.016
	N	26	26
Enjoyment	Pearson Correlation	-.469*	1
	Sig. (2-tailed)	.016	
	N	26	26
		Attention	Score Improvement
Score Improvement	Pearson Correlation	1	-.479*
	Sig. (2-tailed)		.013
	N	26	26
Enjoyment	Pearson Correlation	-.479*	1
	Sig. (2-tailed)	.013	
	N	26	26

*. Correlation is significant at the 0.05 level (2-tailed).

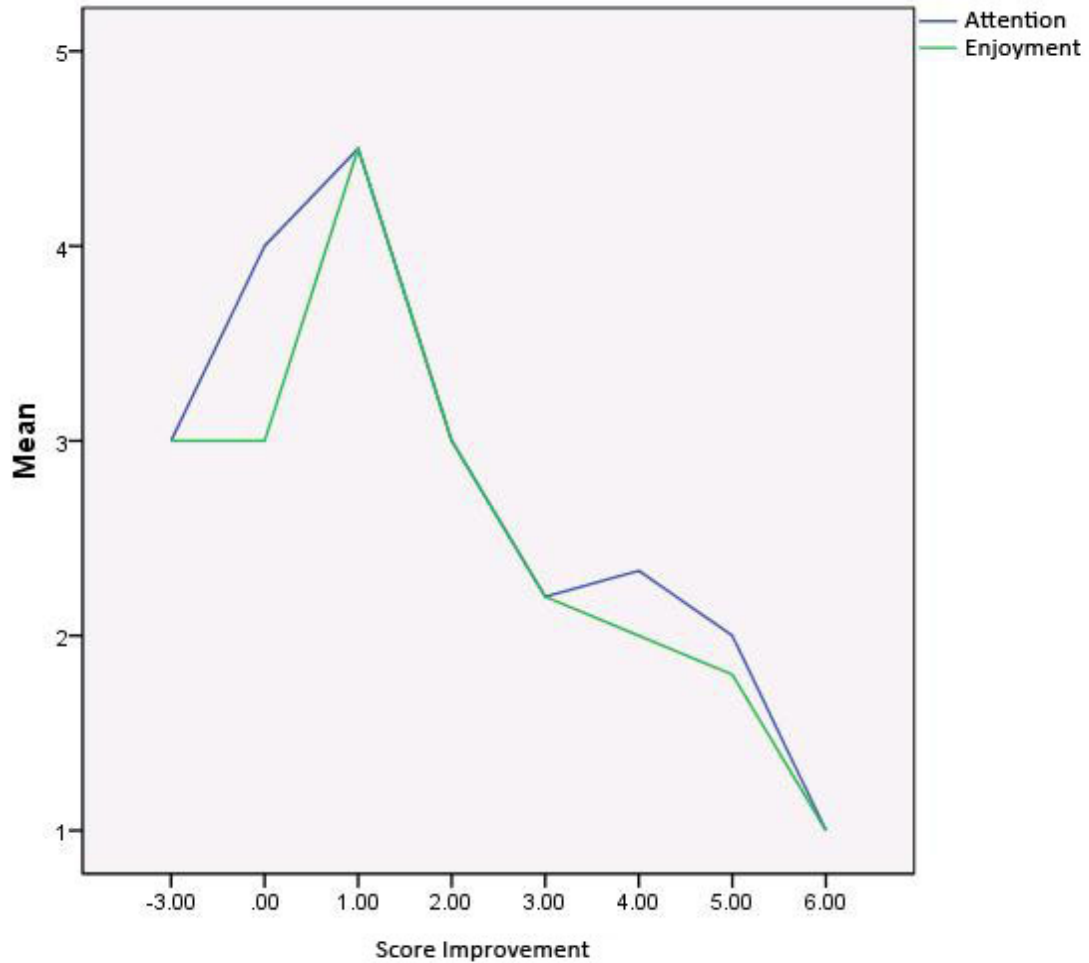


Figure 13: Correlations between comedy and score improvement

The comedy was rated the least enjoyable and participants claimed the video solicited the least attention. The improvement scores on the post- test, however, suggest that the video succeeded in conveying the information. While one participant said the comedy was “terrible. It was 20 minutes of my life I cannot get back,” that same person improved from a 56% on the pre- test to an 81% on the post-test. Unlike many other participants who claimed they did not pay attention to the video, the above noted participant told the truth – he didn’t enjoy the video, but it did hold his attention. He rated enjoyment a 1 out of 5, and attention a 3 out of 5. While the comedy was rated as the least enjoyable and held the least attention, participants had a greater

improvement on the post-test than with the expository or the drama, albeit not significantly. It seems that the comedy did hold the interest of the participants. The strong ratings of dislike seemed to cause the participants to pay more attention rather than less. The low ratings for attention and enjoyment for the comedy drastically skewed the overall results relating attention and enjoyment to score improvement. For the comedy, the more participants disliked the video, the better they performed on the test.

This result coincides with a presentation given by Harold Stolovitch at the NCBRT Annual Instructor Meeting in November of 2010. He began by asking audience members if they had ever had a bad relationship. When they said they had, he asked them if they had learned from it. Stolovitch (2010) stated:

You learn from horrible things too. And what I am saying to you is this. It is not the enjoyability. Enjoyability is an intermediary variable. What enjoyment does is get you to persist and spend more time on something. So it is time on task and persistence that is important. Enjoyability will do it for you, but a rawhide whip might do it as well.

