12-2011

Crisis Communication Needs Assessment: A Delphi Study to Enhance Instruction for Agricultural Communicators and Other Stakeholders

Allyson Ceary McGuire
University of Arkansas

CRISIS COMMUNICATION NEEDS ASSESSMENT: A DELPHI STUDY TO ENHANCE INSTRUCTION FOR AGRICULTURAL COMMUNICATORS AND OTHER STAKEHOLDERS

CRISIS COMMUNICATION NEEDS ASSESSMENT: A DELPHI STUDY TO ENHANCE INSTRUCTION FOR AGRICULTURAL COMMUNICATORS AND OTHER STAKEHOLDERS

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Agricultural and Extension Education

By

Allyson Ceary McGuire
University of Arkansas
Bachelor of Science in Agricultural Education, Communications and Technology, 2009

December 2011
University of Arkansas

ABSTRACT

Agricultural communicators and industry stakeholders need to be able to develop, prepare and implement crisis communication plans to help assure the sustainability of the agriculture industry should a crisis event occur. A thorough exploration of possible options and needs for training crisis communicators is a needed study in the agriculture industry. Students learning to prepare for managing crises in real life situations are rarely taught in a hands-on, experiential manner. Students can read and analyze case studies pertaining to crises, but without having an actual crisis; little means exist for preparing students for real world situations. There is a need for a more effective way of teaching students to develop, prepare and implement crisis communication plans for agricultural industry organizations. The purpose of this study was to determine crisis communication training needs for new professionals. Additionally, the study sought to outline specific skills, knowledge, competencies, and personal traits, needed to be taught to students, within the identified training need areas. The researchers used a five-round Delphi to identify these desired sets of related competencies and the extent to which they exist in industry professionals. A snowball sampling technique identified 49 crisis communication experts from three professional organizations with 31 agreeing to participate. Eight major competency areas were identified and verified in the first two Delphi rounds: (1) areas of experience; (2) communication, media and technical skills; (3) contingency plan and preparedness; (4) learning/training needs and opportunities; (5) media and technical skills; (6) networking opportunities; (7) personal traits; and (8) supplies and tools. Round three employed a five-point Likert-type scale to rank skill/knowledge needs within the eight competency areas. Within the eight needed training areas, 102 competencies emerged. There was no single skill/knowledge item where 100% of the participants ranked themselves as expert. The final two rounds created a succinct, yet comprehensive and validated list of skills/tasks/traits/tools needs. The final round assessed whether the items in each competency area should be taught using theory, application using simulation, application based on real experience, both theory and application, or neither. Results will assist higher education/industry training outlets to improve curriculum and instructional methods.

This thesis is approved for recommendation
To the Graduate Council.

Thesis Director:

_____

Dr. Leslie Edgar

Thesis Committee:

_____

Casandra Cox, MS

_____

Dr. Donald Johnson

_____

Dr. Kelly Way

THESIS DUPLICATION RELEASE

I hereby authorize the University of Arkansas Libraries to duplicate this thesis when needed for research and/or scholarship.

Agreed _____

Allyson Ceary McGuire

Refused _____

ACKNOWLEDGEMENTS

It is of utmost important for me to first acknowledge my graduate advisor and thesis committee chair, Dr. Leslie Edgar. Without her encouragement I would not have had the invaluable opportunity to serve as a graduate research assistant. I also would not have been able to plan, research, and write this thesis, which has been an amazing challenge and priceless learning experience. Dr. Edgar has been a fabulous mentor, teacher, friend, traveling companion and role model.

I would also like to acknowledge Casandra Cox, my undergraduate advisor and another vital mentor, teacher, traveling companion and (in times of desperate need) my unofficial therapist. Casandra is a patient, insightful, selfless and dedicated individual who deserves so much more credit than she ever gets for her hard work. Without her guidance, I would not have completed either of my two degrees.

Additionally, my office-mate, co-researcher, better half (even though we both deviated from the mean), and great friend, Kristin Pennington, has been an amazing source of companionship throughout graduate school. Without her assistance, I probably would not have known how to stay organized or keep up with collecting data. I most certainly would not have stayed on track with my work load, and would never have had as much fun without her. I am fortunate to have made a true lifelong friend in this process.

Finally, I would like to acknowledge my family – specifically my parents – who have encouraged me through the entire journey of graduate school. Their love, support, last-minute drives to Fayetteville, and even copy editing got me through the thesis process and the final months of school. I love you and appreciate all that you have done!

I have learned a lot, had a lot of memorable experiences, and a lot of laughs. I'll definitely miss my "team" and my school! I DID IT!

DEDICATION

I am honored to dedicate this thesis to my “Grandpa” Earl James McGuire, Sr. Unfortunately, he passed away before I could complete my master’s degree, but was still with us for most of my time in graduate school. Throughout my life, he has been one of the greatest supporters of my education. He always encouraged me to do my best in my academic endeavors and in my life. I will always remember him giving me “study workbooks” for Christmas, and how I loved them! His greeting was usually “Well, Ally, how’s school going?” As an engineer, he worked until his later years. He was a brilliant man, and I am fortunate to have inherited his love of lifelong learning and continuing quest for knowledge. Grandpa, here’s to you! Cheers!

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

Figures

Tables

CHAPTER 1

INTRODUCTION

NEED FOR STUDY

Our world depends on agriculture for existence. Whether in the form of food, fuel, fiber, or products produced through agricultural practices or commodities, these items make our lifestyles possible. The United States has a strong agriculture industry that allows the country to be highly self-sufficient and helps to support the rest of the world. Today, one farmer feeds approximately 155 people (American Farm Bureau Federation [AFBF], 2011).

Sustaining our world through the agriculture industry is a global effort. The success of agriculture is often dependent on ideal weather, prevention of contamination, ability to provide clean water, and production of enough food, fiber and fuel to sustain the world. Each year, natural disasters such as earthquakes, floods, and severe storms affect our communities. And, health-related incidents such as flu outbreaks and food-borne diseases can threaten all of us (Food and Drug Administration [FDA], 2010). No one can completely predict the onset and impact of a crisis.

Crises can have devastating effects on unimaginable amounts of people, animals, land, food supplies and resources. Because these possible crises are so potentially damaging, particularly to agriculture, the importance of preparedness and effective training are crucial. Furthermore, the need for crisis communication professionals to have skills, competencies and plans in place prior to a crisis is critical regardless of the agricultural segment involved.

A better understanding of what crisis communication needs are is necessary to prepare communicators in the agricultural sector. An understanding of how to utilize those necessary competencies to train and teach future professionals in this field is needed. The type of training required to adequately prepare crisis communicators may be complex and require various means and delivery of presenting material to students.

STATEMENT OF THE PROBLEM

A thorough exploration of possible options and needs for training crisis communicators is needed to help better prepare professionals in the agriculture industry. With the changing pace of technology, more opportunities are available to train crisis communicators. Traditionally, crisis communicators have

been taught via case studies. However, this traditional classroom teaching method does not always allow for engaged, innovative learning opportunities for these students. This means students learning to prepare for managing crises in real-life situations are rarely taught in a hands-on, experiential manner. Students can read and analyze case studies pertaining to crises, but without having an actual crisis; little means exist for preparing students for real-world situations. There is a need to assess skills, competencies and tools needed by new crisis communications professionals prior to adjusting curriculum to focus on more hands-on, experiential learning activities. With an accurate accounting of skills, competencies and tools needed to be successful in crisis communications curriculum and teaching delivery can be adjusted to better need the needs of students to develop. This revised hands-on curriculum would better prepare new crisis communications professionals to implement crisis communication plans for agricultural industry organizations and respond to crisis more effectively while lessening the overall economic damage of a crisis and the reputation of the company or companies involved.

OVERVIEW OF THE LITERATURE

Shrivastava, Mitroff, Miller, and Miglani (1988) define a crisis as "an organizationally-based disaster, which causes extensive damage and social disruption, involves multiple stakeholders, and unfolds through complex technological, organizational, and social processes" (p. 285). Weiner (2006) noted a crisis can take on many forms, including natural or man-made disasters, environmental spills, product tampering or recalls, labor disruptions or criminal acts, to name a few (p. 1). "Although all types of organizations are vulnerable to a crisis, certain industries are inherently more prone to a crisis event" (Boudreaux, 2005, p. 3). Because of this, it is important to look at crises preparation more than just from a single organizational viewpoint. Communities, ecosystems, economies, families, government, quality of life and health can all be affected by a crisis. The necessity of adequately preparing students to enter a profession dealing with future crises is a daunting reality.

"True crises have several critical dimensions in common, any one of which, if handled poorly, can disrupt or perhaps destroy best efforts at managing any remaining opportunities to resolve the situation and recover, rehabilitate, or retain reputation" (Lukaszewski, 1998, p. 1). According to Lukaszewski (1998), the most challenging part of crisis communication is reacting—with the right response-quickly.

The United States regulates the production and use of many agricultural products which are used for food, fuel and medical purposes. The nature of a crisis is dependent on the occurrence of a negative event (Glaesser, 2006, p. 211). While we can protect these vital aspects of existence, when a negative event spirals out of control, a crisis can and will affect many aspects of human existence. Therefore, we play a critical role in protecting our Nation from the effects of natural and human-caused crises (FDA, 2010). The impact of a crisis requires the manpower from professionals, organization and volunteers from many industry sectors.

"A situation becomes an immediate 'crisis' communication problem when it draws extensive media attention and requires public response through media" (Whiting, Tucker, & Whaley., 2004, p. 2). This stresses the importance of good communication and media skills, especially when safety is involved or the future of a company. "Crisis communication is much different in that it involves incidents that suddenly and unpredictably threaten the stability of an organization" (Whiting et al., 2004, p. 3). Particularly pertaining to agriculture, the ability for a crisis to reach small to large amounts of people quickly is not only possible but inevitable. Because these possible crises are so potentially damaging, the importance of preparedness and effective training are crucial.

Furthermore, the need for crisis communication professionals to have skills, competencies and plans in place prior to a crisis is critical regardless of the agricultural segment involved. "Crisis management training is a crucial element, which has to be prepared like a script for a movie" (Reuter, Pipek, & Muller, 2009, p. 357). Therefore, a comprehensive list of competencies is needed to successfully prepare future agricultural crisis communicators. A better understanding of what crisis communication professionals needs is necessary to prepare communicators in the agricultural sector. An understanding of how to utilize those necessary competencies to train and teach future professionals in this field is also needed.

In order for crisis communication professionals to work through all phases of a crisis, they need to be adequately trained and prepared with the correct knowledge, tools and skills. The developments that increase the need for effective crisis management are an increased value of reputation, stakeholder activism through communication technologies, negligent failure to plan, and broader views of crises (Coombs, 2012).

PURPOSE OF STUDY AND OBJECTIVES

The purpose of this study was to determine crisis communication training needs for new professionals. Additionally, the study sought to outline specific skills, knowledge, competencies, and personal traits, needed to be taught to students, within the identified training need areas. The study identified crisis communication needs for new professionals using a Delphi technique. The objectives established to achieve the purpose of the study included:

1. Identify crisis communication (competency) needs for new professionals using a Delphi study with crisis communication experts.
2. Identify the skills/tasks/traits/tools within each need area believed by crisis communication experts as important in career success when managing a crisis.
3. Outline competencies/skills best taught through application based on simulation, application based on real-life experience, theory, both, and/or neither.

DEFINITION OF TERMS

- Andragogy: Theory for adult learning (Knowles, 1984).
- Adult Learning: Self-directed, problem-centered, experience-based learning for adults (Lara, 2011).
- Bloom's Taxonomy: A multi-tiered model of classifying thinking according to six cognitive levels (Forehand, 2010).
- Constructivist Learning: The process where individuals actively construct knowledge, supported by group collaborative learning efforts and active learning (Doolittle & Camp, n.d.; Duffy, Lowyck, & Jonassen, 1993).
- Crisis: An internal or external event that threatens the stability of an organization, community, ecosystem, food supply or habitat (Boudreaux, 2005; Shrivastava et al., 1998; Weiner, 2006).
- Crisis Communication: The ability to effectively communicate, manage, and react during a crisis with both internal and external parties (Ulmer ,Sellnow, & Seeger., 2007; Whiting et al., 2004).
- Crisis Management: The types of management styles and corresponding activities in regards to the process character of a crisis (Glaesser, 2006).

- Experiential Learning: Hands-on learning experienced by a student through learning by doing (Kolb, 1984).
- Minimalist Learning: A framework for the design of instruction, especially for computer-based training (Carroll, 1990).
- Participatory/Active Learning: Active engagement and participation of a student in a classroom (Dooley, Lindner, & Dooley, 2005).
- Problem-Based Learning: The process where students work alone or in groups to assess a problem at hand and make a plan to solve the problem (Wood, 2004).
- Problem-Centered Curriculum: The combination of problem-based, participatory/active, constructivist, and experiential learning to create a new kind of teaching methodology for crisis communication courses (see Figure 2) (Knowles, 1984).
- Simulation: A series of photographs, drawings, videos, or sound recordings creating the impression of a virtual experience (Dooley et al., 2005).

Assumptions

A main assumption regarding crisis communication is that crises are all bad and have only negative effects. In reality, the learning process of crises can result in significant improvement of an organization, community, government, or other policy. It could also be assumed that there are limited ways to prepare people to deal with crises. This study aims to explore the various ways in which to teach and prepare future crisis communication professionals, along with identifying the content with which to present them.

Limitations

One of the main limitations of this study is that it is hard to actually allow students to gain viable experience in crisis communication. Because a real crisis cannot be positively simulated, other ways of preparing, teaching and analyzing students and their progress must be created. By combining existing learning theories and utilizing the support and input of crisis communication experts, this limitation can hopefully be overcome in future studies.

Another limitation is that it is impossible to adequately prepare every student for every possible crisis. There are and will always be potential crises that have yet to be imagined. The only logical

solution is to continue to prepare students to react and think in the most useful and versatile ways possible in order to handle crises effectively with as little economic impact as possible.

A significant limitation of this study is that the Delphi results are largely subjective. This means that each participant of the Delphi study was asked open-ended style questions, and much of the information was narrowed down by the researchers from the answers submitted, which were based off of participant experiences. Therefore, the results are limited to the subjective opinions of the study's participants.

CHAPTER 2

THEORETICAL FRAMEWORK

REVIEW OF THE LITERATURE

American Agriculture

The agriculture industry in the United States is a sector of the country that is responsible for supporting many other industries. Without agriculture, society would not exist. Americans enjoy a food supply that is abundant and affordable overall and is among the world's safest, due in large part to the efficiency and productivity of America's farm and ranch families (AFBF, 2011). We depend on clean water, safe food, adequate housing, fuel to enable transportation and machinery, and safe environments in which to live.

Agriculture contributes to the world economy through trade. The United States sells more food and fiber to world markets than it imports, creating a positive agricultural trade balance (AFBF, 2011). In 2010, $115 billion worth of American agricultural products were exported around the world (AFBF, 2011). Agriculture is responsible for jobs for millions of Americans in light of a poor job market. However, when the job market improves, agriculture will still account for millions of jobs. More than 21 million American workers (15% of the total U.S. workforce) produce, process and sell the nation's food and fiber (AFBF, 2011). Agriculture provides for the world's people fundamentally, through food, water and other necessities, but it also provides the economic and industrial structure that requires jobs.

Defining a Crisis

To thoroughly understand the nature of this study, the definition and characteristics of the term crisis must be explored. The word crisis comes from the Greek 'krisis', which means differentiation or decision (Glaesser, 2006).

> A crisis is an undesired, extraordinary, often unexpected and timely limited process with ambivalent development possibilities. It demands immediate decisions and countermeasures in order to influence the further development again positively for the organization (destination) and to limit the negative consequences as much as possible. A crisis is determined by evaluating the seriousness of the occurring negative events, which threaten, weaken or destroy competitive advantages or important goals of the organization (Glaesser, 2006, p. 14).

Shrivastava et al. (1988) define a crisis as "an organizationally-based disaster, which causes extensive damage and social disruption, involves multiple stakeholders, and unfolds through complex

technological, organizational, and social processes" (p. 285). Crises can occur in a multitude of forms and can be of natural causes or man-made causes (Weiner, 2006).

"True crises have several critical dimensions in common, any one of which, if handled poorly, can disrupt or perhaps destroy best efforts at managing any remaining opportunities to resolve the situation and recover, rehabilitate, or retain reputation" (Lukaszewski, 1998, p. 1). Noting and understanding these characteristics can help those in leadership and management positions to prepare to handle the situation.

Those who must lead in the event of a crisis would benefit from the understanding of possible crises based on their location, industry, or profession. "Although all types of organizations are vulnerable to a crisis, certain industries are inherently more prone to a crisis event" (Boudreaux, 2005, p. 3). For example, areas close to bodies of water are prone to flooding and food industries are always going to be susceptible to contamination. More than just a single company, community or industry is often affected by a crisis. Because of this, it is important to look at crises preparation more than just from a single organizational viewpoint. It is also important to examine the process by which and the people involved in dealing with a crisis.

Impact of Crises

Each year, natural disasters such as earthquakes, floods, and severe storms affect our communities. And, health-related incidents such as flu outbreaks and food-borne diseases can threaten all of us (FDA, 2011). No one can completely predict the onset and impact of a crisis. However, crises can have devastating effects on unimaginable amounts of people, animals, land, food supplies and resources. We are responsible for regulating much of our Nation's food, as well as cosmetics, vaccines, tissues, blood, blood products, medical devices, radiological products, and both human and veterinary medicines (FDA, 2011). The nature of a crisis is dependent on the occurrence of a negative event (Glaesser, 2006). While we can protect these vital aspects of existence, when a negative event spirals out of control, a crisis can and will affect many aspects of human existence. It is critical to protect the nation from the impact of natural and human-caused crises (FDA, 2011).

When a crisis occurs, it takes the expertise and man power from multitudes of professionals, organizations and volunteers. For example during Hurricane Katrina, FDA deployed approximately 300 health experts, including doctors, registered nurses, pharmacists, veterinarians, investigators, retail food

specialists, retail milk specialists, and others, to support lifesaving response operations and help our pharmaceutical and food-processing industry partners to recover (FDA, 2011). Because a crisis has a wide reach, the aide of numerous entities is necessary. Given the magnitude of some incidents, it's not always possible for any one agency to manage the incident or provide needed resources (FDA, 2011).

Types of Crises

Wildfires

The uncertainty associated with the large variety of crises complicates protection from and preparedness for the event of a crisis. Many incidents, which evolve into crises, are natural parts of the world's ecosystem. For example, wildfires are part of the cycle of the forest terrain. In 2011, over one million acres of Forest Service lands burned in the American Southwest, as well as another 600,000 acres of federal, state and private lands, costing millions of dollars in immediate fire response and many millions more in restoration and rehabilitation in the months and years ahead (United States Department of Agriculture [USDA], 2011). While we can predict times when wildfires may pose the greatest threat, such as in dry summer months, we cannot predict the total spread and damage fires will cause. Human lives, homes, businesses, access to clean water, and safety of animals and preservation of lands are all affected by the spread of and inability to control wildfires.

Hurricanes

Hurricanes are also a natural part of the ecosystem cycle. Hurricane Katrina is considered to be America's worst natural disaster in history (Discovery Channel, 2005). The 2005 hurricane hit the Louisiana coastline, flooded 80% of the city, killed 1,300 people, left half a million people homeless, and caused $75 billion worth of damage (Discovery Channel, 2005). While engineers had built levees to protect the city from hurricane flooding, the levees were in no way strong enough. Damage to soil due to building, tampering with the natural flow of silt out of the Mississippi River, and receding wetlands caused failure of flood prevention. While officials dealt with the crisis as quickly and efficiently as possible, the disaster continued to have a devastating effect on New Orleans and the surrounding area. The disaster caused damage to more than just human lives and the city, but to the ecosystem and agriculture. In the event of a future hurricane, those that deal with crisis management and prevention of impact have had to look at the safety of rebuilding parts of New Orleans. The true impact of this crisis is noted in the fact that

it may simply not be safe to re-inhabit areas of New Orleans and surrounding areas where the disaster hit hardest (Discovery Channel, 2005).