Another factor that may have influenced the low ratings on attention and enjoyment for the comedy is the job duties of the participants. By chance, the majority of the participants who viewed the comedy (15 out of 26) were law enforcement officers. Many of these participants felt that the comedy was making fun of law enforcement personnel. The intention of the parody was to poke fun at law enforcement television shows, not law enforcement officers, but one participant commented that the video, “made mocking of personnel.” It is possible that the job duties of the participants could have played an important role in the enjoyment of the videos.

As referenced in an earlier section, many NCBRT participants found traditional videos to be too long. A participant from the ERDBI class in October of 2009 stated that the videos need to “make the point and move on.” With this in mind, the length of the videos may have had an impact on the enjoyment and attention of the participants. One participant claimed the comedy

video could be shortened by several minutes. Because the comedy was significantly longer than the other videos, this factor could have had an impact on enjoyment and attention.

4.4 Power Analysis

Using Cohen's estimations for effect size (.10 for a small effect, .25 for a medium effect, and .4 for a large effect), the study seems to be lacking in power for small and medium effects (Cohen, 1988). In order to detect significant changes due to the different video types, more participants would need to be analyzed. Keeping in mind that 80% power would be considered sufficient to detect small, medium and large effects, this study only has 12% power for small effects and 57% power for medium effects. Large effects, however, have a 95% power and should be able to be detected with the number of participants used in the study.

CHAPTER 5. DISCUSSION

5.1 Limitations of the Study

This study would need a larger participant base in order to detect medium and small effects. More people would need to view the videos with a broader range of job duties. In order to test information retention of the technical information presented in the videos fully, another post-test should be given at some point in the future. This study merely tests the participants' ability to recall information they just finished watching. Film genre may have more of an effect on long-term information retention.

5.2 Suggestions for Future Research

Findings from this study suggest that factors other than video genre have an effect on participants' enjoyment and attention while watching the videos. Other factors could include length and pace of video and film quality. These factors should be analyzed to determine how to make videos more effective. As mentioned above, this study focuses only on direct information retention and does not investigate long-term effects. Future research could involve testing for information retention several months after the viewing of the videos.

5.3 Conclusion

Within the scope of this study, the video genres tested did not significantly affect improvement of scores on the post-test. The videos did, however, differ significantly in regard to attention and enjoyment. Surprisingly, the study found that the higher the attention and enjoyment, the lower the score improvement, leading me to believe that any strong feeling of like or dislike can improve scores. I also believe participants who did not enjoy a video often stated that they didn't pay attention to it, which may not have been the case. This study also suggests that other factors influence the participants' interest in the video besides video genre, which could include pace, film quality, identification with characters, and others. Further

research could be conducted with a larger sample to reach significant power. Other studies could be done to determine how other factors may influence learning. A scale that measures attention and enjoyment could be used to further investigate these constructs in more detail than asking the participants a single question on the two. This information could all help to improve training videos for first responders, helping them to enjoy and learn the important techniques they need to know to keep our country safe.

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APPENDIX A. SYNOPSES

Synopsis 1 – Poetic Documentary

This film begins by showing American pastimes and then abruptly changes to scenes of violence, disaster, and tragedy. The title appears: “Keeping America Safe: The 12-Step Process for Crime Scene Management.” Underlying the film is powerful music, sometimes smooth and sometimes rhythmic, depending on the mood of the scene. There is very little dialog, but other noises are dominant. Most of the scenes are put together with visual effects, and the film has a very flowing appearance. The team leader goes through the twelve steps with an investigation team. Each step begins with what appears to be a black and white photograph, which then transforms into the action of the scene. Some shots are sped up, some are slowed down. Between each step in the twelve step process, a title appears on the screen with the description of the step. The film comes full circle and ends with the American flag and scenes of pastimes. The entire film duration is around 15 minutes.

Synopsis 2 - Melodrama

A man kisses his wife and child goodbye as he leaves for work at the police station. The title appears: “Keeping America Safe: The 12-Step Process for Crime Scene Management.” The man discovers that his sister’s home has become a crime scene. She and her child, his nephew, have been murdered. He explores the crime scene, going through the 12-Step Process for Crime Scene Management, even though he is growing revengeful. As the man goes through each of the twelve steps to manage the crime scene, a title appears on the screen with the description of the step. While he is exploring the crime scene, his own wife and child are taken hostage. Suddenly, his own home is becoming a crime scene. He talks to the criminal, who is his brother-

in-law, works through his revengeful thoughts, and saves his wife and child. The entire film duration is around 15 minutes.

Synopsis 3 – Contemporary Crime

The film begins with close up shots of a crime taking place. The criminal is never clearly visible. The title appears: “Keeping America Safe: The 12-Step Process for Crime Scene Management.” The music in the film is suspenseful, with low tones and setting a frightening mood. Some back story is given of the criminal, who is a part of the mafia. The criminal struggles to decide to turn himself in. He watches through a camera as a detective examines his crime scene. As the detective goes through each of the twelve steps to manage the crime scene, a title appears on the screen with the description of the step. The mobster decides to turn himself in. The entire film duration is around 15 minutes.

Synopsis 4 – Expository Documentary

This film begins with an experienced emergency responder introducing the 12-Step Process for Crime Scene Management. The title appears: “Keeping America Safe: the 12-Step Process for Crime Scene Management.” Music is audible depending on the scene depicted, but it is not the focus of the film. The narrator explains each step of the 12-Step process. As each step is explained, visual references of a team leader and investigation team are shown performing the tasks. Between each step in the twelve step process, a title appears on the screen with the description of the step. The entire film duration is around 15 minutes.

Synopsis 5 - Comedy

This film is a parody of the common crime TV series, *Law and Order*. Characters dress to represent actors from the show, and the introduction is created based on the introduction used in the series. The title appears: “Keeping America Safe: The 12-Step Process for Crime Scene Management.” Musically, the film is similar to *Law and Order*, with the familiar chime ringing between each step. The 12 steps for Crime Scene Management are shown by the well known characters while they battle with good and bad angels atop their shoulders, dress in unexpected clothing, and crack jokes in reference to *Law and Order*. Between each step in the 12-step process, a title appears on the screen with the description of the step. The entire film duration is around 15 minutes.