Earthquakes and Tsunamis

Other crises can stem from a series of multiple natural disasters, such as the 2011 earthquake and tsunami in Japan. The earthquake triggered a catastrophic tsunami later that day, affecting much of northern Japan (Economic Research Service [ERS], 2011). Not only did the crisis destroy regions of Japan and kill its residents, it caused damage to the world economy and halted the export of agricultural goods to the rest of the world. "At least 15,703 people killed, 4,647 missing, 5,314 injured, 130,927 displaced and at least 332,395 buildings, 2,126 roads, 56 bridges and 26 railways destroyed or damaged by the earthquake and tsunami along the entire east coast of Honshu from Chiba to Aomori" (United States Geological Survey [USGS], 2011, ¶1). The total economic loss in Japan was estimated at 309 billion US dollars. Electricity, gas and water supplies, telecommunications and railway service disrupted and several reactors severely damaged at a nuclear power plant near Okuma. The impact of damage from these crises to the rest of the world is still being felt, and damage will continue to impact the world in the coming years.

Food Contamination

Food supply contamination can lead to dangerous foodborne-illnesses. In fall 2011, cantaloupes from a farm in Colorado were linked to outbreaks of people having strains of *Listeria monocytogenes*. 139 cases were reported from 28 states, including 29 deaths (Centers for Disease Control and Prevention [CDC], 2011). The importance of communicating the risk of consuming contaminated food, in this instance, is a matter of life and death. Specifically, according to the Centers for Disease Control and Prevention (CDC), specific persons are at more risk than others for becoming ill or risk of death. With the ability to transport produce and other agricultural food items across the country for consumption, a crisis like this can easily affect people from multiple states.

Terrorism, Bioterrorism and Agroterrorism

Terrorists cause fear and use violence to make their cause known (Klitzke & Schrier, n.d.). The threat of terrorism has been a looming fear for Americans for many years, but the fear has heightened in the last ten years. Since the September 11, 2001 terrorist attack on the World Trade Center, the United

States has recognized the global risk of terrorism (Klitzke & Shrier, n.d.). The impact of the terrorist attacks is still being felt and those events have changed the way Americans live, work and travel.

Many terrorist attacks use physical means such as bombs but chemical and biological weapons have the potential to harm a much larger population than explosives, especially if released into the air, building ventilation systems, or water supplies (Klitzke & Shrier, n.d.). Terrorism can do more than just destroyed buildings, as bioterrorism is also a threat. The CDC defines bioterrorism as the deliberate release of viruses, bacteria or other germs used to cause illness or death in people, animals or plants (CDC, 2011). Once acts of bioterrorism affects food and water supplies and air quality, agriculture is in great danger of negative impact.

The Department of Homeland Security and the United States Department of Agriculture (USDA) have put into place an overall biosecurity system designed to prevent the harmful introduction of plant and animal pathogens into America's system of agriculture and food production (USDA 2011). "Following September 11, 2001, USDA took immediate steps to secure sensitive facilities and examine vulnerabilities throughout the food chain, and it con-ducted assessments to identify the critical needs to fill security gaps" (USDA, 2011, ¶2).

> In the event of a terrorist attack against agriculture, the public will be forced to make life-sustaining decisions in regard to their health, safety and the food they provide to their families or produce for consumption. State agencies, special interest groups, manufacturers and the media will have the responsibility of disseminating information to both consumers and producers (Ashlock, Cartmell, & Leising, 2009, p. 32).

Agroterrorism is a more recently coined term, relevant to modern technology and terroristic ideology. Infecting food supplies through agroterrorism can potentially cause more harm to the world population than terrorist bombings. Agroterrorism is defined as:

> The intentional or threatened use of viruses, bacteria, fungi, or toxins from living organisms to produce death or disease in humans, animals, or plants; or intentional or threatened use of chemicals against food or animals; or the intentional or threatened use of explosives to disrupt agriculture production or supplies of food; the purpose of the act or threat is to intimidate or coerce a government or civilian population (Schaub, 2002, p. 1).

While the previously mentioned crises in no way represent all potential and past crises, they do represent a large span of impact from natural disasters and human-caused disasters. The impact of these crises is felt in agriculture, the economy, and in the health, safety and prosperity of citizens around

the world. Understanding the effect of these disasters and many more have on society helps understand the magnitude of importance for this study.

Crisis Management

The term crisis management is a term relatively new to society. Attributed to the political sphere and specifically U.S. President John. F. Kennedy who first used the term during the Cuban Crisis of 1962 to describe the handling of a serious, extraordinary situation (Glaesser, 2006). Prior to this a way to describe the handling of delicate and possibly threatening situations did not exist.

The term management describes the leadership of an organizational unit, which comprised those groups of people who carry out management tasks, activities and functions (Glaesser, 2006). In reference to President Kennedy's use of the term crisis management, that organizational unit was the U.S. government dealing with the crisis at hand. The term management encompasses all tasks and processes connected with running a working organization (Glaesser, 2006), such as the U.S. government or any other organization or company.

The first example of effective crisis management is said to be in 1982 when Johnson & Johnson announced some of its Tylenol capsules were laced with cyanide (Burnett & Tucker, 1990). The company's means of responding to the situation has since become a model for crisis managers to follow.

Those who manage crises are thus known as crisis managers. Often, middle- and lower-level employees and external forces join with members of upper management levels as actors in a crisis (Glaesser, 2006). The players who act in a crisis are determined by the nature of the crisis at hand. Therefore, the types of management styles and corresponding activities are distinguished with regard to the process character of the crisis and the differentiation between its various phases (Glaesser, 2006). Crisis managers then join with the crisis management team and proceed with preparing, implementing and evaluating the needed crisis plan in order to manage the situation.

Crisis Communication

Communication is the process by which participants create and share information with one another in order to reach mutual understanding (Rogers, 1983). In order to communicate, two parties are required to exchange information. Thus, communication is a two-way process. Those involved in managing a crisis must communicate to those affected by the crisis. This process involves at least two

parties or more exchanging information and is known as crisis communication. The concept of crisis management has become a specialized activity in the domains of communications and public relations (Weiner, 2006).

"Crisis communication is a form of communication that is suddenly initiated and is dependent on a negative event occurring. The initiative for this communication does not come from the affected company or organization; it is caused by the event" (Glaesser, 2006, p. 211). Without the onset of a negative or threatening event, the need for and use of crisis communication would not be present.

> Crisis communication scholars develop classification systems of crisis types to assist them in their crisis planning and, in so doing, reduce the uncertainty when crises occur. The simplest and possibly the most useful distinction to make in crisis types are to divide them into two categories: intentionally caused crises and crises caused by natural, uncontrollable factors (Ulmer, 2007, p. 9).

The information pertaining to an incident must be analyzed and organized in a methodical way by those leading the communication efforts in a timely manner. According to Lukaszewski (1998), the most challenging part of crisis communication is reacting—with the right response-quickly. Predetermined means of organizing information are necessary for professionals in crisis communication to understand in order to efficiently and effectively communicate with and disseminate information to the public.

Based on the review of literature there must be several components in place in order for effective crisis communication to occur. This method of communication must include: two parties to exchange information; a negative event, which leads to a crisis; the gathering, organization and dissemination of information about the crisis. These components comprise the basic foundation of exchange of information during a crisis.

History of Agricultural Communication

> From its beginnings in the early 1800s, the profession of agricultural communications was born out of the practical need to share important farm and home information with isolated rural audiences. Some 200 years later, agricultural communications has evolved into a diverse industry responsible for developing and disseminating news and marketing information related to food, agricultural, and environmental systems that are housed in departments of agricultural education (Tucker et al., 2003, p. 1).

The United States has always been a land with the ability to sustain itself agriculturally. The rich land and natural resources have provided means for Americans to raise crops and livestock for generations. A method for disseminating information regarding agriculture was needed to communicate

with farmers and ranchers. Many consider the beginning of agricultural journalism in America to be in 1819 (Simon, 2003) when the first farm magazine, the *American Farmer* was widely circulated (Burnett & Tucker, 1990). Because of this publication, more people began to understand the importance of informing the public on matters concerning all aspects of agriculture (Simon, 2003). Without these first methods of disseminating agricultural information to the public, the modern industry of agricultural communications would not exist in its current form today.

Early leaders of agricultural communication developed the profession nearly 100 years before university programs existed to teach the skills (Burnett & Tucker, 1990). In the early 1900s, agricultural journalism was first offered at Iowa State University (Duncan, 1957). The University of Wisconsin – Madison established the first degree of agricultural journalism in the United States in 1908, offering farm news writing as the first course (Simon, 2003). It is apparent the first courses offered were aimed at meeting the basic needs of the agriculture industry and farmers which was to spread news and information about agricultural issues. By 1927 the need had grown for agricultural journalism curriculum and seven colleges offered up to 11 courses under the category 'Trade and Technical Journalism' (Nash, 1928). Included in these courses were agricultural journalism, agricultural editing, agricultural writing, agricultural press, agricultural advertising, agricultural publicity method, and agricultural research and seminar (Simon, 2003). After this surge in growth, agricultural journalism became less of a priority, leading to smaller programs and less students.

A disconnect between the feedback from professionals about the needs for educating agricultural journalism students and what was being taught was found (Evans & Bolick, 1982). This lack of agreement sparked a new path for the growth of agricultural journalism and communications after its decline earlier in the century.

According to Duley, Jensen, and O'Brien (1984), many agricultural communications programs began with courses offered via agricultural education programs. The recommendation was that learning to effectively communicate would precede the ability to effectively educate (Duley et al., 1984). This new ideology on teaching and combining curriculums was the beginning of a new era in agricultural communications, which led to growth of the program. "In the 21st century, academic programs in agricultural communications continue to fulfill an important role in preparing professionals for a variety of

communications careers both in the private and public sectors" (Tucker et al., 2003, p. 24). Agricultural communications programs are designed to pursue the best of two academic areas by producing graduates who know the basics of both agriculture and communications (Bailey-Evans, 1994).

Demand is especially high for communicators trained to deal with complex and controversial issues such as food safety, environmental conservation, and genetic modification of plants and animals (Burnett & Tucker, 1990). This demand for training students prepared to meet these types of needs directly relates to the purpose of this study, but first it must be understood how agricultural communications and crisis communication are relevant as a combination.

Crisis Communication in Agriculture

Agriculture cannot successfully support the world without the ability to communicate during a crisis. Without sufficient pre-, during-, and post-crisis management and planning, the damage to agriculture due to disasters could be much more significant (Edgar, Pennington, Rutherford, & Doerfert, 2009). Humans depend on access to clean water and food, clothing, fuel, and adequate housing, all of which rely on agriculture to maintain. When issues arise preventing the success of agricultural practices, communication professionals must be prepared to manage the people involved with the crisis and reduce negative impacts—whether human, animal or environmental.

> We live in a society continually affected by natural disasters, such as hurricanes, tsunamis, and forest fires, and by organizational crises, such as food-borne illnesses, corporate malfeasance, and terrorism . . . No community and no organization, public or private, is immune from crises (Ulmer, Sellnow, & Seeger, 2007, p. 3).

Because of this, organizations need professionals who have crisis communication skills. At the same time, more and more nonprofit and public organizations are recognizing the need for crisis communicators as part of their public relations and human resources management teams (Ulmer et al., 2007). The nature of crisis management is not just to maintain a favorable image in the eye of the public, but to protect the public. Crisis communication leaders play a critical role in protecting our Nation from the effects of natural and human-caused incidents (FDA, 2011). Communicating necessary safety information to the public is crucial to survival of crises and recovery.

"Much of the literature discusses crises at the organizational level" (Boudreaux, 2005, p. 3). Pauchant and Mitroff (1992) defined a crisis as something larger than just an event, which happens to an

organization, but as “a disruption that physically affects a system as a whole and threatens its basic assumptions, its subjective sense of self, its existential core” (p. 15). “This definition encompasses non-organization crises, such as natural disasters, that have an effect, not only on individual organizations, but rather a community system as a whole” (Boudreaux, 2005, p. 4). This view of the crisis concept is especially important in agriculture, as more than just an organization is affected. Communities, ecosystems, economies, families, government, quality of life and health can all be affected by a crisis. The necessity of adequately preparing students to enter a profession dealing with future crises is a daunting reality. Analyzing various definitions of a crisis is only the beginning of the process of how to better instruct, prepare, and continually update future and current crisis communication professionals.

The destroying of or detriment to the agriculture industry may not be caused by only natural causes, as threats to the industry could be through terrorism or bioterrorism and human causes. “Crisis communicators must be prepared to manage situations caused by both internal and external catalysts” (Whiting et al., 2004, p. 2). Whether caused by a natural disaster or by an internal communication or infrastructure issue, agricultural crisis communicators must learn to prepare for these situations and effectively implement a crisis plan if/when the need arises.

Crisis communications research conducted by Whiting et al. (2004) noted that crisis communication plan development and crisis involvement were critical to the success of crisis communication professionals.

> If we do not study crisis communication, organizations and the many people associated with them are likely to be stunned, frightened, and depressed when enveloped by a crisis. In fact, some organizations communicate so poorly in the wake of a crisis that they are forever weakened, having lost their members’ and the publics’ confidence (Ulmer et al., 2007, p. 4).

Understanding when a threatening situation develops into a full-blown crisis is important. According to the literature, there are some defining characteristics. “A situation becomes an immediate ‘crisis’ communication problem when it draws extensive media attention and requires public response through media” (Whiting et al., 2004, p. 2). This stresses the importance of good communication and media skills, especially when safety is involved or the future of a company. “Crisis communication is much different in that it involves incidents that suddenly and unpredictably threaten the stability of an organization” (Whiting et al., 2004, p. 3). Particularly pertaining to agriculture, the ability for a crisis to

reach small to large amounts of people very quickly is not only possible but also inevitable. Floods, fires, food and water contamination and other disasters can injure, cause illness, or even kill many people depending on the magnitude and nature of the crisis. Contaminated produce delivered to multiple states can spread a foodborne illness from one farm to hundreds of people. Weather related disasters such as hurricanes, tornadoes and floods could cut off food supply, clean water and ample shelter to residents, easily affecting mass amounts of people. Because these possible crises are so potentially damaging to agriculture, the importance of preparedness and effective training are crucial.

Crises have been called "predictably unpredictable," but effective managers know that crises can occur; but they do not know when (Heath & Millar, 2004**,** p. 19). Also, good managers know that crisis communications must move beyond storytelling to gain, renew and increase public perception and trust (Heath & Millar, 2004). Previous research noted "unfortunately, the number of crises impacting citizens and the agricultural and life sciences areas are increasing" (Edgar et al., 2009, p. 2). "The ability to emerge from crises such as these is fully dependent on an organization's ability to effectively and efficiently manage through the crisis event. Unfortunately, few organizations are prepared to effectively deal with inevitable crises" (Edgar et al., 2009, p. 3). This can be due to lack of organization, ample preparation and drills, or ignorance to the skills and resources needed to manage a crisis.

The Need for Training Agricultural Crisis Communicators

The purpose of higher education is often to provide practical skills, knowledge and opportunities to students entering the workforce. Educational programs must adapt to the changing needs of today's world. "The reform of curriculum has been deemed a necessary and important task at all education levels" (Sprecker, 1996, p. 2). Agriculture is no exception. Agricultural communication professionals must also adapt to the needs of the industry, and crisis communications is a crucial aspect affecting agriculture, which needs to be successfully taught to students.

An important difference should be noted between the need to effectively communicate about a crisis situation between the public and stakeholders through the media, and the need to effectively educate crisis communicators and stakeholders about how to communicate during a crisis. While there is significant research containing models and methods with which to communicate with the public during a crisis, the concern here is how to best instruct and equip current and future crisis communication

professionals with the knowledge, tools and skills needed to work through all phases of a crisis. The developments that increase the need for effective crisis management are an increased value of reputation, stakeholder activism through communication technologies, negligent failure to plan, and broader views of crises (Coombs, 2012). As new crises occur, technology changes, and organizations evolve, discovering the best and new ways to educate crisis communicators is crucial.

Curriculum evaluation is a necessary means of updating educational programs. With the constant advancement of technology and the changing needs of the agriculture industry, the skills, competencies and resources of agricultural communications practitioners must continue to improve.

> The National Research Agenda for the American Association of Agricultural Education, developed by the American Association for Agricultural Education (AAAE), encourages evaluating curriculum. Within Agricultural Communications Research Priority Area 4 is the charge to determine 'What are the skills, competencies, and resources necessary to prepare professional agricultural communicators for success in various aspects of agricultural knowledge management' (Osborne, 2007, p. 11).

While some major agricultural learning institutions already teach courses, or lessons within courses to prepare future crisis communicators in agriculture, a more specific plan for this type of curriculum is needed. Previous studies have been conducted to assess the learning needs for agricultural communicators, but an in-depth study regarding the needs of crisis communication training has not been sufficiently researched, according to an extensive review of the literature.

The need for crisis communication professionals to have skills, competencies and plans in place prior to a crisis is crucial regardless of the agricultural segment involved. "Crisis management training is a crucial element, which has to be prepared like a script for a movie" (Reuter et al., 2009, p. 357). However, currently there is not a comprehensive list of competencies needed to successfully prepare future agricultural crisis communicators. A better understanding of what crisis communication needs are necessary to prepare communicators in the agricultural sector. There is also a need for an understanding of how to utilize those necessary competencies to train and teach future professionals in this field. The type of training required to adequately prepare crisis communicators is complex and requires various means of presenting material to students. First, a better understanding of teaching and learning methods and theories must be explored.

Exploring Today's Adult Learner: The Millennial

The generation known as Millennials, born in the 1980s, entered a world on the brink of a digital revolution. *Born Digital* (Palfrey & Gasser, 2008) refers to these Millennials as "Digital Natives" (p. 1). In the late 1970s, initial computer users navigated primitive computers which shaped the way computers would be used in the future. These computers had no user interface, and were comprised of code and hardware. As software and user interfaces developed, so did use of computers for others. The personal computer became popular in the 1980s, and in 1991 the World Wide Web was launched which later became known as the Internet. Thus, the Millennial generation, born simultaneously with early forms of modern Internet and computer technology, gave birth to Digital Natives.

Compared to "Digital Settlers" who grew up in an analog world, but helped shape the digital environment, and "Digital Immigrants" who were not born digital and do not interact significantly in digital life but are learning their way in the digital world (Palfrey & Gasser, 2008). Digital Natives have never known a world without computer mediated communication (Palfrey & Gasser, 2008). *Born Digital* distinguishes between referring to Digital Natives as a generation versus a population (Palfrey & Gasser, 2008). Because only a portion of the Millennial generation has access to digital technology, Digital Natives represent only a portion of this generation. Growing up digitally literate in an online world has shaped the way this population of young people learns, interacts, and exists. For Digital Natives, navigating the Internet, tinkering with virtual communities, and creating digital manifestations of themselves has become not only instinctual but a social norm.

The Internet is changing the way children gather and process information in all aspects of their lives (Palfrey & Gasser, 2008). Digital Natives are shaping the future of education and human interaction by creating new social norms, learning needs and styles, and creation of educational material. There is an apparent digital divide between digital generations, and the adaptation of Digital Immigrants and Settlers to the ever-changing world that Digital Natives inhabit and help shape, which is becoming increasingly difficult. As Digital Natives continue to grow up in a digital era, mentoring and teaching this population to develop applicable skills useful within and outside of a digital environment has become a challenge; yet is also a necessity.

With many types of digital technology tools available to educators and parents, learners in the digital age have the opportunity for an education tailored to their specific learning styles and needs. The challenge for educators and parents is that they are not necessarily members of the Digital Native population, and thus, it is a challenge to incorporate these technologies into a learning environment of today. When presenting information to students of crisis communication, specifically those who are digital natives, it is important to recognize the need for specialized, individualized learning opportunities.

THEORETICAL FRAMEWORKS: LEARNING AND LEARNING THEORIES

The Process of Learning

In the last century, education has shifted from recitation literacy to extraction literacy (Edgar, 2007). Instead of memorizing and reciting information, learners must now be able to understand, process, and apply material and skills learned. This shift in educational practices has resulted in students' ability allowing processes to be "analyzed and broken down into smaller steps" (Edgar, 2007, p. 7). Therefore, higher cognitive processes occur through the emergence of instructional designed education. Learners have changed due to the influx of technology, and pedagogy has followed suit (Leigh, 2006). Whereby, technological innovations have transformed the classroom and have allowed students to use a diversity of competencies and skillsets.

Learning is something all humans experience throughout life. Each individual learns differently, through different experiences and methods and on different schedules. Learning can occur through processes and experiences of the self, or through instruction and collaboration. Learning involves acquiring and modifying knowledge, skills, strategies, beliefs, attitudes, and behaviors (Schunk, 2012). Schunk (2012) describes learning as "an enduring change in behavior, or the in the capacity to behave in a given fashion, which results from practice or other forms of experience" (p. 3). He also noted that learning involves change, endures over time, and occurs through experience. Therefore, to learn, one must create a change in thought, which takes time and occurs through one or more experiences.

Theory and research are integral to the study of learning (Schunk, 2012). Schunk defines a theory as a scientifically acceptable set of principles offered to explain a phenomenon. He noted that research findings can be organized and linked to theories, thus giving structure to education. By organizing research findings into theories, consumers of research can process and utilize that

information. Without theories, people could view research findings as disorganized collections of data, because researchers and practitioners would have no overarching frameworks to which the data could be linked (Schunk, 2012). For the purposes of this study, learning theories are necessary to support the methods of teaching agricultural crisis communicators. A review of relevant learning theories will now be presented and discussed in relation to this study.

An Overview of Selected Learning Theories

Regardless of perspective, most learning theories share principles that are predicted to enhance learning from instruction (Schunk, 2012). Schunk's instructional principles common to diverse learning theories include: (a) learners progress through stages/phases; (b) material should be organized and presented in small steps; (c) learners require practice, (d) feedback and review; (e) social models facilitate learning and motivation; and (f) motivational and contextual factors influence learning. Recognizing and understanding these common factors can aide educators in choosing which learning theories to choose in guiding the building of curriculum and teaching methodology. Schunk (2012) stressed the idea that learning theory and educational practice should complement one another. "When properly used, theory provides a framework to use in making educational decisions" (Schunk, 2012, p. 19). Therefore, theory should not be the sole influencing factor in planning or revising curriculum, but should be a guide for educators.

Andragogy

Knowles' theory of andragogy is an attempt to develop a theory specifically for adult learning (Knowles, 1984). Knowles emphasizes that adults are self-directed and are expected to take responsibility for decisions. Adults, specifically those studying at the master's level, must have educational programs adapted to this concept. Andragogy makes the following assumptions about the design of learning: (a) adults need to know why they need to learn something; (b) adults need to learn experientially; (c) adults approach learning as problem-solving; and (d) adults learn best when the topic is of immediate value (Knowles, 1984). These four assumptions tie directly into the nature of this study. Students studying crisis communication in agriculture are presented the need for their focus of learning through the study of previous crises. The purpose and objectives of the crisis communications curriculum

are not vague, but goal-oriented and specific. This is because students are learning how to prepare for, react to, and recover from crises.

Adult Learning

In this study, the focus is on educating adult learners. As discussed previously, adult learning (andragogy) differs from children's learning in that it is self-directed, problem-centered, experience based, and more often relevant to the learner's life (Lara, 2011). Adult learning should be used in the context of lifelong learning (Cross, 1981). This concept of adult learning will further guide the choice of learning theories relevant to this study.

Bloom's Taxonomy

"Bloom's Taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity" (Forehand, 2010, p. 2). Each step builds on the previous step, which makes this a relevant example for how to apply theory to learning for crisis communication. It is organized from broadest to most specific part of the model. Once one level is mastered, the learner can move on to the next level and continue building the learning process. Figure 1 outlines the hierarchical nature of the Revised Bloom's Taxonomy.

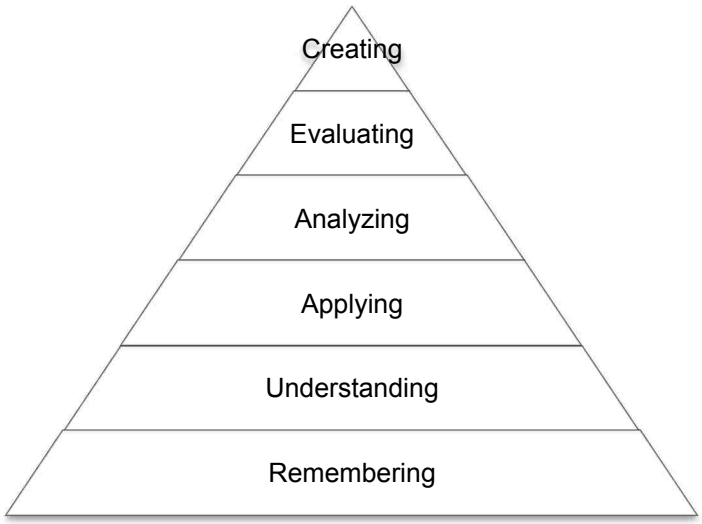


Figure 1. Revised Bloom's Taxonomy (Overbaugh & Schultz, 2011)

For the purposes of this study, the use of Bloom's Taxonomy in a crisis communications classroom would be organized roughly as follows:

1. Remembering: Memorizing, obtaining or recalling information related to crisis communication, industry, etc.
2. Understanding: Constructing meaning from lecture, reading, and classroom discussion. Be able to classify and organize information about crisis communication. Be able to read through case studies and comprehend material.
3. Applying: Be able to apply knowledge remembered and apply to procedures outlined in case studies and other historical examples of crisis communication.
4. Analyzing: Break down information and be able to determine reasons behind decisions, actions, and cause/effect relationships of crisis communication.
5. Evaluating: Make judgments and decisions based on procedures, criteria and knowledge of crisis communication.
6. Creating: Be able to create own crisis communication plan based on knowledge, case studies, analysis and evaluation of past crises.

Bloom's Taxonomy is a basic model for learning and processing information. The levels it presents are logical and apply to nearly any learning situation.

Minimalist Learning

The Minimalist learning theory of Carroll (1990) is a framework for the design of instruction, especially training materials for computer users. This theory of learning will be beneficial in later portions of this study when discussing possible means for meeting objective 3. The main tenets of this theory suggest that: (a) all learning tasks should be meaningful and self-contained activities; (b) learners should be given realistic projects as quickly as possible; (c) instruction should permit self-directed reasoning and improvising by increasing the number of active learning activities; (d) training materials and activities should provide for error recognition and recovery and; (e) there should be a close linkage between the training and actual system (Carroll, 1990). Carroll expressed the need for learning to be built upon experience. Specifically, this theory compliments both andragogy and adult learning. These theories

outline the basic needs for master's level learning and set the precedence for discovering the best methods of teaching crisis communicators.

Constructivist Learning

Constructivism is a relatively recent term used to represent a collection of theories, including generative learning (Wittrock, 1990), discovery learning (Bruner, 1961), and situated learning (Brown, Collins, & Duguid, 1991). The theory of constructivism suggests that individuals actively construct knowledge by working to solve realistic problems, usually in collaboration with other learners (Duffy et al., 1993). Constructivism supports gaining experiences through individual experiences and active learner models. When using a constructivist approach to teaching then delivery methods migrate away from traditional knowledge transmission towards an open-ended learning experience tailored to each student, by each student. Philosophically constructivism relies on an epistemology that stresses subjectivism and relativism, the concept that while reality may exist separate from experience, it can only be known through experience, resulting in a personally unique reality (Doolittle, n.d.). When preparing students to be effective and successful crisis communicators, applying a constructivist learning model is appropriate. Problem-centered designs are more constructivists in nature and are geared to supporting learning around issues or problems (O'Connor, 2004).

Experiential Learning

Experiential learning is the process where knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience (Kolb, 1984). Collaboration allows students to have ownership in their learning through participation. "Learners are expected to understand the applications they are learning" and should be able to do more than simply act on memorization" (Edgar, 2007, p. 13). Kolb's (1984) theory of experiential learning that involves four principal stages: concrete experiences (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Experiential learning and problem-based learning (PBL) are both derived from constructivist theory.

Problem-Based Learning

Problem Based Learning (PBL) is effective for helping students develop the ability to apply concepts and ideas to practical experience and vice versa (University of Southern California Center for

Excellence in Teaching [USC-CET], 2006, ¶1). Students can work in groups or alone in PBL. With problem-based learning students can work in groups or alone and "try to formulate the problem in terms they can understand, decide what information they need to solve it, find the information and re-iterate the process until the problem is solved" (Wood, 2004, p. 1). The PBL process is followed by student reflection of success and knowledge retention. "Students involved in problem-based learning acquire knowledge and become proficient in problem solving, self-directed learning, and team participation. Studies show that PBL prepares students as well as traditional methods" (Maricopa Center for Learning and Instruction, 2011).

Active/Participatory Learning

Additionally, active or participatory learning is also crucial to the success of the problem-centered curriculum, as active learning requires that students are engaged in the learning process in the classroom. This is often contrasted to traditional lecture teaching where students passively receive information from the instructor (Prince, 2004, p. 1). With active learning, students must actually participate in and think about the material being presented in the classroom. The implementation of diverse teaching methods—including constructivism, experiential, problem-based learning and participatory/active learning—allows students to reach the higher tiers in Blooms taxonomy (Bloom & Krathwohl, 1956)—application, analysis, synthesis, and evaluation. Students change their role from passive recipients of information into active constructors of knowledge. Active learning is defined as a type of learning in which learners are engaged and instruction matches learners' understanding, level of progression and interest (Dooley et al., 2005).

For individual learners, the feeling of collaboration is aided by feeling like a true participant in a process. Whether the process is contributing to a project, editing a paper, or taking part in a presentation, the more learners can feel that what they contribute matters and makes a difference, the more connection they will feel to the experience. In his paper "Confronting the Challenges of Participatory Culture: Media Education for the 21st Century," Jenkins (2010) described a participatory culture as having relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices.

Instructional Methods for Crisis Communication Education

With the evolution of learning theories moving from primarily memorization recitation learning, to application-based and experiential learning, the instructional methods for presenting information to crisis communication students should follow suit. Based on the literature crisis communication instruction can occur through three main ways: traditional lecture and theory-based teaching; application based on real life experiences; and application based on simulation. These instructional methods each encompass different learning theories, presentation methods, and require different supplies, resources and budgets. "Training situations should resemble crisis situations to reflect and improve participants' procedural knowledge" (Reuter et al., 2009, p. 358).

Education Based on Traditional Lecture and Theory

Teaching based on theory is a more traditional type of instruction, and is not considered as modern of a method. Presenting students with basic information relevant to the subject and the theories supporting the material is a traditional means of educational instruction. With this method, students would be expected to listen to, absorb and understand the knowledge based on a lecture-style presentation. For crisis communication, facts about how to prepare for, react to, and recover from a crisis would be presented. Case studies would most likely be provided to students to study and learn from past crises.

Lecture is commonly the foundation for many traditional teaching methods. Using customary lecture methods of teaching for crisis communication is cost-effective and would require little technological expenses outside of the normal classroom budget. Most traditional and non-traditional students are used to being presented information through lecture. This method of teaching is long-since proven effective. Teaching crisis communication to agriculture students through lecture-based learning would be a sufficient first step for those educators starting out with little experience and a small budget. More advanced methods of teaching crisis communication, however, can be explored.

Relevant Learning Theories for Traditional Lecture and Theory

Learning theories, which would follow under this instructional method, include: adult learning, Bloom's Taxonomy, and participatory learning. Bloom's Taxonomy is a natural fit for the nature of lecture, as students would have to follow the five steps to process, understand and remember the information

from lecture. While lecture is not considered a solid form of participatory or active learning, students must be engaged in the lecture in order to process the information.

Limitations of Education Based on Traditional Lecture and Theory

Using lecture and theory alone to instruct can limit a classroom or learning experience by not allowing students to become fully actively engaged in the process. While presenting theory and concepts through the traditional form of lecture is beneficial, for training purposes, it might be inhibiting to the goal.

Education Using Application Based on Real-Life Experience

While learning from an actual real-life experience is probably the most ideal form of education, it may not always be possible, especially for teaching crisis communication professionals. A good way to be able to prepare students based on a feasible form of real experience would be to allow students to participate in drills based on scenarios that could be potential crisis situations. Reuter et al. (2009) suggested using a scenario technique to design a spectrum of possible situations. "To enhance perceptiveness, crisis triggers are created, that are not very likely but which have a big impact" (Reuter et al., 2009, p. 358). Reuter et al. also suggest using emergency skill training to train necessary manual abilities to enable people to use their skills even in stressful situations. If possible, allowing students to volunteer or work during any crises would be beneficial, but going through the motions may be the best and most practical option when using this teaching method. Reuter et al. (2009) described an existing practice of crisis communication training based on experience using various scenarios:

> The training preparation usually starts with the elaboration on a scenario. It includes different actions at different times. The results are summarized in a PowerPoint presentation. Afterwards, the planned communication ways are designed and put down in an Excel sheet. They also create a catalogue with possible questions. External organizations do not participate. During the training, the scenario is played through successively; new events are submitted via email or fax. Possible questions of external organizations are asked via telephone. The events are recorded in an Excel sheet (Reuter et al., 2009, p. 360).

This description of teaching based on having students go through the motions of a crisis situation is a good example of using real-life experience to create a learning experience. While students did not actually experience and react to an actual crisis, they did react to potential scenarios and practice methods of dealing with the crisis, documenting it, and communicating with internal and external parties.

Relevant Learning Theories for Application Based on Real-Life Experience

Learning theories associated with this method of instruction include: adult learning, Bloom's Taxonomy, minimalist learning, active learning, constructivism, problem-based learning and experiential learning. Adult learning is the natural theory related to this study, as it is geared towards master's level students. Bloom's Taxonomy is the natural progression of processing and understanding information. Other relevant learning theories for application based on real life experience focus on the steps students must go through in order to learn based on collaboration, active participation, solving of problems and reflection.

Limitations of Education Based on Real Life Experience

As previously discussed, real-life experience is ideal to adult learners in this field. However, the opportunity to encounter a real-life crisis experience is not possible unless students can happen to be at the scene of a current crisis. In any event, there is also no way to fully prepare each student for all potential crises. Using drills and experiential scenarios, while beneficial, cannot compete with the factors that would accompany the experience of a real crisis.

Education Using Application Based on Simulation

The emergence of instructional designed education has changed the way students learn. "The major goal of instruction was to communicate or transfer of knowledge to learners in the most efficient way possible" (Edgar, 2007, p. 7). Turkle (1995) describes this transition more as a movement from a culture of calculation to a culture of simulation. Through simulation, learning can become a way to experience knowledge transmission, and a new way to process and absorb information. While application of learning based on real-life can be effective, simulation is another option for preparation of crisis communicators. Training situations should resemble crisis situations to reflect and improve participants' procedural knowledge.

Virtual Reality and Simulation

Virtual reality, defined as the use of computers to simulate a real or imagine environment that appears as a three-dimensional space, has increasingly become a more comfortable and natural concept (Dooley et al., 2005). Simulation is a series of photographs, drawings, videos, or sound recordings creating the impression of a virtual experience (Dooley et al., 2005). Within virtual reality, a physical

space is imagined and projected onto a screen. In this virtual reality, simulation occurs, whether through reenacting real events, creating experiences that have yet to or will never occur, or connecting with people across vast spans of geographic distances.

Although virtual reality may be seen as a perfect replica for life, in the real-world there are opponents to this philosophically derived tenant. Turkle (1995) argues that "the move toward virtuality tends to skew our experience of the real" (p. 236). Existence within virtual realities may in turn cause these simulated experiences to seem more real, compelling, or noteworthy than real-life experiences. Technological capabilities available today allow for simulation in a virtual world that has become so natural to Internet and computer users, that it is merely an extension of the self and of physical space. While communication and interactions are increasingly occurring through virtual realities, some authenticity may be lost, but the benefits received in exchange may outweigh the loss of traditional face-to-face contact. Navigating a virtual world may cause perceptions of individuals to be altered, but overall, the success of utilizing virtuality as a modern tool is exponentially progressing. Virtual space has allowed for minimization of time, cost, and distances, all while expanding and maximizing opportunity to communicate over broad distances, experiment, and profit.

While online, there is no real space, individuals can inhabit a character's body (avatar) and travel through virtual places. Online, it is comforting to be able to visualize a more tactile-sense of ourselves. Social networking and virtual community websites allow users to create a virtual self and to project themselves to the Internet world without others knowing their true identity. Often, users can create multiple personas online, and can come to exist in a virtual "body" and in a virtual "space" through these virtual outlets. Sometimes the anonymity of these outlets allows people to express feelings or ideas which normally would not occur.

Today, online worlds are spaces that are simply extensions of the physical world. In 1995, Turkle noted "the computer offers us both new models of mind and a new medium on which to project our ideas and fantasies" (p. 9). The Internet is essentially imagined as a blank canvas, with endless possibilities for content, size, and ideas.

Simulation for Education

Computer supported crisis simulations are one possibility to support scenario-based training. In computer supported collaborative learning (CSCL), simulations, micro worlds, hypermedia and gaming systems have proven to be appropriate software types in this context (Pohl, 1999). "It is evident that the use of virtual worlds in general creates a range of pedagogic possibilities that potentially can benefit all learners but that often have much greater potential to provide an equal experience for learners with particular needs or preferences" (Ball & Pearce, 2009, p. 58).

Using digital learning environments has the potential to cater to the needs of individual students by providing students with learning activities that are individualized to meet their needs and characteristics. "Today's learner has need of high level processing abilities and a more personal design of instruction. Students are able to be more self directed and process information" (Edgar, 2007, p. 12). In an age characterized by information overload, it's imperative that students be able to adapt to different problems and settings, and to be flexible in applications of learning (Edgar, 2007, p. 13).

Relevant Learning Theories for Application Based on Simulation

Andragogy and adult learning theory both work well for master's level agricultural communication students, specifically for an application-based class. Among the learning theories, constructivist approaches in our eyes relate best to this context (Duffy et al., 1993). Students engaging in learning using digital technology and who learn online must participate and collaborate with others. Simulation is an active form of participatory learning. Students must be engaged, not passive in their endeavor to learn the material. In order to navigate a simulation for crisis communication, problem-based learning would be crucial, as students would be forced to make their own decisions and proceed accordingly. There is potential for a new concept of online learning theories, although the literature did not reveal any substantial theories at this time.

Limitations of Education using Simulation

Limitations of this method of education include budget restraints, technological barriers, and limited access to advanced curriculum. Ideally, many educators might like to integrate simulation into the learning process, but many universities, specifically smaller programs such as agricultural communications, simply do not have the means to access computers, software and curriculum required.

With continued studies such as this one, and the ongoing research and development of curriculum, simulation could eventually become a more accessible supplement to agricultural communication programs.

A Model for Developing Problem-Centered Curriculum for Crisis Communication

With problem-centered curriculum designs, incorporation of knowledge gain through experience is necessary in order to effectively understand the nature of problem solving. A persons' experience is related to their knowledge and experience (Dewey, 1938; Kolb, 1984). Understanding of this rationale should determine competencies needed as well as developing future curriculum. Knowles noted that adult learning should be problem-centered rather than content-oriented (Knowles, 1984).

Career and technical education might traditionally be related to agricultural job fields, and in a sense, preparing crisis communicators in agriculture is part of this educational school of thought. These professionals need to be equipped with skills and knowledge that are considered technical education, which in modern educational philosophies, is often associated with constructivism.

> In order for career and technical education to meet its obligations to society, to the education community, to business and industry, and to its student-clients, we must continue to identify employability and workplace skills and to transmit those skills to students (Doolittle & Camp, n.d., p. 5).

Especially important to the ever-changing nature of the crisis cycle, it is important to recognize the need in constructivism for adaptation by students and educators in the crisis communication field. "Indeed, while there is a base set of knowledge and skills that a student needs to understand and perform today, the student must also be prepared to adapt to the knowledge and skills that will be needed in the future" (Doolittle & Camp, n.d., p. 5).

A persons' experience is related to their knowledge and experience (Dewey, 1938; Kolb, 1984). Understanding of this rational should determine competencies needed as well as guide future curriculum development. An exhaustive review of literature did not yield a model precise enough to describe the process that must take place in order to create, implement, and evaluate crisis communication curriculum with a focus on constructivism, experiential, problem-based learning and participatory/active learning. As the overall purpose of this research matures through further studies, a more complete understanding of variables of study can be assimilated. This study focused on identifying needs for agricultural crisis

communication curriculum, which leads to development of curriculum and ends through expected competencies held by professionals meeting today's need.

Therefore, a model (Figure 2) was created to describe and guide the process of this study. By combining different learning theories, the problem-centered curriculum model is supported on a foundation built on theory, knowledge and hands-on, action-based learning. The use of curriculum needs established by crisis communication experts, combined with the problem-centered curriculum model supports the purpose of this study, and the ultimate goal of crisis communication—the ability to train students who are ready to deal with crises before and after they occur as well as the critical areas in between.

This study is the first of a proposed three-phase cycle, illustrated in Figure 2. The goal of this study is to provide information and results necessary in order to move to Phase 2 of the overall study. Conclusions and recommendations from this study will be provided in chapter 5, which will be the recommended foundation for Phase 2.