Synopsis 6 – Observational Documentary

This film begins with a shot of the outside of a crime scene. The title appears: “Keeping America Safe: The 12-Step Process for Crime Scene Management.” Music is audible depending on the scene depicted, but it is not the focus of the film. Dialog will be heard as a crime unit goes through the 12 Step Process for Crime Scene Management. The crime scene investigation team is actually assessing a true crime scene. They have very little interaction with the filmmaker. Between each step in the 12-step process, a title appears on the screen with the description of the step. The entire film duration is around 15 minutes.

APPENDIX B. PERCEIVED SENSATION VALUE SCALE

Perceived Sensation Value Scale used in the pilot study

Imagine you watched the film described in the synopsis. The film is of a high production value and uses trained actors and participants. Please rate the film on the following scales. For example, on the first pair of adjectives if you thought the film would have very powerful music, give a "1." If you thought it would have weak music, give it a "7." If you thought it was somewhere in between, give it a 2,3,4,5, or 6.

strong music	1	2	3	4	5	6	7	weak music
presents accurate information	1	2	3	4	5	6	7	wouldn't present accurate information
dramatic	1	2	3	4	5	6	7	undramatic
not at all understandable	1	2	3	4	5	6	7	very understandable
unique	1	2	3	4	5	6	7	common
did not really make me think	1	2	3	4	5	6	7	really made me think
exciting	1	2	3	4	5	6	7	boring
not at all thought provoking	1	2	3	4	5	6	7	thought-provoking
creative	1	2	3	4	5	6	7	not creative
powerful impact	1	2	3	4	5	6	7	weak impact
stimulating	1	2	3	4	5	6	7	non stimulating
not intellectually stimulating	1	2	3	4	5	6	7	intellectually stimulating
not at all comprehensible	1	2	3	4	5	6	7	very comprehensible
strong sound effects	1	2	3	4	5	6	7	weak sound effects
valid claims	1	2	3	4	5	6	7	invalid claims
intense	1	2	3	4	5	6	7	not intense
strong visuals	1	2	3	4	5	6	7	weak visuals
arousing	1	2	3	4	5	6	7	not arousing
confusing arguments	1	2	3	4	5	6	7	clear
does not make sense	1	2	3	4	5	6	7	makes sense
would give me goosebumps	1	2	3	4	5	6	7	would not give me goosebumps
novel	1	2	3	4	5	6	7	ordinary
unclear information presented	1	2	3	4	5	6	7	clear information presented
graphic	1	2	3	4	5	6	7	not graphic
emotional	1	2	3	4	5	6	7	unemotional
credible information presented	1	2	3	4	5	6	7	information presented not credible
not intellectually engaging	1	2	3	4	5	6	7	intellectually engaging
unusual	1	2	3	4	5	6	7	usual
involving	1	2	3	4	5	6	7	uninvolving
would make people think	1	2	3	4	5	6	7	would not make people think

APPENDIX C. PRE-TEST

Pre-Test used taken by participants before watching the training video

Pre-Test

Test Number _____

1. How familiar are you with the FBI 12-step process for crime scene management?
Not at all familiar 1 2 3 4 5 Very familiar

2. What is the FBI 12-Step process for crime scene management?
 - A. A 12 step training program that a first responder must complete to successfully become certified to enter a crime scene
 - B. The 12 steps that should be followed when assessing a crime scene
 - C. The 12 steps involved in putting on level B Protective Personal Equipment
 - D. None of the above

3. When should you follow the FBI 12-step process?
 - A. When assessing any crime scene
 - B. Only when the FBI will be involved in the assessment
 - C. Only when the crime scene contains radiological contaminants
 - D. Only when you are working outside of your jurisdiction

4. Which of the steps below is NOT included in the 12-step process for crime scene management?
 - A. Secure and protect the scene
 - B. Agencies should have trained and equipped personnel
 - C. Turn off unnecessary electronics
 - D. Releasing the crime scene