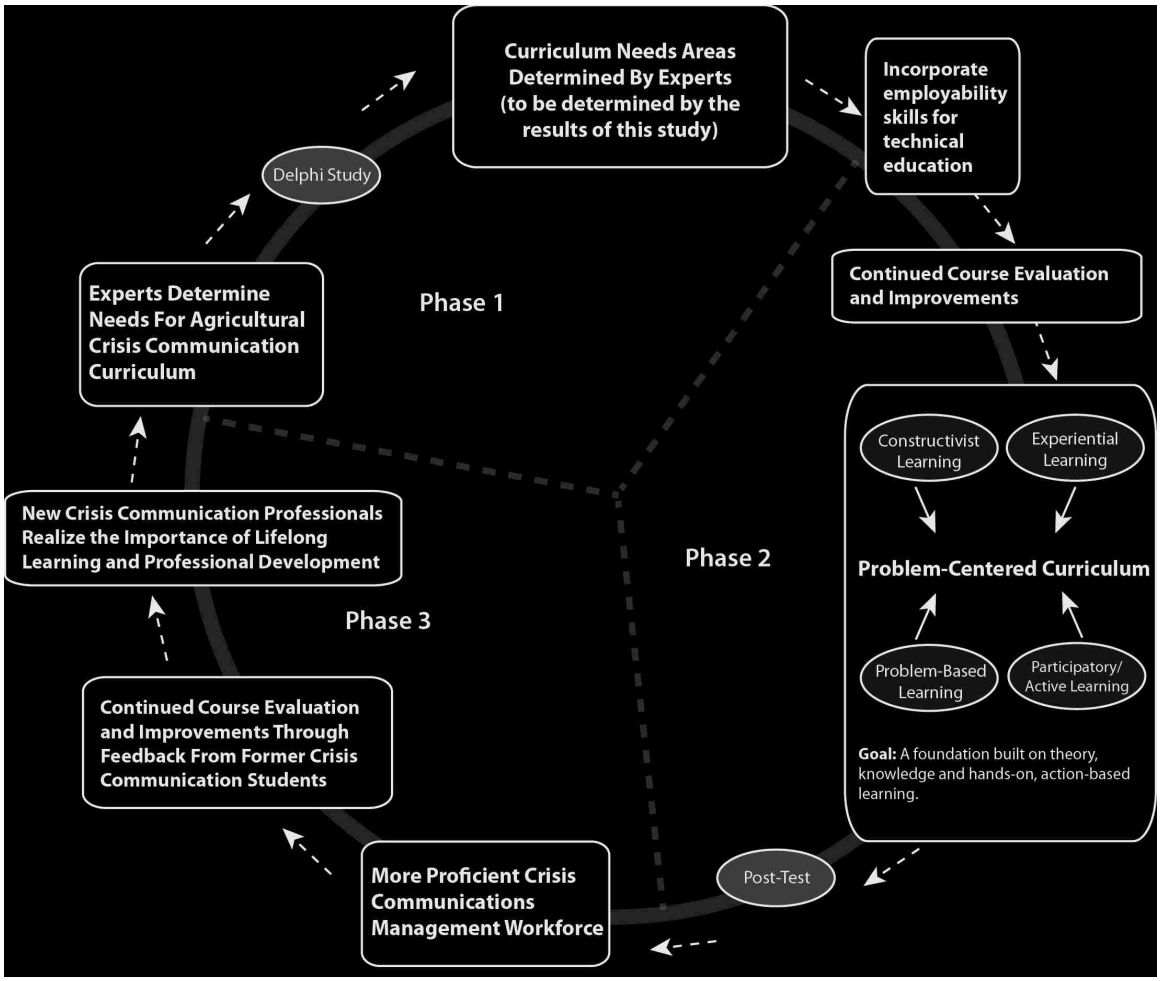


Figure 2. A Model for Developing Problem-Centered Curriculum for Crisis Communication

CONCLUSION

Due to the nature of this study, understanding the needs for future professionals and best practices in which to implement the findings; a model for curriculum to be developed based on identified competencies is needed. Therefore, in an effort to understand competencies, skills, and relevant tasks needed by new crisis communication professionals, participants of the study were assessed and their insight and experience was used to along with the literature and theories noted in this chapter to ground the research and create a foundation for this study.

CHAPTER 3

METHODOLOGY

STATEMENT OF THE PROBLEM

A thorough exploration of possible options and needs for training crisis communicators is a needed study in the agriculture industry. With the changing pace of technology, more opportunities are available to train crisis communicators. Traditionally, crisis communications is taught via case studies. This means students learning to prepare for managing crises in real life situations are rarely taught in a hands-on, experiential manner. Students can read and analyze case studies pertaining to crises, but without having an actual crisis; little means exist for preparing students for real world situations. There is a need for a more effective way of teaching students to develop, prepare and implement crisis communication plans for agricultural industry organizations.

PURPOSE OF STUDY AND OBJECTIVES

The purpose of this study was to determine crisis communication training needs for new professionals. Additionally, the study sought to outline specific skills, knowledge, competencies, and personal traits, needed to be taught to students, within the identified training need areas. The study identified crisis communication needs for new professionals using a Delphi technique. The objectives established to achieve the purpose of the study included:

1. Identify crisis communication (competency) needs for new professionals using a Delphi study with crisis communication experts.
2. Identify the skills/tasks/traits/tools within each need area believed by crisis communication experts as important in career success when managing a crisis.
3. Outline competencies/skills best taught through application based on simulation, application based on real-life experience, theory, both, and/or neither.

DESIGN OF STUDY

This study used mixed methods to gather information regarding the needs for crisis communication education and training. The needs assessment gathered responses from crisis communication industry professionals via a five round Delphi study administered using electronic survey software (Survey Monkey).

> The Delphi technique is a widely used and accepted method for gathering data from respondents within their domain of expertise. The technique is designed as a group communication process, which aims to achieve a convergence of opinion on a specific real-world issue (Hsu & Sanford, 2007, p. 1).

The study sought to provide emerging themes in needs for educational content for future crisis communication professionals based on responses from industry professionals. Also analyzed was level of importance of each area of educational and training content needed for crisis communication professionals along with the level of skill and knowledge industry professionals had in each area specified.

The main advantage of the Delphi is reported to be the achievement of consensus (Powell, 2003). This study sought to gain consensus by administering five rounds using the Delphi approach. "The Delphi technique is in essence a series of sequential questionnaires or 'rounds', interspersed by controlled feedback, that seek to gain the most reliable consensus of opinion of an 'expert panel'" (Powell, 2003, p. 377). Feedback was organized at the conclusion of each round, and prepared to present to participants in the upcoming round.

SUBJECTS

Subject Selection

Subjects were identified for this study using a snowball sampling technique to identify crisis communication experts from the following organizations: National Agri-Marketing Association (NAMA), Canadian Agri-Marketing Association (CAMA) and Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Services (ACE). The leaders of these organizations provided the researchers with the email contact information of their membership. Membership totals in November of 2010 included: NAMA with1,012 members; CAMA with 61 members; and ACE with 420 members. Therefore, a total of 1,493 individuals were identified to participate in the snowball sampling portion of this study. The sampling frame was limited to the number of members identified on each list with valid email addresses. All members of each organization were asked to identify crisis communication experts in the agricultural communications field. The snowball sampling period was conducted between November 3 and 17, 2010.

Population / Sample

The population for this study was classified as those identified as experts in crisis communications by their peers. The population was sampled from the organizations NAMA, CAMA, and ACE, and those experts who agreed to participate in the study comprised the sample. A total of 49 crisis communication experts were identified from the snowball sample.

Sampling Procedure

This identification process was administered using Survey Monkey (www.surveymonkey.com) and online data collection software, and participants were asked to include the name, email address and contact information of individuals they considered to be crisis communication experts. The assessment was used to identify 49 crisis communication experts from the three professional organizations. Each crisis communication expert was contacted via email to determine level of interest in study participation. Initial contact with the 49 experts identified was made on December 17, 2010. There were 31 professionals who agreed to participate in the Delphi study. Researchers noted that 13 to 15 participants would provide a high degree of reliability with a Delphi study (Dalkey, 1972; Martin & Frick, 1998). Industry professional respondents were given a four-digit participant code that was used in future survey rounds. This allowed respondents to remain anonymous while enabling the researchers to identify which respondents needed to be included in the study through each round.

The survey development of this research followed Dillman's Total Tailored Design method (2007) to increase participation and reduce instrumentation bias in question wording. The subjects, selected by peers as experts in crisis communications, represented a "typical" selection of subjects as defined by Merriam (1998) and Patton (1990). That is, they reflected high achieving or successful crisis communications expert in the field based on professional reputation. "The Delphi does not call for expert panels to be representative samples for statistical purposes. Representativeness, it seems, is assessed on the qualities of the expert panel rather than its numbers" (Powell, 2003, p. 378). The snowball sampling technique utilized ensured the representativeness of the expert panel sampled for this study.

INSTRUMENTATION

The first two rounds of the Delphi collected a broad range of competencies, supplies, and information that was then compressed and organized into categories by the four researchers into nine

competency areas. Participants were asked to use two, five-point Likert type scales to rank each skill and/or competency in each of the nine competency areas identified in rounds one and two. Prior to round three, researchers recompressed the nine competency areas into eight competency areas. Round three began a more in-depth narrowing process for participants. An edited list for each content area was presented to participants based on results of round two. During round four, participants were given feedback from the previous round. This round provided an ordered list from each content area, with a weighted score given to each item in each identified competency area based on the ranking from the five-point Likert type scale in round three. For each of the eight identified crisis communications competency areas, a ranked list of supporting topics from most to least important for each broad competency area was provided to participants. Study participants were then asked to re-order the supporting area list in order of importance based on their expertise and experience. Participants were also asked to specify specific demographic information including location of company, job title, company name, years of experience, degree(s) obtained, and specific select information about their current career. Round five asked participants to view the top ranked competency lists with supporting skills, tasks, tools, and or supplies from round four and determine if each supporting topic under the eight broad competency areas should be taught via application based on simulation; application based on real life experience; theory only; both theory and application; or none.

The open-ended response questions used in each round of this study were validated for relevance of content and face validity by a group of three faculty and one graduate student at three land-grant universities. This group of experts validated the content compressed between rounds of the study to ensure accuracy. Credibility of the study and method of data collection was created through "the inclusion of a clear decision trail that defends the appropriateness of the method to address the problem selected, choice of expert panel, data collection procedures, identification of justifiable consensus levels and means of dissemination and implementation" (Powell, 2003, p. 4). Due to the broad nature of this study, five rounds of the Delphi assessment were needed for the experts to meet consensus of crisis communications competencies needed for success as a new crisis communications professional.

DATA COLLECTION METHODS AND PROCEDURES

Industry professionals who served as subjects for this study were administered the multi-round Delphi study using Survey Monkey. Respondents were given a four-digit participant code to be used in future rounds of the survey. This allowed respondents to remain anonymous while enabling the researchers to identify which respondents to continue including in the study through each round. Respondents were used to seek answers to questions and to comprise and compare emergent research theme areas.

Round One

Respondents agreeing to participate in the study were first asked to participate in round one on January 5, 2011, which was the date the round officially opened. A reminder email was sent on January 10, 2011, and the survey and round were also concluded on that day.

"The first round questionnaire is usually unstructured and seeks an open response" (Powell, 2003, p. 378). Open-ended questions tend to increase the richness of the data collected (Powell, 2003, p. 378). In the first round of the study, respondents were first asked if they would like to participate in the study. If respondents answered 'yes', each was asked one broad open-ended question: "What do crisis communication professionals need in order to be trained for real life crises?" Care was taken not to lead the respondents too much or create a bias. There were a total of 33 participants in round one.

"A qualitative analysis of the results is then undertaken and this provides the basis on which to construct the second and subsequent questionnaires" (Powell, 2003, p. 378). The results from round one were analyzed for content and grouped into overall emergent themes. The researchers read and analyzed the responses from round one and then formed nine emergent theme areas to organize the data. "The role of the first round is to identify issues to be addressed in later rounds" (Powell, 2003, p. 378).

Round Two

Participants were invited to begin participation in round two via email on January 24, 2011. A reminder email was sent on January 31, 2011. The close of round two was also on January 31, 2011.

In the second round, respondents were provided feedback from the previous round. Nine emergent content areas were provided and participants were given an open-ended response section for

each content area where they could add, delete, or edit information provided by their peers from round one. The nine areas included:

1. Contingency Plan and Preparedness
2. Experience
3. Knowledge
4. Learning/Training Needs and Opportunities
5. Media Skills
6. Networking
7. Personal Traits
8. Supplies/Tools
9. Technical/Communication Skills

Because of the broad nature of this study, round two required further open-ended response and feedback before quantification of results could be applied. Participants were also allowed to add to, delete, or edit the nine main content areas at the end of the survey. This allowed for a more accurately edited list, with increased feedback and direction from participants. A total of 23 participants completed round two. The data was reviewed and then compressed by researchers into eight emergent theme areas. This decision to compress the data areas was based on the feedback from participants. Respondents were given the opportunity to verify this reorganization of the data.

Round Three

On March 1, 2011, participants were invited to participate in round three. On March 3, 2011, updates were made to the survey, according to the recommendation of the researchers and to help clarify questions, and the participants were notified of instrumentation changed on this day. A reminder email was sent to participants on March 8, 2011. The round was closed on March 14, 2011.

Round three began a more in-depth narrowing process for participants. Subsequent rounds are more specific, with the questionnaires seeking quantification of earlier findings, usually through rating or ranking techniques (Powell, 2003). Researchers decided to consolidate the nine content areas into eight areas. The theme areas “Media Skills” and “Technical/Communication Skills” were consolidated into one area. An edited list for each content area was presented to the 18 participants of this round, which was based on results of round two. Participants were asked to verify the eight new theme areas, which were compressed by the researchers. In round three, the eight competency areas were split into two groups of four competencies, creating a “Round 3A” and “Round 3B” survey. This was designed to reduce participant exhaustion, due to the length of the round. Participants were split into two, randomly selected

groups and assigned to complete either “Round 3A” or “Round 3B”. The eight emergent (competency) theme areas needed for crisis communication professionals as a result of the Delphi round two data:

1. Networking Opportunities
2. Communication, Media and Technical Skills
3. Supplies and Tools
4. Learning/Training Needs and Opportunities
5. Areas of Experience
6. Knowledge
7. Personal Traits
8. Contingency Plan and Preparedness

Participants were asked to use two, five-point Likert type scales to rank each skill and/or competency in each of the eight areas. One scale prompted participants to rank “How important is this skill/task for new crisis communication professionals?” The Likert scale used follows:

1. Unimportant
2. Somewhat unimportant
3. Neither unimportant/important
4. Somewhat important
5. Important

The second Likert type scale used asked participants to rank, on a scale of one to five, each competency or skill based on the crisis communication industry professional’s current skill level in the area. The scale used follows:

1. Not at all
2. Novice
3. Intermediate
4. Advanced
5. Expert

Round Four

Participants were sent an email with the invitation to participate in round four on April 5, 2011. The same day, the survey was open for participation online. The first reminder to participate in round four was sent via email on April 12, 2011. A second reminder was administered via email on April 13, 2011. Round four was concluded on April 15, 2011.

For round four results were viable results obtained from 15 participants. Results were presented from round three, which served as the basis for round four. This round provided an ordered list from each content area, ranging from five to 20 competencies listed within each area. A weighted score based on the ranking from the five-point Likert type scale in round three determined the order of competencies. However, participants were not given these numbers, only the ordered list of competencies. They were,

however, told that the lists were the top five to 20 competencies from within each content area. Participants were asked to re-order the list in order of importance, giving each competency a ranking of one to five from one to 20, depending on the content area. The opportunity to revise previous scores is an important element in the move towards consensus (Powell, 2003, p. 379). At the conclusion of this round, 100% consensus was achieved in agreement of the rankings of each competency listed.

Round Five

Round five began with an email invitation to participate on May 6, 2011, also the day the survey was open. The first email reminder to participate in round five was sent on May 17, 2011, followed by a second reminder email sent on May 20, 2011, and a third, sent on May 24, 2011. The conclusion of the fifth round was on May 24, 2011.

The purpose of round five was to assess the finalized results from previous rounds by participants. Round five obtained data provided by 16 participants. There seems to be no firm rules for establishing when consensus is reached, although the final round will usually show convergence of opinion (Linstone & Turoff, 1975). Each content area was presented to participants and they were asked to determine if each item was best taught using theory; application based on simulation; application based on real life experiences; a combination of both theory and application; or neither theory or application. The purpose of the questions for this round of the study was to determine how experts believed crisis communication material should be taught in order to more effectively instruct new crisis communications professionals.

Instruments for this study were used to satisfy the three objectives. However, participants were asked some additional information for the purposes of fulfilling objectives of a larger project. Therefore, there are portions of the instruments (see appendices) that are not discussed in the methodology or results of this study.

ANALYSIS PLAN

"Methods of data analysis appear to vary according to the purpose of the Delphi study, structure of the rounds, types of questions and numbers of participants" (Powell, 2003, p. 381). Results of the Delphi study were analyzed and reported in several ways including: rankings, percentages and descriptive statistics. Content analysis techniques are typically used to identify the major themes

generated by the initial unstructured phases of the questionnaire (Powell, 2003), as was done in rounds one and two of this study. Subsequent rounds collected data in a quantitative nature, based on the translation of results from the previous open-ended rounds. For each emergent competency area or theme, a ranked list of supporting topics (skills, tasks, traits, and tools) was reported, and then ranked for level of importance. Descriptive statistics such as means and standard deviations were used for each round to find the most important competencies from each emergent theme area, based on the highest-ranking mean scores with the lowest standard deviations. This list will then be ranked based on the highest mean to lowest mean to give the most important competency list within each theme area.

According to Powell (2003), consensus in a Delphi study can be achieved in multiple ways. After a review of the literature, Powell suggested methods of achieving consensus, which included: setting a percentage level for inclusion of items; implied consensus from results; stability of responses between rounds; or consensus interpretation left up to the reader. A limitation of the Delphi technique could be a lack of clarity as to the means by which consensus may be defined (Powell, 2003), which calls for careful and explicit decision-making in its application.

However, Powell (2003) noted that the Delphi method has been shown to be a widely used and flexible method that is particularly useful in achieving consensus in an area of uncertainty or lack of empirical evidence. The nature of this study is to combine the knowledge and opinions of a wide array of experts, so flexibility of methodology is crucial. Powell also noted that a variety of interpretations and modifications are recognized. Careful decision-making and strategic planning of each round provided quality interpretations of data without bias. Powell (2003) stated that a Delphi will be further enhanced if its possible implications of findings and future research directions are discussed. In chapter 5, recommendations for future research based on the results of this study will be discussed.

Data Analysis

Quantitative data was assessed using SPSS PASW 18 software. Results of the Delphi study were reported based on rankings of importance for competency and need areas. Results were also reported regarding which competencies were best taught using application, theory, both, and/or neither. For each of the identified competency areas needed in curriculum, a ranked list of supporting topics

(skills, tasks, traits, and tools) were reported along with the mean and standard deviation. Data reporting how crisis communications competencies should be taught via curriculum are reported with percentages.

The qualitative data analysis was thematic in nature, employing open and axial coding techniques (Strauss & Corbin, 1998) as well as the constant comparative method (Lincoln & Guba, 1985) in an effort to develop a clear description of student perceptions regarding the capstone course. The textual analysis consisted of "breaking down, examining, comparing, conceptualizing, and categorizing data" (Strauss & Corbin, 1990, p. 61). Using the constant comparative method the researchers took one piece of data (i.e. one student statement) and compared it to other pieces of data. During this process, the researchers began to look at what made each piece of data different and/or similar to other pieces of data. This method of analysis is inductive because the researcher begins to examine data critically and draw new meaning from the data. The analysis of the respondent's content was a systematic technique that employed the compression of many words of text into fewer content categories based on explicit rules of coding (Berelson, 1952; Krippendorf, 1980; Weber, 1990).

The validity of the results was enhanced in several ways, all of which are in line with Merriam's (1998) strategies for ensuring internal validity. First, triangulation occurred, as multiple investigators examined the data and confirmed the results. Also, peer examination strengthened the results, as the data were reviewed by a group of faculty and graduate students involved in the evaluation. Faculty and graduate students from three land-grant universities evaluated the methodology and data from this study. Thirdly, researcher biases were clarified; the fact that the primary investigators were also the course instructors is noted and must be taken into consideration by consumers of this research.

CHAPTER 4

RESULTS AND FINDINGS

The results of this study aimed to provide information regarding each of the following objectives:

1. Identify crisis communication (competency) needs for new professionals using a Delphi study with crisis communication experts.
2. Identify the skills/tasks/traits/tools within each need area believed by crisis communication experts as important in career success when managing a crisis.
3. Outline competencies/skills best taught through application based on simulation, application based on real-life experience, theory, both, and/or neither.

Demographic Information

Variations of academic degrees were shown by the research. Twelve participants reported having a Bachelor of Science and three had a Bachelor of Arts. Seven participants noted having a Master of Arts, while none reported having a Master of Science. Two participants reported the title of Doctor of Philosophy. No respondents reported having a Doctor of Education degree. Some participants reported having more than one degree, but due to anonymity of the study, those results are not reported.

Participants reported ten undergraduate majors and three undergraduate minors. The majors included: agricultural communication (one); dairy science (two); agricultural journalism (three); journalism (one); bachelor of fine arts (one); business education (one); communication (one); public relations (two); broadcast journalism (one); and human ecology (one). Undergraduate minors reported included: agricultural communication (two); agricultural economics (one); and marketing (one). Participants reported six master's level degrees. These Master of Science and Master of Arts degrees included: communication (three); sociology (one); master of fine arts (one); adult education (one); home economics education (one); and business (one). Participants reported three degrees within the Doctor of Philosophy and Doctor of Education section. Doctorate level degrees included: sociology/social science (one); communication (one); and journalism (one).

All participants (100%) reported their company or organization being located in the United States. The crisis communication experts sampled in this study have an average of 26.73 years (n=15; M=26.73; SD=10.91) combined experience working in this field. The large amount of variance shows the difference

in number of years of experience reported by the 15 participants. Therefore, the participants of this study reflect a pool of newer crisis communication professionals to very experienced crisis communication professionals.

Respondents reported having experience working through multiple types of crises during their careers. The largest percentage of participants (38.9%) reported being involved with more than ten crises; 27.8% reported having dealt with 5-10 crises; 27.8% reported having worked with 2-5 crises; 5.6% reported having worked with fewer than two crises; and no respondents reported having zero experience working with a crisis.

Participants were asked to report their job titles. A total of 15 job titles were reported. The job titles are as follows: “associate director and professor of communications”; “chief executive officer”; “communications specialist”; “director and professor of communications and public relations”; “director of industry information”; “director of public affairs”; “director of corporate marketing and brand communications worldwide”; “director of reputation management”; “manager of food industry communications and affairs”; “president” (3); “professor”; “professor of risk sciences”; and “vice president of issue analysis and strategy”.

In an effort to better understand the work current crisis communication professionals do, participants were asked to provide the amount of time they invest annually in four sectors of the industry. The industry sectors included: (a) Improving quality of human life; (b) Improving the environment; (c) Improving animal production practices; and (d) Improving crop production practices. By understanding how industry professionals utilize their time, this study may serve the agriculture industry and more specifically crisis communications professionals. The majority of respondents (92.9%; *n*=13) reported that they invested their time in “Improving the quality of human life”, and “Improving the environment”. Respondents (*n*=13) reported spending 100% of their time annually “Improving animal production practices.” Respondents (*n*=11), reported dedicating 78.6% of their time to “Improving crop production practices.

OBJECTIVE 1: *Identify crisis communication (competency) needs for new professionals using a Delphi study with crisis communication experts.*

The nine emergent theme areas determined from round one included:

1. Contingency Plan and Preparedness
2. Experience
3. Knowledge
4. Learning/Training Needs and Opportunities
5. Media Skills
6. Networking
7. Personal Traits
8. Supplies/Tools
9. Technical/Communication Skills

Based on participant responses the nine previous theme areas were compressed to improve clarity and organization of data into eight theme areas. The themes "Media Skills" and "Technical/Communication Skills" were compressed into the theme "Communication, Media and Technical Skills". The following eight emergent competency themes were used throughout the remainder of the study

1. Networking Opportunities
2. Communication, Media and Technical Skills
3. Supplies and Tools
4. Learning/Training Needs and Opportunities
5. Areas of Experience
6. Knowledge
7. Personal Traits
8. Contingency Plan and Preparedness

These eight areas represent the themes needed for crisis communication training, as deemed by experts in the field. The conclusion of rounds one and two satisfied the requirements for objective one of this study.

OBJECTIVE 2: *Identify the skills/tasks/traits/tools within each need (competency) area believed by crisis communication experts as important in career success when managing a crisis.*

After the conclusion of rounds one and two, the study focused on narrowing the items (skills, tasks, traits and/or tools) within each of the eight content areas.

Overview of Top Competencies in the Eight Crisis Communication Need Areas

Networking Opportunities were defined as the opportunity for crisis communicators to build and utilize professional and organizational networks to prepare and plan for and/or react to a crisis. In the event that a crisis does occur, crisis communicators should use these networks to communicate with necessary people and organizations. In the Networking Opportunities competency area participants identified nine possible individuals or groups of people needed for crisis communicators to be successful

in the industry. Participants were asked to rank each item on a total scale of one to nine, to give a total ranked list of Networking Opportunities. The competencies are identified in Table 1 and are reported beginning with the lowest mean score to highest mean score. The most important Networking Opportunities were ranked beginning with: "Administrators and Executives" (*M*=3.07; *SD*=1.90); "Experts on Subject Matter Related to Respective Organization" (*M*=3.60; *SD*=2.03); "Primary staff (direct and indirect)" (*M*=3.87; *SD*=2.36); "Customers, clients and audience (internal and external) (*M*=4.53; *SD*=1.92); and "Media outlets" (*M*=4.67; *SD*=2.72).

Table 1

Respondents' Ranking of Importance of Networking Opportunities (*n*=15)

Rank	Networking Opportunities	*M*	*SD*
1	Administrators and executives	3.07	1.90
2	Experts on subject matter related to respective organization	3.60	2.03
3	Primary staff (direct and indirect)	3.87	2.36
4	Customers, clients and audience (internal and external)	4.53	1.92
5	Media outlets	4.67	2.72
6	Risk management	5.40	2.92
7	Legal counsel	6.10	2.90
8	Human resources	6.40	1.40
9	Security	7.40	2.00

Communication, Media and Technology Skills are defined as those skills needed by crisis communicators to effectively communicate with both internal and external parties, the media and the public. The Communication, Media and Technology Skills competency area had 20 total items noted as important. Respondents rank ordered each item from most to least important, from one to 20. The mean scores with standard deviations from the rankings are noted in Table 2. The most important Communication, Media and Technology Skill items began with "Accurate and Clear Communication Skills" (*M*=4.31 *SD*=4.53) followed by "Critical Thinking Skills" (*M*=5.94 *SD*=4.27); "Analytical thinking skills" (*M*=6.10; *SD*=5.53); "Strategic thinking skills" (*M*=7.40; *SD*=6.42); "Crisis communication skills both in a crisis and non-crisis situation" (*M*=7.81; *SD*=5.76); "Quick and rational decision-making skills" (*M*=7.88; *SD*=5.18); "Message construction skills" (*M*=8.00; *SD*=4.31); "Ability to meet deadlines and remain timely" (*M*=9.56; *SD*=5.70); "Media and understanding of how they differ, and skills to target

different media outlets and communication professionals" (*M*=9.88; *SD*=4.15); and "Good listening skills" (*M*=10.10; *SD*=5.70).

The high and varied standard deviations in the Communications, Media and Technology Skills section represent the varying opinions of the participants. This means that those experts participating in this round deemed different aspects of this category important. Compared to other sections, which had lower standard deviations, a wider array of opinions are represented. Table 2 provides a full list of standard deviations.

Table 2

Respondents' Ranking of Importance of Communication, Media and Technology Skills (*n*=16)

Rank	Communication, Media and Technology Skills	*M*	*SD*
1	Accurate and clear communication skills	4.31	4.53
2	Critical thinking skills	5.94	4.27
3	Analytical thinking skills	6.10	5.53
4	Strategic thinking skills	7.40	6.42
5	Communication skills both in a crisis and non-crisis situation	7.81	5.76
6	Quick and rational decision-making skills	7.88	5.18
7	Message construction skills	8.00	4.31
8	Ability to meet deadlines and remain timely	9.56	5.70
9	Media and understanding of how they differ, and skills to target different media outlets and communication professionals	9.88	4.15
10	Good listening skills	10.10	5.70
11	Journalistic writing skills	12.00	5.33
12	Gathering and disseminating news skills	12.06	4.80
13	Delegation skills	12.60	5.30
14	Interview management skills	12.90	4.50
15	Social media skills (knowledge of how to use social media, strategies, etc.)	13.30	3.70
16	Conflict management skills	13.44	4.10
17	Project management skills	14.10	4.71
18	On-camera interview and speaking skills	14.63	5.24
19	Improvisational speaking skills	14.80	4.30
20	Public speaking skills	15.00	4.20

Supplies and Tools are defined as those items needed by crisis communicators in order to carry out a crisis plan, communicate with necessary networks of people, and to create and disseminate communication items to organizations, the media, and the public. The Supplies and Tools competency area had 11 items that respondent's ranked. Respondents rank ordered each item from most to least important (from one to 11) in terms of supporting tools needed to be successful in a crisis communications career. Table 3 identified the mean scores and standard deviations for the most

important to least important items. The top item listed in Table 3 had the lowest mean score, which means it was the highest-ranking item in terms of importance to the profession. Respondents strongly agreed that the most important Supply or Tool for professionals to have access to was "Cell Phones" (*M*=3.16; *SD*=2.22) and the second most important was "Digital and Print Versions of the Crisis Plan" (*M*=3.53; *SD*=3.10). "Computers" (*M*=4.00; *SD*=2.33); "Emergency notification system" (*M*=4.68; *SD*=3.25); and "Updated databases and office files accessible from anywhere" (*M*=4.89; *SD*=2.10) were the next most important Supplies and Tools identified by participants. The Supplies and Tools section shows smaller variation in the standard deviation, but still represents differing opinions among experts.

Table 3

Respondents' Ranking of Importance of Supplies and Tools (*n*=19)

Rank	Supplies and Tools	*M*	*SD*
1	Cell phones	3.16	2.22
2	Digital and print versions of the crisis plan	3.53	3.10
3	Computers	4.00	2.33
4	Emergency notification system	4.68	3.25
5	Updated databases and office files accessible from anywhere	4.89	2.10
6	Social media preparedness (Facebook and Twitter accounts set up and ready to use with followers	6.00	2.60
7	Website	6.32	2.40
8	Internet sources	6.60	2.01
9	Multiple chargers for electronics (car, wall, portable)	8.80	2.00
10	Television	9.10	1.90
11	Radio	9.10	2.70

Learning and Training Needs and Opportunities are defined as those opportunities necessary for effective training and development of future crisis communicators. The Learning/Training Needs and Opportunities competency area had five items noted as important. Table 4 provides a list of the lowest to highest mean score ranks as reported by respondents. Participants strongly agreed that "Crisis Identification Training (issues tracking, recognition and planning)" was the most important item in this section (*M*=2.07; *SD*=1.03). The top-ranked item was closely followed by "Communication Training" with a very close mean score (*M*=2.13; *SD*=1.20). The competency ranked next was "Training for writing and conveying key messages" (*M*=3.40; *SD*=1.35); then "Stakeholder identification training" (*M*=3.60;

SD=1.24); and "Non-crisis media exposure training" (*M*=3.80; *SD*=1.38). This area did not show as much variance between the ranked items, meaning the items were more consistently ranked by participants.

Table 4

Respondents' Ranking of Importance of Learning/Training Needs and Opportunities (*n*=15)

Rank	Learning/Training Needs and Opportunities	*M*	*SD*
1	Crisis identification training (issues tracking, recognition and planning)	2.07	1.03
2	Communication training	2.13	1.20
3	Training for writing and conveying key messages	3.40	1.35
4	Stakeholder identification training	3.60	1.24
5	Non-crisis media exposure training	3.80	1.38

Areas of Experience are defined as the types of experience necessary and relevant to the needs of a crisis communicator. The competency theme area of Areas of Experience had five items to be ranked by participants from most important to least important, or from one to five. Table 5 notes the ranking of these areas of experience items from lowest mean to highest mean score with corresponding standard deviation. The Area of Experience with the lowest mean, therefore being deemed the most important area of experience by participants, was "Verbal and Written Communication" (*M*=2.26; *SD*=1.28), and the second most important item was "Leadership" (*M*=2.47; *SD*=1.26). "Media Relations" (*M*=3.11; *SD*=1.41); "Public relations" (*M*=3.58; *SD*=1.21); and finally, "Being a member of a crisis communication team" (*M*=3.58; *SD*=1.50) followed. The variance for all five items in this section was fairly low, showing a higher rate of consistency in ranking among participants.

Table 5

Respondents' Ranking of Importance of Areas of Experience (*n*=19)

Rank	Areas of Experience	*M*	*SD*
1	Verbal and written communication	2.26	1.28
2	Leadership	2.47	1.26
3	Media relations	3.11	1.41
4	Public relations	3.58	1.21
5	Being a member of a crisis communication team	3.58	1.50

Knowledge for this study is defined as the areas of understanding and comprehension, which crisis communicators must have in order to be prepared to deal with a crisis. The Knowledge competency area had 16 supporting items to be ranked from most to least important by participants and

is noted in Table 6. Items were ranked from most important (1) to least important (16). The top-ranked item, as determined by participants, was "Crisis Knowledge" (*M*=2.26; *SD*=2.88). The second most important item was "Comprehensive Understanding of Company/Organization and its Crisis Plan and Dynamics" (*M*=4.26; *SD*=3.02), followed by "How to troubleshoot and address problems before they lead to a crisis" (*M*=5.63; *SD*=4.19); "Types of crises potentially affecting organization" (*M*=6.42; *SD*=4.25); "Knowledge of various stakeholder groups and understanding of their perspectives" (*M*=7.05; *SD*=3.37); "Risk communication principles" (*M*=7.32; *SD*=4.00); "Clear definition of the difference between an issue and a crisis" (*M*=7.53; *SD*=4.80); "Roles, duties and responsibilities of crisis team (both internal and external)" (*M*=7.84; *SD*=3.60; "Audiences for specific scenarios and key concerns for each" (*M*=8.26; *SD*=3.43); and "Knowledge and understanding of organization's non-crisis objectives" (*M*=9.05; *SD*=5.36). Standard deviations for each of the 16 items varied, meaning there was not as consistent of agreement levels between participants in this round. Table 6 provides a complete list of mean scores and standard deviations.

Table 6

Respondents' Ranking of Importance of Knowledge (*n*=19)

Rank	**Knowledge**	***M***	***SD***
1	Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)	2.26	2.88
2	Comprehensive understanding of company/organization and its crisis plan and dynamics	4.26	3.02
3	How to troubleshoot and address problems before they lead to a crisis	5.63	4.19
4	Types of crises potentially affecting organization	6.42	4.25
5	Knowledge of various stakeholder groups and understanding of their perspectives	7.05	3.37
6	Risk communication principles	7.32	4.00
7	Clear definition of the difference between an issue and a crisis	7.53	4.80
8	Roles, duties and responsibilities of crisis team (both internal and external)	7.84	3.60
9	Audiences for specific scenarios and key concerns for each	8.26	3.43
10	Knowledge and understanding of organization's non-crisis objectives	9.05	5.36
11	Knowledge and understanding of food production, marketing and distribution, and the	10.27	3.24

	various industry and government organizations that would likely be involved in a crisis		
12	Traditional and social media knowledge (as influencers and specifically in a crisis context)	10.50	4.43
13	The difference between business as usual versus crisis protocol	10.63	3.24
14	Incident command knowledge	11.00	4.00
15	Role of non-mediated communication	13.00	2.00
16	Knowledge and understanding of consumers through market research	13.53	3.00

Personal Traits are defined as the traits inherent to an individual that can support the success of preparing for, communicating during, or reacting to a crisis. Some traits, however, may not be inherent, but may need to be developed through learning and experience. The Personal Traits competency area provided respondents with 19 items to be ranked from most important to least important. Items could be given a rank of one to 19, in order of importance. Table 7 shows the 19 ranked items with corresponding standard deviations. The most important item reported by participants was being a "Strategic Thinker" (*M*=5.00; *SD*=5.60). This was followed by the personal traits: "Good Judgment" (*M*=6.20; *SD*=3.53); "Integrity" (*M*=6.47; *SD*=4.84); "Honesty" (*M*=6.60; *SD*=4.70); "Team-oriented" (*M*=7.73; *SD*=5.80); "Calm demeanor" (*M*=8.60; *SD*=5.45); "Ability to prioritize" (*M*=9.33; *SD*=4.40); "Common sense" (*M*=9.60; *SD*=4.00); "Ability to collaborate" (*M*=9.60; *SD*=5.90); and "Confidence" (*M*=10.73; *SD*=5.61). There was a very large amount of variance shown in the standard deviations of the 19 items in this area. This shows the varying opinions about which personal traits are more important to crisis communication professionals. This variance may also be due to differences in individual personalities.

Table 7

Respondents' Ranking of Importance of Personal Traits (*n*=15)

Rank	**Personal Traits**	***M***	***SD***
1	Strategic thinker	5.00	5.60
2	Good judgment	6.20	3.53
3	Integrity	6.47	4.84
4	Honesty	6.60	4.70
5	Team-oriented	7.73	5.80
6	Calm demeanor	8.60	5.45
7	Ability to prioritize	9.33	4.40
8	Common sense	9.60	4.00
9	Ability to collaborate	9.60	5.90
10	Confidence	10.73	5.61

11	Ability to focus	10.80	5.61
12	Resourcefulness	10.90	5.40
13	Empathy	11.13	4.93
14	Foresight	11.20	4.23
15	Compassion	11.80	5.51
16	Ability to multi-task	11.90	5.00
17	Flexibility	13.73	4.70
18	Professional demeanor and appearance	14.10	5.42
19	Endurance and stamina	14.70	3.46

Contingency Plan and Preparedness is defined as the steps taken and plans put in place in order to prepare for the event of a crisis. The ranking of most important to least important items for the competency area of Contingency Plan and Preparedness are listed in Table 8. A total of 17 items were ranked by participants, and the item ranked closest to the mean score of "1" deemed the most important. The most important item was "Crisis Communication Plan" (*M*=2.33; *SD*=1.71), followed by "Core Team Identification and Organization" (*M*=3.67; *SD*=3.00), and "Chain of command with identification of key personnel" (*M*=4.07; *SD*=3.00). Next was "Contact lists (media, staff, leadership, counsel, etc.)" (*M*=5.33; *SD*=4.20); "Designated spokesperson (not same person managing crisis)" (*M*=7.93; *SD*=3.83); "Early warning/notification system" (*M*=8.07; *SD*=4.00); "Vulnerability assessments" (*M*=8.40; *SD*=5.41); "Develop a process and protocol for gathering and disseminating information" (*M*=8.47; *SD*=2.92); "Prepared statements and talking points ready for media interviews" (*M*=9.33; *SD*=3.80); and "Identify possible crises at staff meetings" (*M*=9.40; *SD*=4.10). Table 8 provides a total list of mean scores and standard deviations. Variance was extremely high in some items, due to a lesser degree of similar rankings provided by participants. This could mean the top items needed for Contingency Plan and Preparedness may vary more than the data shows.

Table 8

Respondents' Ranking of Importance of Contingency Plan and Preparedness (*n*=15)

Rank	Contingency Plan and Preparedness	*M*	*SD*
1	Crisis communication plan (including 15-minute plan, four hour plan, day one plan, and weeks one and two plans)	2.33	1.71
2	Core team identification and organization	3.67	3.00
3	Chain of command with identification of key personnel	4.07	3.00
4	Contact lists (media, staff, leadership, counsel, etc.)	5.33	4.20
5	Designated spokesperson (not same person managing crisis)	7.93	3.83
6	Early warning/notification system	8.07	4.00
7	Vulnerability assessments	8.40	5.41
8	Develop a process and protocol for gathering and disseminating information	8.47	2.92
9	Prepared statements and talking points ready for media interviews	9.33	3.80
10	Identify possible crises at staff meetings	9.40	4.10
11	Distribute contact information to all members of organization for constant access	9.80	3.00
12	Periodic testing of plan with mock crisis drills	10.20	3.00
13	Put in place safety policies	11.60	3.90
14	Plan on-site and off-site locations for crisis headquarters	12.10	3.35
15	Staff each job function two or three deep to account for multiple operational periods, vacations, illnesses, etc.	13.73	3.83
16	Standby emergency locations for triage and media	14.00	3.00
17	Situation assessment for post-crisis	14.67	2.60

Crisis Communication Industry Experts Proficiency Levels

Participants could rank their proficiency by selecting on of five levels. Each of the five proficiency scale items were assigned a rank score which is defined as follows:

1. Not at All
2. Novice
3. Intermediate
4. Advanced
5. Expert

This data shows the mean score and standard deviation for each competency. No competency received an average proficiency level below a 2.0. This means industry experts believe themselves to be

at a novice level to expert level in all competencies. Additionally, no competencies were given a score of "1", indicating that no respondents believe themselves to have no knowledge of any one competency.