5. Which of the below steps comes first in the 12-step process for crime scene management?
 - A. Depict Scene Photographically
 - B. Write Narrative Description
 - C. Draw/Sketch or Diagram
 - D. The order doesn't matter

6. When does the 1st step of the 12-step process for crime scene management begin?
 - A. Directly after notification regarding the incident
 - B. Before an incident occurs
 - C. When you enter the crime scene
 - D. When you take the first sample

7. Which of the following should not happen during Step 2 – Approaching the Scene?
 - A. Take samples of evidence
 - B. Obtain warrant or written consent
 - C. Ensure personnel are mentally prepared for the incident
 - D. All of the above

8. Which type of evidence should be collected first?
 - A. transient, volatile, or perishable
 - B. all should be collected simultaneously if possible
 - C. evidence closest to entry way
 - D. None of the above

9. What should you consider when taking a photograph?
 - A. Taking wide, medium and close up shots
 - B. Ensuring no one is in the photograph
 - C. Taking a photo when you enter the room
 - D. All of the above

10. What should be evident in a diagram/sketch of the scene?
 - A. Depth perception
 - B. Location of evidence
 - C. Who assessed the scene
 - D. A & B only

True/False

Please circle T for true and F for false

11. T F A detailed search is conducted before any evidence is actually collected.
12. T F Only one pair of gloves is necessary when taking a sample.
13. T F Once the samples are taken and secured, the steps are complete.
14. T F The scene can be released back to the property owner after he or she is informed of remaining potential hazards and obligations.
15. T F A detailed narrative description should be created describing the crime scene.

16. T F If you are taking a sample and a non-contaminated person hands you an object, he or she should give you the item from underneath your hand to prevent further contamination.

17. T F A perimeter should be established and secured before assessment begins.

18. Do you consider yourself to be an emergency first responder? Yes No

19. What is your gender? Male Female

20. Please check all that apply to your current job duties.

- | | | |
|---|--|---|
| <input type="checkbox"/> Airport Operations | <input type="checkbox"/> Fire Suppression | <input type="checkbox"/> Other Health Care (Non-EMS) |
| <input type="checkbox"/> Agricultural Distributor | <input type="checkbox"/> Governmental/Administrative | <input type="checkbox"/> Physician |
| <input type="checkbox"/> Agricultural Extension Agent | <input type="checkbox"/> HazMat | <input type="checkbox"/> Private Sector |
| <input type="checkbox"/> Agricultural Producer | <input type="checkbox"/> Higher Education | <input type="checkbox"/> Public Health |
| <input type="checkbox"/> Campus Law Enforcement | <input type="checkbox"/> Hospital Administrator | <input type="checkbox"/> Public Safety Communications |
| <input type="checkbox"/> Appointed Public Official | <input type="checkbox"/> Hospital Planner | <input type="checkbox"/> Public Works |
| <input type="checkbox"/> Disaster Board Meeting | <input type="checkbox"/> Jurisdiction/Government | <input type="checkbox"/> Safety Officer |
| <input type="checkbox"/> Elected Official | <input type="checkbox"/> Lab Technician | <input type="checkbox"/> Search and Rescue |
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Law Enforcement | <input type="checkbox"/> Security |
| <input type="checkbox"/> EMS | <input type="checkbox"/> Military | <input type="checkbox"/> Veterinarian |
| <input type="checkbox"/> Explosive Ordnance Disposal | <input type="checkbox"/> Nurse | <input type="checkbox"/> Other |