In the area "Networking Opportunities" all competencies ranged between novice and advanced proficiency (mean range 4.6-2.0). The top ranking mean score for "Networking Opportunities" competency in terms of proficiency level of participants was "Media outlets" (*M*=4.6; *SD*=0.7). The lowest mean score competency was "Insurance agencies" (*M*=2.0; *SD*=0.94). Standard deviations show a low level of variance in proficiency levels for "Networking Opportunities". Detailed data is reported in Table 9.

Table 9

Respondents' Proficiency Level in Networking Opportunities (*n*=10)

Networking Opportunities	***M***	***SD***
Media outlets	4.6	0.70
Primary staff (direct and indirect)	4.2	0.63
Customers, clients and audience (internal and external)	4.2	0.63
Peers	4.1	0.88
Experts on subject matter related to respective organization	4.0	0.82
Legal counsel	3.9	0.74
Risk Management	3.8	0.92
Administrators and executives	3.7	0.95
Human resources	3.6	0.84
Secondary staff	3.6	1.00
Outside PR services	3.5	1.72
Advocacy groups	3.4	0.70
Security	3.0	0.94
Counselors	2.6	1.20
Emergency service personnel	2.6	1.10
Volunteers	2.6	1.26
Shareholders for publicly held companies	2.2	1.48
Insurance agencies	2.0	0.94

In "Communication, Media and Technology Skills" all competencies ranked above a 3.0 mean score. This means that all participants deemed themselves to be at an intermediate level or above in this area (mean range 4.6-3.2). The top ranking mean score for "Communication, Media and Technology Skills" was for "Message construction skills" (*M*=4.6; *SD*=0.70). The lowest ranking item in proficiency level was "Photography and video skills" (*M*=3.2; *SD*=1.32). Standard deviations were relatively low for this area, meaning participants reported similar proficiency levels for all items. Table 10 provides the detailed list of responses for each competency's proficiency level and the corresponding standard deviations.

Table 10

Respondents' Proficiency Level in Communication, Media and Technology Skills (*n*=10)

Communication, Media and Technology Skills	***M***	***SD***
Message construction skills	4.6	0.70
Journalistic writing skills	4.5	0.71
Analytical thinking skills	4.4	0.52
Ability to meet deadlines and remain timely	4.4	0.52
Communication skills in both a crisis and non-crisis situation	4.4	0.70
Accurate and clear communication skills	4.4	0.70
Critical thinking skills	4.3	0.50
Good listening skills	4.3	0.70
Strategic thinking skills	4.3	0.70
Gathering and disseminating news skills	4.3	0.70
Quick and rational decision-making skills	4.2	1.00
Media and understanding how they differ, and skills to target different media outlets	4.2	1.03
Conflict management skills	4.1	1.00
Interview management skills	4.1	1.00
Project management skills	4.1	0.74
On-camera interview and speaking skills	4.0	1.10
Delegation skills	4.0	1.10
Improvisational speaking skills	3.9	0.73
Public speaking skills	3.8	1.23
Social media skills (knowledge of how to use social media, strategies, etc.)	3.4	0.84
Photography and video skills	3.2	1.32

The "Supplies and Tools" section ranged in proficiency levels of respondents (mean range 4.63-2.50), as listed in Table 11. Participants reported having a proficiency level of Novice to Advanced for all items in "Supplies and Tools". The item with the highest proficiency level was "Cell phones" (*M*=4.63; *SD*=0.52). The item with the lowest proficiency was "Physical space modeling of crisis location" (*M*=2.50; *SD*=1.41). In general, the items with the lower mean score had a higher degree of standard deviation, meaning the items were ranked at a lower proficiency level with less consistency in response from participants.

Table 11

Respondents' Access to Supplies and Tools (*n*=8)

Supplies and Tools	***M***	***SD***
Cell phones	4.63	0.52
Computers	4.50	0.80
Land line telephones	4.40	0.74
Basic office essentials (paper, ink, writing utensils, etc.)	4.40	0.74
Website	4.25	0.90
Internet sources	4.13	0.83
Digital and print versions of the crisis plan	4.13	1.13
Emergency notification system	4.00	1.20
Food and beverages for headquarters and on-site team	4.00	0.80
Office space	4.00	0.80
Fax machine	3.90	0.83
Multiple chargers for electronics (car, wall, portable)	3.90	1.00
Radio	3.80	1.04
Television	3.80	1.04
24/7 hotline	3.80	1.30
Hotel access near crisis site	3.80	0.90
Updated databases and office files accessible from anywhere	3.80	1.20
Alternative headquarters and office space	3.80	1.40
Maps (both digital and print versions)	3.63	1.10
Public phantom site ready to make live during crisis	3.38	0.92
Official vehicles	3.25	1.50
Security for headquarters and on-site information center	3.13	1.40
Social media preparedness (Facebook and Twitter accounts set up and ready to use with followers)	3.13	1.25
PIO vest institutional ID to identify members of crisis response team	2.63	1.60
Physical space modeling of crisis location	2.50	1.41

Table 12 provides information regarding the participants' proficiency levels in "Learning/Training Needs and Opportunities." The competencies in this area were each deemed by participants to be at a proficiency level of Novice to Intermediate (mean range 4.75-2.50). The highest-ranked proficiency level was "Communication training" (*M*=4.75; *SD*=0.46). The lowest ranked item was "Legal implication training" with a mean proficiency score of 2.50 (*SD*=0.93). Variance was low, especially in the top-ranked items in this section. This means that the participants had a higher level of similarities in proficiency.

Table 12

Respondents' Proficiency Level in Learning/Training Needs and Opportunities (*n*=8)

Learning/Training Needs and Opportunities	***M***	***SD***
Communication training	4.75	0.46
Conduct training	4.40	0.74
Training for writing and conveying key messages	4.40	0.92
Non-crisis media exposure training	4.25	0.90
Crisis identification training (issues tracking, recognition and planning)	4.13	1.00
Stakeholder identification training	4.13	1.13
Opportunity to learn in groups and compare notes and experiences	3.90	1.13
Need for time-allotment for professional development hours and/or in-service credit	3.75	1.04
Training opportunities depending on role	3.63	0.92
Training that includes realistic crisis drills and role playing (with positive and negative feedback and evaluation)	3.50	1.51
Risk management training	3.40	0.92
National Incident Management System (NIMS)/Incident Command System (ICS) training	3.13	0.83
Vulnerability assessments training	3.13	1.13
Training in command theory and practice	3.00	1.10
Training using best practices from CDC and National Center for Food Protection and Defense	2.75	1.40
Social media training	2.63	1.10
Legal implication training	2.50	0.93

"Areas of Experience" ranked high in terms of participants' proficiency levels for each competency (mean range 4.63-3.25). All competencies ranged in proficiency levels from Intermediate to Advanced levels. Table 13 outlines the details of this section, along with the standard deviations. Variation was low in range, meaning participants have similar proficiency levels in experience.

Table 13

Respondents' Proficiency Level in Areas of Experience (*n*=8)

Areas of Experience	***M***	***SD***
Verbal and written communication	4.63	0.52
Media relations	4.50	0.80
Public relations	4.50	0.80
Being a member of a crisis communication team	4.40	0.92
Coordination of plans, events, meetings, etc.	4.40	0.74
Leadership	4.25	0.90
Management	4.25	0.71
Being a spokesperson for an organization	4.25	1.04
Coaching	4.00	0.93
Participation in and leading of mock crisis drills	3.90	1.60
Analyzing case studies and past crisis situations	3.75	1.30
Technical	3.25	0.90
Finances	2.90	0.83
Logistics	2.75	0.90

Table 14 shows the range of proficiency levels for "Knowledge" (mean range 4.6-3.1). Respondents reported proficiency levels ranging from Intermediate to Advanced. The highest ranking proficiency level was "Clear definition of the difference between an issue and a crisis" (*M*=4.6; *SD*=0.52). The lowest level item was "Industry systems and processes knowledge" (*M*=3.1; *SD*=1.10). Variance was low, especially in the higher ranked proficiency areas. The proficiency levels in "Knowledge" were high and had a low level of variance, meaning participants had similar proficiency levels in all areas.

Table 14

Respondents' Proficiency Level in Knowledge (*n*=10)

Knowledge	***M***	***SD***
Clear definition of the difference between an issue and a crisis	4.6	0.52
Comprehensive understanding of company/organization and its crisis plan and dynamics	4.5	0.53
Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)	4.5	0.71
Knowledge of risk communication principles	4.5	0.71
Knowledge of difference between business as usual versus crisis protocol	4.4	0.70
Knowledge of how to troubleshoot and address problems before they lead to a crisis	4.4	0.70
Knowledge of roles, duties and responsibilities of crisis team (both internal and external)	4.4	0.70
Knowledge of types of crises potentially affecting organization	4.4	0.70
Knowledge and understanding of organization's non-crisis objectives	4.1	0.88
Knowledge of audiences for specific scenarios and key concerns for each	3.9	0.88
Knowledge and understanding of food production, marketing and distribution, and the various industry and government organizations that would likely be involved in a crisis	3.9	0.88
Traditional and social media knowledge (as influencers and specifically in a crisis context)	3.8	0.79
Knowledge of various stakeholder groups and understanding of their perspectives	3.8	0.79
Knowledge of trends	3.8	0.92
Incident command knowledge	3.5	1.40
General business knowledge	3.4	1.17
Knowledge of role of non-mediated communication	3.3	1.30
Knowledge and understanding of consumers through market research	3.2	1.40
Industry systems and processes knowledge	3.1	1.10

Table 15 outlines the respondents' proficiencies for "Personal Traits" which ranged from above Intermediate to highly Advanced proficiency levels (mean range 4.75-3.63). The highest ranked proficiency level was for "Honesty" (*M*=4.75; *SD*=0.50). The lowest proficiency level was for the trait of "Task-oriented nature" (*M*=3.63; *SD*=0.74). The variance of this section of proficiency levels was very

low, with all standard deviations being under 1.0, except for one item. Participants ranked their proficiency levels for "Personal Traits" very high, and had similar rankings leading to low variance.

Table 15

Respondents' Proficiency Level in Personal Traits (*n*=8)

Personal Traits	***M***	***SD***
Honesty	4.75	0.50
Common sense	4.63	0.52
Compassion	4.63	0.52
Empathy	4.63	0.52
Flexibility	4.63	0.52
Integrity	4.50	0.53
Team-oriented	4.50	0.53
Ability to prioritize	4.40	0.52
Ability to collaborate	4.40	0.52
Endurance and stamina	4.40	0.74
Ability to focus	4.40	0.52
Resourcefulness	4.40	0.74
Ability to improvise	4.25	0.71
Fortitude	4.25	0.71
Open-mindedness	4.25	0.71
Professional demeanor and appearance	4.25	0.71
Calm demeanor	4.13	0.35
Good judgment	4.13	0.35
Strategic thinker	4.13	0.83
Ability to multi-task	4.00	0.53
Foresight	4.00	0.93
Assertiveness	3.88	0.83
Discipline	3.88	0.64
Ability to say "no" when needed	3.88	1.13
Detail-oriented nature	3.75	0.90
Confidence	3.63	0.74
Task-oriented nature	3.63	0.74

Table 16 presents the proficiency levels for "Contingency Plan and Preparedness." Proficiency levels ranged from Novice to highly Advanced (mean range 4.5-2.9). The highest proficiency level was "Chain of command with identification of key personnel" (*M*=4.5; *SD*=0.71). The lowest level of proficiency was "Support and participation of C-Suite" (*M*=2.9; *SD*=1.73). Variance was somewhat low in this section, but higher variance indicated a larger difference in proficiency levels of participants.

Table 16

Respondents' Proficiency Level in Contingency Plan and Preparedness (*n*=10)

Contingency Plan and Preparedness	***M***	***SD***
Chain of command with identification of key personnel	4.5	0.71
Prepared statements and talking points ready for media interviews	4.5	0.53
Contact lists (media, staff, leadership, counsel, etc.)	4.4	0.70
Designated spokesperson (not same person managing crisis)	4.3	1.00
Core team identification and organization	4.2	0.79
Distribute contact information to all members of organization for constant access	4.2	0.79
Crisis communication plan (including 15-minute plan, four hour plan, day one plan, and weeks one and two plans)	4.1	0.90
Plan on-site and off-site locations for crisis headquarters	4.1	0.74
Early warning/notification system	4.0	1.10
Identify possible crises at staff meetings	4.0	1.00
Periodic testing of plan with mock crisis drills	3.9	1.30
Develop a process and protocol for gathering and disseminating information	3.9	1.00
Situation assessment for post-crisis	3.8	1.03
Staff each job function two or three deep to account for multiple operational periods, vacations, illnesses, etc.	3.7	1.10
Vulnerability assessments	3.7	1.10
All members of the organization trained in crisis communication	3.7	1.00
Standby emergency locations for triage and media	3.4	1.30
Put in place safety policies	3.1	1.00
Support and participation of C-Suite	2.9	1.73

OBJECTIVE 3: *Outline competencies/skills best taught through application based on simulation, application based on real-life experience, theory, both, and/or neither.*

Round five assessed the respondents' (*n*=16) views of how the top skill/task/trait/tool item within each competency should best be presented to students training to become new professionals in crisis communication. Because of the nature of the problem-centered curriculum model, multiple avenues for teaching crisis communication competencies are necessary. The experts participating in the Delphi Study were asked to choose all that they felt applied to each skill/task/trait/tool item in the competency areas. Respondents were asked to choose from: (a) "Application based on Simulation"; (b) "Application based on Real-Life Experience"; (c) "Theory"; (d) "Both Application and Theory"; (e) "Neither Application nor Theory". Results are reported as percentages of respondents who believed each item should be presented to students using the respective choices. Responses can be found in the following tables.

Overview of Teaching Techniques for Training Crisis Communication Professionals

In the training need area of "Networking Opportunities", training taught through "Application Based on Real-Life Experience" ranked the highest with each competency ranging from 68.8-75%. The second method of presenting material preferred by respondents was "Application Based on Simulation" with the five competency percentages for "Networking Opportunities" ranging from 37.5-50%. The category "Both Application and Theory" resulted in competencies ranging from 31.3-37.5%. Training based solely through "Theory" was ranked low, with competencies ranging from 6.3% to 12.5%. Training using neither application nor theory received no score. Overall, respondents show this need area to be best taught through real-life experience. All five competencies ranked 68.8% or above for application based on real-life. Utilizing theory only did not prove to be a successful means of training for "Networking Opportunities" as recommended by the participants of this study. Table 17 provides a detailed report of responses for methods of presenting "Networking Opportunities".

Table 17

Respondents' Ranking for Presenting Networking Opportunities (*n*=16)

	Rank Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Administrators and executives	43.8	68.8	12.5	37.5	0
2	Experts on subject matter related to respective organization	37.5	68.8	6.3	37.5	0
3	Primary staff (direct and indirect)	37.5	75	12.5	31.3	0
4	Customers, clients and audience (internal and external)	50	68.8	6.3	31.3	0
5	Media outlets	37.5	75	12.5	37.5	0

**Note.* Participants could select none to all five presentation methods for each competency listed.

Presenting material to crisis communication students for the content area of "Communication, Media and Technology Training" received the highest recommendation of how to present material using "Application Based on Real-Life Experience" which ranged from 56.3-75.0%. The second highest

recommendation for presentation was “Application Based on Simulation” with 25.0-43.8% of respondents recommending the use of simulation for training in the ten competencies listed in this area. Both “Analytical thinking skills” (6.3%) and “Strategic thinking skills” (6.3%) were competencies recommended to be taught using neither application nor theory. Table 18 reports the details of this section.

Table 18

Respondents’ Ranking for Presenting Communication, Media and Technology Training (*n*=16)

Rank	Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Accurate and clear communication skills	37.5	62.5	18.8	50	0
2	Critical thinking skills	43.8	62.5	25	50	0
3	Analytical thinking skills	43.8	62.5	12.5	50	6.3
4	Strategic thinking skills	31.3	68.8	25	56.3	6.3
5	Communication skills both in a crisis and non-crisis situation	37.5	75.0	25	56.3	0
6	Quick and rational decision-making skills	37.5	75	0	43.8	0
7	Message construction skills	43.8	68.8	25	56.3	0
8	Ability to meet deadlines and remain timely	43.8	56.3	6.3	37.5	0
9	Media and understanding of how they differ, and skills to target different media outlets and communication professionals	25	68.8	18.8	56.3	0
10	Good listening skills	37.5	75	12.5	50	0

**Note.* Participants could select none to all five presentation methods for each competency listed.

The “Supplies and Tools” needs area received the highest recommendation in the “Application Based on Real-Life Experience” section, with respondents ranking all five competencies from 62.5-75%. “Application Based on Simulation” was ranked second highest in respondents’ levels of agreement, scoring 37.5-50.0%. Levels of agreement for training using “Both Application and Theory” did not exceed percentages above 31.5% in any of the five supplies and tools listed. Table 19 provides detailed results about Supplies and Tools section.

Table 19

Respondents' Ranking for Presenting Supplies and Tools (*n*=16)

Rank	Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Cell phones	37.5	75	0	12.5	0
2	Digital and print versions of the crisis plan	50	62.5	0	31.3	6.3
3	Computers	37.5	68.8	0	12.5	6.3
4	Emergency notification system	50	62.5	6.3	25	0
5	Updated databases and office files accessible from anywhere	43.8	62.5	6.3	18.8	0

**Note.* Participants could select none to all five presentation methods for each competency listed.

"Learning/Training Needs and Opportunities" reached a 50.0% level of agreement or above in all of the top five competencies in the "Both Application and Theory" (50.0-75.0%) presentation method. "Application Based on Real-Life Experience" reached the highest levels of agreement, with competencies ranging from 68.8-75%. "Application Based on Simulation" received agreement levels of 50.0% or higher three out of the five competencies. Both "Theory" and "Neither Application nor Theory" as the sole presentation methods for "Learning/Training Needs and Opportunities" did not reach a significant level of agreement in any of the five competencies listed. Table 20 provides more information about the results of this section.

Table 20

Respondents' Ranking for Presenting Learning/Training Needs and Opportunities (*n*=16)

Rank	Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Crisis identification training (issues tracking, recognition and planning)	50	75	12.5	56.3	0
2	Communication training	43.8	68.8	37.5	75	0
3	Training for writing and conveying key messages	50	62.5	25	62.5	0
4	Stakeholder identification training	56.3	68.8	0	50	0
5	Non-crisis media exposure training	31.3	68.8	25	56.3	6.3

**Note.* Participants could select none to all five presentation methods for each competency listed.

Levels of agreement for "Application Based on Real-Life Experience" in the "Areas of Experience" section were highest overall. The real-life experience method of presentation received between 75.0 and 81.3% agreement from respondents. "Both Application and Theory" as a presentation method for "Areas of Experience" received the next highest levels of agreement with 50.0-56.3% in four of the five competencies. "Application Based on Simulation" was ranked under 50% agreement in all five competences (37.5-43.8%). "Neither Application nor Theory" received zero recommendations, therefore 100% agreement from participants. Using theory alone as a presentation method for "Areas of Experience" did not result in significant agreement among respondents (6.3-12.5%). Table 21 provides the full results for "Areas of Experience."

Table 21

Respondents' Ranking for Presenting Areas of Experience (*n*=16)

Rank	Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Verbal and written communication	43.8	75	12.5	56.3	0
2	Leadership	37.5	81.3	6.3	56.3	0
3	Media relations	43.8	81.3	12.5	56.3	0
4	Public relations	37.5	81.3	12.5	50	0
5	Being a member of a crisis communication team	43.8	81.3	12.5	37.5	0

**Note.* Participants could select none to all five presentation methods for each competency listed.

"Application Based on Real-Life Experience" reached the highest levels of agreement in all ten competencies listed for the area of "Knowledge" (62.5-81.3%). The next highest levels of agreement achieved by participants were in the presentation method "Application Based on Simulation" which ranged from 37.5-68.8%. Using a combination of application and theory reached a 50.0% level of agreement or above in five out of the ten competencies listed for "Knowledge". Using "Theory" alone as a presentation method did not produce a significant level of agreement among participants. Using "Neither Application nor Theory" received a score of zero for each of the ten competencies. All results of the "Knowledge" portion of how to present information are outlined in Table 22.

Table 22

Respondents' Ranking for Presenting Knowledge (*n*=16)

	Rank Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)	68.8	68.8	18.8	43.8	0
2	Comprehensive understanding of company/organization and its crisis plan and dynamics	37.5	75	6.3	43.8	0
3	How to troubleshoot and address problems before they lead to a crisis	68.8	75	18.8	62.5	0
4	Types of crises potentially affecting organization	62.5	62.5	25	43.8	0
5	Knowledge of various stakeholder groups and understanding of their perspectives	50	81.3	6.3	31.3	0
6	Risk communication principles	50	62.5	37.5	62.5	0
7	Clear definition of the difference between an issue and a crisis	43.8	68.8	37.5	56.3	0
8	Roles, duties and responsibilities of crisis team (both internal and external)	62.5	62.5	25	50	0
9	Audiences for specific scenarios and key concerns for each	50	62.5	18.3	37.5	0
10	Knowledge and understanding of organization's non-crisis objectives	43.8	68.8	25	50	0

**Note.* Participants could select none to all five presentation methods for each competency listed.

The "Personal Traits" needs area received varied levels of agreement among participants. The highest levels of agreement were in the "Application Based on Real-Life Experience" presentation method, with the ten competencies listed ranging from 37.5-68.8% agreement. Both Application and

Theory" as a presentation method had the second highest levels of agreement (31.3-62.5%). "Theory" as a presentation method did not have significant levels of agreement (6.3-12.5%) among respondents. "Neither Application nor Theory" had an agreement rate of 0-12.5% in the "Personal Traits" area. Table 23 provides all results of this portion of the study.

Table 23

Respondents' Ranking for Presenting Personal Traits (*n*=16)

Rank	Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Strategic thinker	37.5	50.0	12.5	62.5	0
2	Good judgment	37.5	68.8	6.3	37.5	0
3	Integrity	18.8	56.3	12.5	37.5	6.3
4	Honesty	18.8	56.3	12.5	37.5	6.3
5	Team-oriented	37.5	56.3	12.5	56.3	0
6	Calm demeanor	31.3	62.5	6.3	31.3	12.5
7	Ability to prioritize	43.8	43.8	6.3	62.5	0
8	Ability to collaborate	43.8	37.5	12.5	56.3	0
9	Common sense	25	56.3	6.3	31.3	12.5
10	Confidence	31.3	62.5	6.3	37.5	0

**Note.* Participants could select none to all five presentation methods for each competency listed.

"Application Based on Real-Life Experience" had the highest levels of agreement (56.3-68.8%) in all ten competencies listed for the area "Contingency Plan and Preparedness". "Application Based on Simulation" received a 50.0% agreement level or above in eight out of the ten competencies in this area. "Both Application and Theory" as a presentation method reached levels of agreement at or above 50.0% in five out of ten competencies in this area. Both "Theory" and "Neither Application nor Theory" did not receive significant levels of agreement from respondents. Complete results of this portion of the study are listed in Table 24.

Table 24

Respondents' Ranking for Presenting Contingency Plan and Preparedness (*n*=16)

	Rank Competencies and Supporting Traits	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
1	Crisis communication plan (including 15-minute plan, four hour plan, day one plan, and weeks one and two plans)	62.5	62.5	18.8	56.3	0
2	Core team identification and organization	56.3	56.3	6.3	50	0
3	Chain of command with identification of key personnel	50	62.5	12.5	37.5	0
4	Contact lists (media, staff, leadership, counsel, etc.)	43.8	68.8	6.3	37.5	0
5	Designated spokesperson (not same person managing crisis)	37.5	68.8	18.8	43.8	0
6	Early warning/notification system	50	56.3	12.5	56.3	0
7	Vulnerability assessments	68.8	62.5	25	43.8	0
8	Develop a process and protocol for gathering and disseminating information professionals	50	68.8	18.8	37.5	0
9	Prepared statements and talking points ready for media interviews	56.3	68.8	6.3	50	0
10	Identify possible crises at staff meetings	50	68.8	25	62.5	0

**Note.* Participants could select none to all five presentation methods for each competency listed.

The majority of respondents indicated that seven of eight competency areas should be taught to new crisis communications professionals through "Application Based on Real-Life Experience": Networking Opportunities (68.8-75%); Communication, Media and Technology Training (56.3-75%); Supplies and Tools (62.5-75%); Learning/Training Needs and Opportunities (62.5-75%); Areas of Experience (75-81.3%); Knowledge (62.5-81.3%); Contingency Plan and Preparedness (56.3-68.8%). Although the majority of respondents did not note the competency area of Personal Traits (37.5-68.8%) as needing to be taught through "Application Based on Real-Life Experience"—still a large percentage of

the respondents thought new crisis communication professionals could benefit through learning the supporting skills/tasks/traits/tools in this manner.

The majority of respondents (50-75%) noted that 31 out 55 supporting items (skills/tasks/traits/tools) within the eight broad competency themes should be taught to new crisis communications professionals via “Both Application and Theory”. In contrast, there was not one supporting item ranked at the majority level to be taught via “Theory” only.

Respondents noted a wide-variety of teaching techniques needed for the competency area of Knowledge. With seven out of 10 supporting items (skills/tasks/traits/tools) ranked at 50% or above as a need to be taught through “Application Based on Simulation”. In comparison, respondents noted that all 10 supporting items should be taught via “Application Based on Real-Life Experience” (62.5-81.3%). In contrast, none of the 10 supporting areas were noted as needing to be taught via theory only at a 50% or more level. There were nine out of 55 supporting items (skills/tasks/traits/tools) ranked above 0%. Of those nine items, none were noted above 12.5% as a need to teach new crisis communication professionals via this teaching technique. Additionally, teaching new crisis communications professionals through “Theory” regardless of the competency area ranked low throughout each supporting skill/task/trait/tool for the eight broad competency areas.

Levels of Agreement: Training Through Application Based on Simulation

For the presentation method of Application Based on Simulation (Tables 18-25), competencies within five of the eight trainings needs areas had an agreement level of 50% or above. Twenty total competencies to be taught using simulation received an agreement level of 50% or higher by participants.

From the area “Networking Opportunities” the following items received a 50% or higher agreement level: “Customers, clients and audience (internal and external)” (50.0%). From the area “Supplies and Tools” the following competencies ranked a 50% or above agreement level: “Digital and print versions of the crisis plan” (50.0%) and “Emergency notification system” (50.0%). From the area “Learning/Training Needs and Opportunities” the following competencies ranked 50% or higher in agreement level: “Crisis identification training (issues tracking, recognition and planning)” (50.0%); “Training for writing and conveying key messages” (50.0%); and “Stakeholder identification training” (56.3%). From the area “Knowledge” the one supporting theme received 50% or higher agreement level:

"Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)" (68.8%); "How to troubleshoot and address problems before they lead to a crisis" (68.8%); "Types of crises potentially affecting organization" (62.5%); "Knowledge of various stakeholder groups and understanding of their perspectives" (50.0%); "Roles, duties and responsibilities of crisis team (both internal and external)" (62.5%); and "Audiences for specific scenarios and key concerns for each" (50.0%). From the area "Contingency Plan and Preparedness" the following competencies received 50% or higher agreement level from participants: "Crisis communication plan (including 15-minute plan, four hour plan, day one plan, and weeks one and two, plans)" (62.5%); "Core team identification and organization" (56.3%); "Chain of command with identification of key personnel" (50.0%); "Early warning/notification system" (50.0%); "Vulnerability assessments" (68.8%); "Develop a process and protocol for gathering and disseminating information" (50.0%); "Prepared statements and talking points ready for media interviews" (56.3%); and "Identify possible crises at staff meetings" (50.0%).

Levels of Agreement: Training Through Application Based on Real-Life Experience

All competencies agreed upon to be taught using "Application Based on Real-Life Experience" (Tables 18-25) received a percentage of agreement at 50% or higher except for one. In the "Personal Traits" area, the competency "Ability to collaborate" received an agreement level of 37.5%. Thirteen competencies within six of the training needs areas received an agreement level of 75% or above.

From the area "Networking Opportunities" the competency "Media outlets" received an agreement level of 75% from participants for training based on real-life experience. From the area "Communications, Media and Technology Training" two competencies ranked 75% or higher in agreement level including "Communication skills both in a crisis and non-crisis situation" (75%) and "Quick and rational decision-making skills" (75%). From the area "Supplies and Tools" the competency "Cell phones" received a 75% level of agreement for training based on real-life application. From the area "Learning/Training Needs and Opportunities" the competency "Crisis identification training (issues tracking, recognition and planning)" ranked 75% at level of agreement from participants. From the section "Areas of Experience" all five of the top competencies ranked at 75% or higher in agreement from participants for teaching based on real-life experience. The five competencies and their levels of agreement included: "Verbal and written communication" (75%); "Leadership" (81.3%); "Media relations" (81.3%); "Public relations"

(81.3%); and “Being a member of a crisis communication team” (81.3%). Three competencies from the area “Knowledge” received an agreement level of above 75% for teaching based on real life, including “Comprehensive understanding of company/organization and its crisis plan and dynamics” (75%); “How to troubleshoot and address problems before they lead to a crisis” (75%); and Knowledge of various stakeholder groups and understanding of their perspectives” (81.3%).

Levels of Agreement: Training Based on Theory

None of the sixty competencies listed in the eight main theme areas (Tables 18-25) received an agreement level above 37.5%. The competencies that received the highest level of agreement (37.5%) included: “Communication training” from the “Learning/Training Needs and Opportunities” section; and “Risk communication principles” and “Clear definition of the difference between an issue and a crisis”, both from the “Knowledge” section.

Levels of Agreement: Training Based on Both Application and Theory

Over half of the sixty competencies listed ranked at a 50% or above in agreement levels for training based on “Both Application and Theory” (Tables 18-25). The highest level of agreement was for one competency at 75%. The lowest level of agreement was an agreement level of 12.5%.
Within the areas of “Networking Opportunities” and “Supplies and Tools”, no competencies reached an agreement above 50%.

Within the “Communication, Media and Technology Training” section, eight out of ten competencies reached a 50% consensus or above. Those competencies included: “Accurate and clear communication skills” (50%); “Critical thinking skills” (50%); “Analytical thinking skills” (50%); “Strategic thinking skills” (56.3%); “Communication skills both in a crisis and non-crisis situation” (56.3%); “Message construction skills” (56.3%); “Media and understanding of how they differ, and skills to target different media outlets and communication professionals” (56.3%); and “Good listening skills” (50.0%).

All five of the competencies under “Learning/Training Needs and Opportunities” reached an agreement level of 50% or above. Those competencies included: “Crisis identification training (issues tracking, recognition and planning)” (56.3%); “Communication training” (75.0%); “Training for writing and conveying key messages” (62.5%); “Stakeholder identification training” (50%); and “Non-crisis media exposure training” (56.3%).

Four out of five of the listed competencies within "Areas of Experience" reached a 50% or above agreement level for training based on application and theory. Those competencies are: "Verbal and written communication" (56.3%); "Leadership" (56.3%); "Media relations" (56.3%); "and Public relations" (50%).

In the "Knowledge" area, five out of the ten competencies reached an agreement level at or above 50%. Those competencies included: "How to troubleshoot and address problems before they lead to a crisis" (62.5%); "Risk communication principles" (62.5%); "Clear definition of the difference between an issue and a crisis" (56.3%); "Roles, duties and responsibilities of crisis team (both internal and external)" (50%); and "Knowledge and understanding of organization's non-crisis objectives" (50%).

Levels of Agreement: Training Based on Neither Application Nor Theory

Only nine out of sixty competencies (Tables 18-25) did not reach a zero percent consensus level for training based on neither application nor theory. Of those nine competencies, agreement levels ranged from 6.3-12.5% for recommendation of training not based on application or theory. Those competencies were within the following areas: "Communications, Media and Technology Training"; "Supplies and Tools"; "Learning/Training Needs and Opportunities"; and "Personal Traits."

Levels of Agreement: Current Available Training for Crisis Communication Professionals

Professional development and training as a part of lifelong learning is important to professionals of all types. While this study's focus is to help improve training for future crisis communication professionals in agriculture, participants were asked to specify information regarding training opportunities provided for current industry professionals. The research showed that 16.7% (*n*=18) of participants have access to training more than once a month. No participants reported training once a month. Training once a year was reported by 33.3% of participants, and training opportunities twice a year were reported as being available 33.3%. Training was reported as being available to respondents once every two years at a rate of 5.6%, and 11.1% reported training opportunities every 3-5 years.

Participants were surveyed (*n*=18) to determine the level of interest in training opportunities using the Internet and simulation. If crisis communication training was offered online, 72.2% of participants reported they would access it, while 27.8% said they would not. If crisis communication training was offered through simulation/drill in a virtual world, 83.3% said they would choose to participate, while

16.7% said they would not. The results of this portion of the study are conclusive with the experts' recommendation of utilizing simulation for training.

Following the results of the Delphi study, it was concluded that the third objective had sufficient data to satisfy the needs presented.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Results of this Delphi study identified competencies needed for new crisis communications professionals and methods of instruction according to the responses of the crisis communication professionals participating in the study. The research found ample information to answer questions posited by the objectives. Detailed feedback from participants of the five-round Delphi study provided the needed results to organize data into quantifiable results. Analysis of the data was used to provide recommendations based on results and implications for future study. The sheer volume of content as a result of the five rounds of the Delphi provided the importance and level of preparedness, training, skill and knowledge needed for future crisis communicators' success. The quality of responses from the 31 experts in crisis communication also shows the importance of adequately training professionals in this field. Results from this study can be used to assist higher education/industry training outlets to improve curriculum and instructional methods for crisis communications education. A review of the purpose of the study and objectives will help the reader to better understand the results, conclusions and recommendations to be discussed.

PURPOSE OF STUDY AND OBJECTIVES

The purpose of this study was to determine crisis communication training needs for new professionals. Additionally, the study sought to outline specific skills, knowledge, competencies, and personal traits, needed to be taught to students, within the identified training need areas. The study identified crisis communication needs for new professionals using a Delphi technique. The objectives established to achieve the purpose of the study included:

1. Identify crisis communication (competency) needs for new professionals using a Delphi study with crisis communication experts.
2. Identify the skills/tasks/traits/tools within each need area believed by crisis communication experts as important in career success when managing a crisis.
3. Outline competencies/skills best taught through application based on simulation, application based on real-life experience, theory, both, and/or neither.

SUMMARY OF FINDINGS

Eight overall theme areas were identified by agricultural industry professionals as important competencies for students to learn prior to entering the workforce with careers in crisis communications. The eight crisis communication competency areas were: (a) Networking Opportunities; (b) Communication, Media and Technical Skills; (c) Supplies and Tools; (d) Learning/Training Needs and Opportunities; (e) Areas of Experience; (f) Knowledge; (g) Personal Traits; and (h) Contingency Plan and Preparedness. These curriculum/training needs identified by crisis communication experts were added to the problem-centered curriculum model for crisis communication. The revised model is noted in Figure 3.

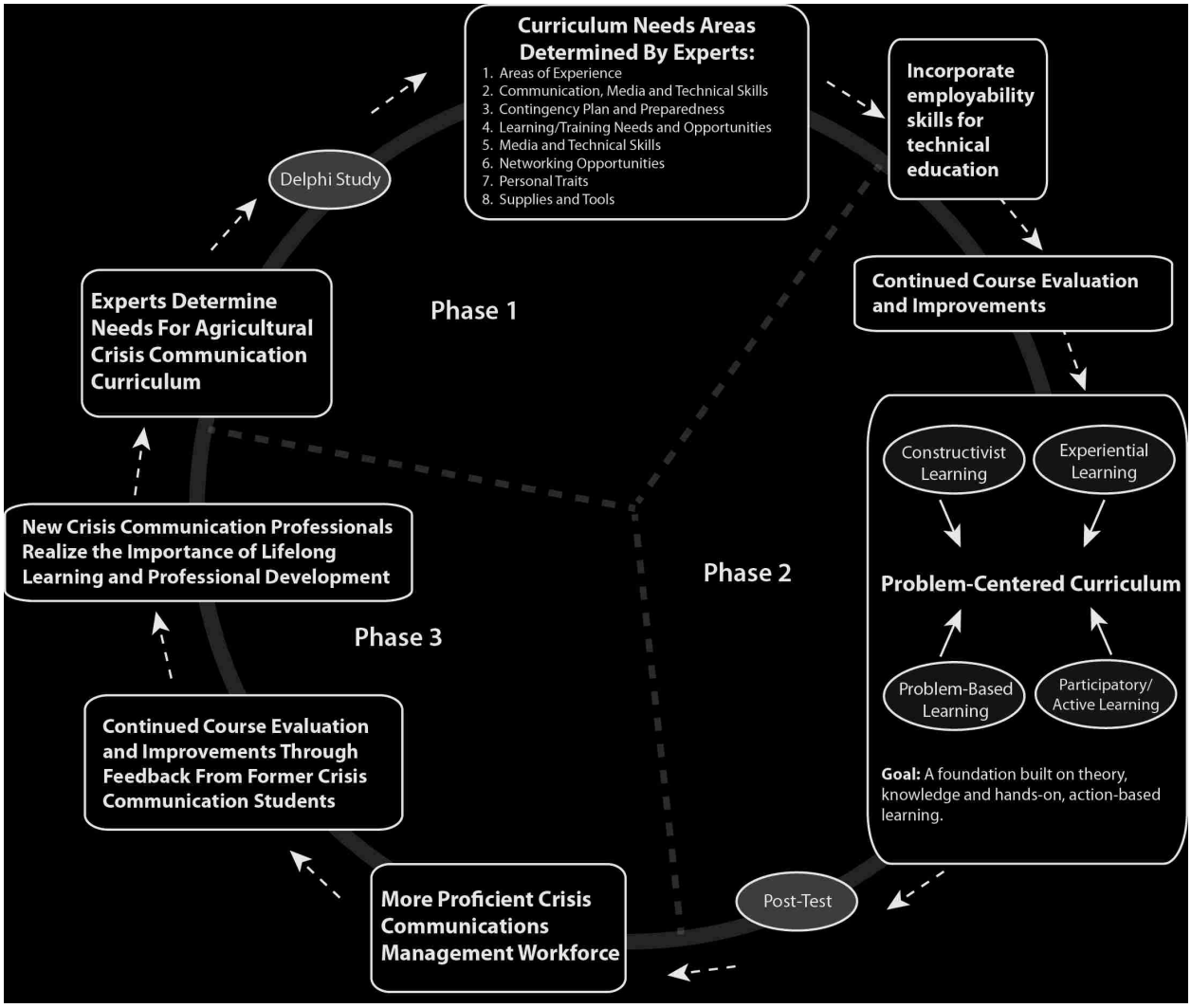


Figure 3. A Revised Model for Developing Problem-Centered Curriculum for Crisis Communication

The eight crisis communication curriculum needs areas determined by experts participating in the Delphi study provided the information needed to satisfy Objective 1. The results of this study show that moving into Phase 2 of the Revised Model for Developing Problem-Centered Curriculum for Crisis Communication (Figure 2) is permissible, as experts reached consensus and showed need via the Delphi study. The results of Phase 1, which are the eight emergent theme areas, can be applied to Phase 2 and incorporated with curriculum improvement for a crisis communication course.

The results of the Delphi study produced a total of 102 competencies within the eight needs areas. The results show an importance in excellent skills and experience in communication, and the necessity of planning for a crisis. Tables 1-8 show the detailed lists of competencies within the eight needs areas, and are ranked according to the responses of participants. The results show a great need for skill-based, experiential training for a practitioner-oriented industry.

Lukaszewski (1998) noted that the most challenging part of crisis communication is reacting—with the right response- quickly. The dedicated participation and quality responses of experts in this study show the need for and possible impact of crisis communication professionals. Whiting et al. (2004) noted the importance of adding both internal and external catalysts to crisis communications instruction. This study verifies this research as noted in specific supporting skills/tasks/traits/tools for each of the eight broad competency areas. An important observation to note is that experts agreed that being able to manage crises impacting both internal and external situations is necessary, as seen in the items listed within each of the eight main theme areas.