APPENDIX D. POST-TEST

Post-Test used taken by participants before watching the training video

Post Test

Test Number _____

21. How familiar are you with the FBI 12-step process for crime scene management?
Not at all familiar 1 2 3 4 5 Very familiar
22. What is the FBI 12-Step process for crime scene management?
E. A 12 step training program that a first responder must complete to successfully become certified to enter a crime scene
F. The 12 steps that should be followed when assessing a crime scene
G. The 12 steps involved in putting on level B Protective Personal Equipment
H. None of the above
23. When should you follow the FBI 12-step process?
E. When assessing any crime scene
F. Only when the FBI will be involved in the assessment
G. Only when the crime scene contains radiological contaminants
H. Only when you are working outside of your jurisdiction
24. Which of the steps below is NOT included in the 12-step process for crime scene management?
E. Secure and protect the scene
F. Agencies should have trained and equipped personnel
G. Turn off unnecessary electronics
H. Releasing the crime scene
25. Which of the below steps comes first in the 12-step process for crime scene management?
E. Depict Scene Photographically
F. Write Narrative Description
G. Draw/Sketch or Diagram
H. The order doesn't matter
26. When does the 1st step of the 12-step process for crime scene management begin?
E. Directly after notification regarding the incident
F. Before an incident occurs
G. When you enter the crime scene
H. When you take the first sample

27. Which of the following should NOT happen during Step 2 – Approaching the Scene?
- E. Take samples of evidence
 - F. Obtain warrant or written consent
 - G. Ensure personnel are mentally prepared for the incident
 - H. All of the above
28. Which type of evidence should be collected first?
- E. transient, volatile, or perishable
 - F. all should be collected simultaneously if possible
 - G. evidence closest to entry way
 - H. None of the above
29. What should you consider when taking a photograph?
- E. Taking wide, medium and close up shots
 - F. Ensuring no one is in the photograph
 - G. Taking a photo when you enter the room
 - H. All of the above
30. What should be evident in a diagram/sketch of the scene?
- E. Depth perception
 - F. Location of evidence
 - G. Who assessed the scene
 - H. A & B only

True/False

Please circle T for true and F for false

31. T F A detailed search is conducted before any evidence is actually collected.
32. T F Only one pair of gloves is necessary when taking a sample.
33. T F Once the samples are taken and secured, the steps are complete.
34. T F The scene can be released back to the property owner after he or she is informed of remaining potential hazards and obligations.
35. T F A detailed narrative description should be created describing the crime scene.

36. T F If you are taking a sample and a non-contaminated person hands you an object, he or she should give you the item from underneath your hand to prevent further contamination.

37. T F A perimeter should be established and secured before assessment begins.

38. Did the film presented to you today hold your attention?

Did Not Hold Attention 1 2 3 4 5 Held Attention

39. Was the film presented to you today enjoyable to watch?

Was Not Enjoyable 1 2 3 4 5 Was Enjoyable

40. Please describe your experience with training videos in the past.

41. How does the video you just watched compare to training videos you have watched in the past?

42. Did you like the video presented to you today? Why or why not?

APPENDIX E. TRAINING VIDEO GUIDE

Training Video Guide for Test Administrators

- Please show one video to the class.
- The video should be shown prior to any instruction on the 12 step process if possible.
- The participants should be told the following:
 - This is a training video that introduces information that will be taught in the Sampling Class
 - Participation is strictly voluntary and will in no way effect their scores in the class
- Participants should not be told that the video is a drama or comedy.
- The participants should be given the pre-test before watching the video and the post-test directly after watching the video
- The blank for test number should be filled out with a unique random number
 - Because the test is anonymous, I need a number so I can match which pre-test and post-test were taken by the same person.
- If the test is taken during lunch, I am willing to provide pizza as an incentive for the participants to stay to participate in the study.

VITA

Kerry Jenkins is an employee at the National Center for Biomedical Research and Training, where she predominantly works with videos for the organization. Her responsibilities include filming and editing promotional videos and training videos. She also works on the Applications Development Team creating web applications. She received her Bachelor of Science in Information Systems and Decision Sciences in May 2004. She has spoken at the Louisiana Film Conference and has participated as a guest lecturer twice for the Louisiana State University Introduction to Film class. In addition, Kerry is currently producing a feature length historical fiction film, *Remember My Isa*. Previously, Kerry has worked at The Shaw Group, Inc. as an applications developer predominantly working on web site development.