CONCLUSIONS

Networking Opportunities

The research shows that the importance of building strong networks must start with in-house networking (administrators and executives). Crisis communicators then need to build networking on other levels in the event that a crisis impacts the organizational need. Preparation for potential crises can assist communicators in building their networks. Upon the impact of a crisis, the data shows that external networking opportunities are needed (media outlets), but crisis communicators must first be able to contact and communicate with those closest to the organization affected. Crisis communicators need to be able to assess the crisis at hand and the necessary networks of people.

Communication, Media and Technology Skills

The results of the study pertaining to communication, media and technology skills show that first and foremost, the ability to accurately and clearly communicate is the most important competency for crisis communicators; followed by competencies which aide the ability to effectively communicate including critical, analytical and strategic thinking skills. The results show that crisis communicators must be clear in their ability to convey a message, and they must be able to make rational decisions in a strategic manner. The data noted that a knowledge of technology and media outlets is not as important as excellent skills in communicating clearly and constructing the right messages.

Supplies and Tools

The results of the supplies and tools section shows that instant forms of communication are crucial for crisis communicators to be able to access. "Cell phones", "digital and print versions of the crisis plan", and "computers" should be immediately available to crisis communicators. External supplies and tools such as an "emergency notification system" and "databases" need to be accessible but are secondary to the immediate need of communication tools.

Learning/Training Needs and Opportunities

Crisis communicators need to be prepared for potential crises. Through crisis identification training, practitioners can better track and recognize the issues and crises that might affect an organization. Results of the study showed that "communication training" is also important followed by training for how to "convey key messages". It is not as important to "identify stakeholders" or "train for non-crisis media exposure". Identification of crises and how to effectively communicate are the main areas where training is needed, according to the data.

Areas of Experience

As with other needs areas, communication skills rank high on the "Areas of Experience" competency list. Crisis communicators need to have good experience in "verbal and written communication" in order to do their jobs well. Additional areas of experience needed include leadership and experience with the media and the public. Using experience with verbal and written communication, practitioners can better communicate with the media (media relations) and the public (public relations), and can better lead the organizations (leadership and management) experiencing a crisis. Experience

being a member of a crisis communication team ranked the least important. Therefore, the results concluded that excellent communication skills are more important for crisis communicators than actual experience dealing with crises.

Knowledge

Types of knowledge critical to the success of practitioners in crisis communications deal with identifying crises situations, knowledge of issues, understanding of the organization involved, and how to handle situations before they lead to crises. Identification of issues and understanding of the plans needed are key components of this section. Knowledge of who is involved and how they are involved are important aspects of crisis communication preparedness.

Personal Traits

The results of the personal traits section show a large variation in responses from participants. It is important to note that a crisis communicator must first be a certain type of individual. That type of individual would already possess certain personal traits, which could be added to and trained for a job in crisis communications. The research showed that a good crisis communicator must be a “strategic thinker” with “good judgment”, who possesses “integrity” and “honesty”. Many of these traits must be inherent. Traits of lesser importance but which still are considered crucial to crisis communicators include: being “team oriented”; “having a calm demeanor”; “an ability to prioritize”; “common sense”; “the ability to collaborate”; and “confidence”. Some people simply are not going to possess these traits and may be better suited for other positions. Those leading an organization in crisis communications should have these traits, according to the research.

Contingency Plan and Preparedness

Having various crisis communications plans in place, along with the core team identification are crucial to success of crisis communications. Upon identification of the key team members, a chain of command is necessary, followed by access to contact lists. It is less important to have a designated spokesperson, although it is necessary based on the research. Having other preparedness competencies in place, such as early warning systems and assessing vulnerabilities are important. However, the most important thing for this area of the study is to have a plan in place and to have the team organized and prepared to face a crisis.

Conclusions From the Literature Review

While this study only focused on Phase 1 of the model, the analysis of literature to support the findings is relevant to Phase 2. The recommendations based on the results of this study apply directly to implications for future research and the remaining two phases of the model. Finch & Crunkilton (1989) noted the vital importance of ensuring that curriculum content reflects the needs of the professional world. The crisis communication education/training needs areas developed as a result of this study showed a well-rounded, comprehensive array of information. "Degrees are now more practitioner oriented, emphasis training in skills, career development, and pragmatic goals" (Simon, 2003, p. 34). The results of this Delphi study directly relate to the practitioner-oriented degree concept. The eight needs areas and corresponding competencies provide the evidence of and need for a degree program that provides skills, professional development, and useful objectives for future practice.

Updating curriculum to cater to the needs of today's learner is crucial. The literature supports utilizing current electronic communication technology of various means in order to train students. Students today are Millennials or "Digital Natives" (Palfrey & Gasser, 2008), so teaching using updated and relevant technology is important to their learning process. Digital Natives have never known a world without computer-mediated communication (Palfrey & Gasser, 2008). Growing up digitally literate in an online world has shaped the way this population of young people learns, interacts, and exists. Students are perceptive and able to use technology for learning purposes. The literature shows this, and the use of technology is shown to be important in the data.

There is a significant demand for communicators who are trained to deal with complex and controversial issues such as food safety, environmental conservation, and genetic modification of plants and animals (Burnett & Tucker, 1990). This need in the job industry for students directly relates to the purpose and results of this study. Tailoring the needs of the agricultural and crisis communications industry to a degree program can produce competent and prepared individuals to enter the industry as practitioners. The competencies found in this study can help to better prepare students to become effective crisis communicators in agriculture.

The eight areas had a range of five to 20 supporting competencies for each. The top competencies were determined by those that ranked the lowest in terms of mean score (closest to a

mean score of “1”). If a mean score tie occurred the item was ranked by the standard deviation (*SD*) and the higher rank was awarded to the competency with the lowest standard deviation. It can be concluded that those competencies which were ranked at the top of each need area are deemed the most important. It can also be concluded that large amounts of variance can be attributed to higher frequency of differences in participant experience, knowledge, skill, or opinion. A high rate of variance may not give low mean scores as much validation, but recognizing the variance leads to the conclusion that participants deemed different competencies at differing levels of importance.

Participants of the study were asked to provide their current levels of proficiency for each competency. Respondents rated each competency area on average from 2.0 (on a 5 point Likert type scale) or above, meaning those participants have a proficiency level of novice to highly advanced. It can be concluded that participants all have at least some knowledge of the 102 competencies, however, none consider themselves experts. Because of these results, it can be concluded that the 102 competencies are indeed important for training future crisis communication professionals due to the level of proficiency shown. It can also be concluded that the highest ranked items of proficiency show the importance of training in those levels, but the lowest proficiency levels show holes in certain areas, where curriculum may need improvement.

The research indicated that using four main learning theories strengthens the problem-centered curriculum. The four main learning theories include: constructivism, experiential learning, problem-based learning, and participatory/active learning (Doolittle et al., n.d.; Duffy et al., 2003; Kolb, 1984; Dooley et al., 2005). The problem-centered curriculum is strengthened by other learning theories including: andragogy, adult learning, Bloom’s Taxonomy and minimalist learning (Knowles, 1984; Lara, 2011; Forehand, 2010; Carroll, 1990). The results from the Delphi also showed that a varied presentation of material is necessary in order to adequately prepare students to deal with crises, including teaching via “application based on simulation” and/or “application based on real-life experience”, “theory”, “both”, and/or “neither”.

It could be noted that traditional modes of learning, such as lecture and memorization, tie in to teaching via theory, which could be considered a passive style of learning. Similarly, more modern modes of teaching and learning, as described in Phase 2 of the model (Figure 2), such as constructivist

learning, active learning, problem-based learning, and experiential learning, all apply to the active form of learning needed to teach students application-based curriculum within the problem-centered curriculum model (Doolittle et al., n.d.; Duffy et al., 2003; Kolb, 1984; Dooley et al., 2005). Results of this study showed that experts believe teaching the eight emergent theme areas (competencies) via application is the most useful mode of presenting information to future crisis communicators. Therefore, the problem-centered curriculum design, supported by modern learning theories, is a useful strategy for Phase 2 of this project.

The research showed a significant level of importance toward learning theories. The study results strengthened the proposed problem-centered curriculum design model by supporting the main learning theories incorporated. The results showed that teaching crisis communication competencies should occur through "application based on real-life experience" and "application based on simulation". Because a high rate of the 102 competencies received high levels of agreement to be taught using application based on real-life experience or application based on simulation, the use of the problem-centered design is relevant to the curriculum. All but two of the 102 competencies received a 50% or higher level of agreement to be taught via "application based on real-life experience." Twenty one of the 102 competencies received a 50% or higher level of agreement and were recommended by participants to be taught via "application based on simulation." In order to present these competencies in application-based ways, the process must not be passive, but active. The literature thoroughly describes each learning theory and corresponding methods of teaching. These methods of teaching must occur through constructivism, experiential, problem-based learning and participatory/active learning (as noted in problem-centered curriculum in Figure 3) (Doolittle et al., n.d.; Duffy et al., 2003; Kolb, 1984; Dooley et al., 2005). Through problem-centered curriculum, new professionals have the opportunity to work through crises prior to entering the workforce. The process of experiencing tenets of the crisis management and communication process, or simulating the experience, is crucial to the success of new professionals in the field.

Based on the results of this study, theory alone is not a valid method for training new crisis communication professionals. None of the 102 competencies were recommended to be taught through theory alone, because none received a ranking of above 50% agreement. While theory is considered a

beneficial supplement to the curriculum, it is not recommended to solely support any competencies from this study. However, 31 of the 102 competencies were recommended to be presented to students using a combination of both application and theory. Therefore those competencies can be strengthened by a working knowledge of relevant theory as an addition to application-based learning.

RECOMMENDATIONS

Upon its revision, the Model for Developing Problem-Centered Curriculum for Crisis Communication guides the recommendations and implications of this study. Study results indicated significant competency areas needed in crisis communications curriculum. It is recommended that the competency areas be inculcated as the guide for content and subject matter. These competency areas and supporting skills/tasks/traits/tools for each should be added to crisis communication instruction prior to determining the importance/impact of problem-centered curriculum for crisis communicators—Phase 2 of Revised Model for Developing Problem-Centered Curriculum for Crisis Communication (Figure 3). This is specifically important to this study because results will be used to add to, modify, and improve instruction in crisis communication courses offered at three land-grant universities.

Based on the data, it is recommended that results from this study be used to improve the current curriculum for the crisis communications. A thorough review of the 102 competencies presented in the findings should be conducted. Application of each of the eight broad need areas, with respective supporting skills/tasks/traits/tools, to the course would prove beneficial as shown by these rounds. It would also be recommended to remove unnecessary facets of the curriculum to make room for more relevant or necessary needs as specified by the experts.

It is also recommended to review the proficiency levels of each competency as reported by participants and improve the curriculum accordingly. While the results of proficiency levels show that current professionals have a range of novice to highly advanced, some competencies show less knowledge and training than others. It is recommended to analyze this data and recognize the strengths and weaknesses in proficiency, and make sure curriculum meets these needs. The highly advanced proficiency levels of competencies show that experts need to be taught those items, so it is recommended that they be included in curriculum based on that. Those competencies that received

lower proficiency levels should be assessed and it is recommended that they be included in curriculum as well, since experts deemed them important with lesser corresponding proficiency.

The research also identified competencies best taught using different teaching and learning methods such as application or theory. It is recommended for the competency areas and supporting skills/tasks/traits/tools be implemented into curriculum and presented to students based on the recommendations of current industry practitioners whom participated in this study. The results of the Delphi study, which met the needs of Objective 3, provide the data needed to make these recommendations for teaching methods for each of the 102 competencies. While the curriculum implementation plans may not be complete, strides to improve and update the curriculum to incorporate use of application-based learning opportunities is recommended. It is also recommended to incorporate theory into teaching methods when applicable. Those competencies best suited for teaching with a combination of application and theory are outlined in the results of this study.

Furthermore, it is also recommended that future evaluation of the subject matter be conducted. Upon implementation and execution of Phase 1 of the model (Figure 3), post-evaluation should be conducted regarding the usefulness and quality of this study for enhancing curriculum. Further evaluations should be done regarding the effectiveness of the problem-centered curriculum design for use with this research, and how it impacted the success of Phase 2 of the model.

Limitations of Study

Because there is no possible way to completely prepare for every potential crisis the world will face, this study has obvious limitations. While helpful, results cannot provide the exact information to prepare future crisis communicators, as no one can know all the factors of every crisis. The qualitative nature of this study means that the research is not derived from exact science, but from the knowledge, opinions and contributions of participants. The results are supported by the literature and by theory, and all are recommended to be applied to curriculum. However, the curriculum should be continuously updated with the advancement of technology and changes in knowledge of crises and real-world practices.

Other limitations of the study resulted from participant exhaustion. Delphi studies are in-depth, open-ended, and multi-round. Therefore, participants are asked to spend a longer amount of time

contributing to the study (in this case, over a period of approximately six months). Because feedback from the rounds provided extensive qualitative data, participants had to narrow down information in each consecutive round. While each round met or exceeded the numbers of participants needed to maintain reliability and validity, some did complain of instrument exhaustion. This also led to differences in sample sizes throughout the rounds. According to Delphi methodology, the study was sufficiently administered, but it did provide a more challenging experience for both the researchers and participants. Future studies may experience similar limitations. By reviewing the methods and results of this study, some complications may be avoided in the future.

Implications for Future Study and Practice

As previously stated, this study is only the beginning of a multi-phase study. Because of the nature of crises, continuous research and preparation is needed to train future professionals. This study is relevant to the needs of the agriculture industry. The precise objectives and need of the study seek to provide insight and guidance for the agriculture industry and future studies. Constant training is necessary for practitioners to stay updated about research, technology and networking. The foundation of a thorough training at the master's level has the potential to provide a lifetime of impact on the careers of future crisis communicators. The quality of this education and development of this curriculum has the potential also to lead to significant impact and improvements in the professional realm and in the event of a real crisis. By incorporating the participation of practicing crisis communicators in the field of agriculture, continuous feedback and evaluation will be possible. This will also lead to the continuous positive impact on the agriculture industry because professionals will be better equipped to prepare for, manage and recover from crises.

REFERENCES

American Farm Bureau Federation. (2011). Agriculture facts. Retrieved from www.fb.org

Ashlock, M. A., Cartmell, D. D., & Leising, J. G. (2009). Agroterrorism and the implications of Uncertainty Reduction Theory for agricultural communicators. *Journal of Applied Communications, 93*(3&4), p. 44-55.

Ball, S., & Pearce, R. (2009). Inclusion benefits and barriers of 'once-Removed' participation. In Wankel, C. & Kingsley, J (Eds), *Higher Education in Virtual Worlds* (pp. 47-63). Bingley, UK: Emerald Group Publishing Limited.

Bailey-Evans, F. (1994). *Enhancing the agricultural communications curriculum: A national Delphi study*. Unpublished master's thesis. Texas Tech University, Lubbock, TX.

Berelson, B. (1952). Content Analysis in Communication Research. Glencoe, Ill: Free Press.

Bloom, B. S., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals, by a committee of college and university examiners. Handbook 1: Cognitive domain*. New York, Longmans

Boudreaux, B. (2005). *Exploring a multi-stage model of crisis management: Utilities, hurricanes, and contingency.* (Unpublished master's thesis). University of Florida, Gainesville, Florida.

Brown, J., Collins, A., & Duguid, P. (1991). Situated cognition and the culture of learning. In M. Yazdani, R. Lawler, M. Yazdani, & R. Lawler (Eds.). *Artificial Intelligence and Education, 2*, 245-268. Westport, CT US: Ablex Publishing. Retrieved from EBSCO*host* (1991-98966-006).

Bruner, J. S. (1961). The act of discovery. *Harvard Educational Review*, 3121-32. Retrieved from EBSCO*host* (1962-00777-001).

Burnett, C., & Tucker, M. (1990). *Writing for agriculture*. Kendal Hunt Publishing Co. Dubuque, IA.

Carroll, J. (1990). Minimalist Learning Theory. Retrieved from http://www.instructionaldesign.org/theories/minimalism.html

Centers for Disease Control and Prevention. (2011). Multistate outbreak of Listeriosis linked to whole cantaloupes from Jensen Farms, Colorado. Retrieved from http://www.cdc.gov/listeria/outbreaks/cantaloupes-jensen-farms/index.html

Coombs, W. T. (2012). *Ongoing crisis communication* (3rd ed.). SAGE Publications, Thousand Oaks, California.

Cross, K. P. (1981). Adult Learning Theory. Retrieved from http://www.instructionaldesign.org/theories/adult-learning.html

Dalkey, N. C. (1972). *Studies in social and economic process.* Lexington, MA: Lexington Books.

Dewey, J. (1938). *Experience and education.* New York, New York: Touchstone.

Dillman, D. (2007). *Mail and internet surveys: The tailored design method* (2nd ed.). Hoboken, NJ: John Wiley and Sons.

Dooley, K. E., Lindner, J. R., & Dooley, L. M. (2005). *Advanced methods in distance education.* Hershey, PA: Information Science Publishing.

Doolittle, P. E., & Camp, W. G. (n.d.) *Constructivism: The career and technical education perspective*. Virginia Polytechnic Institute and State University.

Duffy, T. M., Lowyck, J., & Jonasses, D. H. (1993). *Designing environments for constructive learning.* Berlin: Springer-Verlag.

Duley, C., Jensen, R., & O'Brien, J. (1984). *A review of agricultural journalism programs in the United States universities*. University of Wisconsin – River Falls, River-Falls, WI.

Duncan, C. (1957). *An evaluation of the agricultural journalism curriculum in land grant colleges. Unpublished master's thesis*. University of Missouri – Columbia, Columbia, MO.

Economic Research Service, USDA. (2011). Briefing Rooms. Japan: Current Issues in Japanese Agriculture. Retrieved from http://www.ers.usda.gov/Briefing/Japan/currentissues.htm

Edgar L. D., Pennington, K., Rutherford, T., & Doerfert, D. (2009.) A crisis communications needs assessment of agricultural industry professionals to determine best practices for Second Life© simulations. Paper presented at the *Association of International Agricultural and Extension Education*, Saskatoon, Saskatchewan, Canada.

Edgar, D. W. (2007). *Learning theories and historical events that have changed instructional design and education: Recitation literacy towards extraction literacy.* Unpublished manuscript.

Evans, J. F., & Bolick, J.G. (1982). Today's curricula in agricultural journalism and communications. *Agricultural Communications in Education, 65*, 29-38.

Food and Drug Administration. (2010). *FDA Emergency Operations Plan* retrieved from http://www.fda.gov/downloads/EmergencyPreparedness/EmergencyPreparedness/UCM230973.pdf.

Food and Drug Administration. (2011). Emergency Preparedness and Response. Retrieved from http://www.fda.gov/EmergencyPreparedness/default.htm

Forehand, M. (2010). *Bloom's taxonomy: From emerging perspectives on learning, teaching and technology.* University of Georgia.

Glaesser, D. (2006). *Crisis Management in the Tourism Industry*. Butterworth-Heinemann, Burlington, MA.

Heath, R. L. (2004). Telling a story: A narrative approach to communication during crisis. In D. P. Millar, & R. L. Heath (Eds.), *Responding to crises. A rhetorical approach to crisis communication* (p. 167-187). Mahwah, NJ: Lawrence Erlbaum Associates.

Heath, R. L., & Millar, D. P. (2004). *Responding to crises. A rhetorical approach to crisis communication*. Mahwah, NJ: Lawrence Erlbaum Associates.

Hsu, C. C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Assessment, Research and Evaluation, 12*(10), p. 1-17.

Jenkins, H. (2010) Confronting the challenges of participatory culture: Media education for the 21st century. Retrieved from http://www.scribd.com/doc/2282464/Jenkins-White-Paper

Klitzke, C. J., & Schrier, T. (n.d.) *Bioterrorism: What should hotels do to reduce the risk?* Unpublished manuscript.

Knowles, M. (1984) *Instructional design: Andragogy*. Retrieved from http://www.instructionaldesign.org/theories/andragogy.html

Kolb, D. (1984). *Experiential learning*. Prentice-Hall, Englewood Cliffs, NJ.

Kort, B., Reilly, R., & Picard, R.W. (2001). External learning representation of a learning process and domain knowledge: Affective state as a determinate of its structure and function. Proceedings of *Artificial Intelligence in Education Workshops (AI-ED),* San Antonio, Texas.

Krippendorff, K. (1980). Content Analysis: An Introduction to Its Methodology. Newbury Park, CA: Sage.

Lara, V. (2011). Professional development module: Learning theory and the adult learner. Retrieved from http://www.texascollaborative.org/Learning_Theory.htm

Leigh, D. (2006). A brief history of instructional design. Retrieved from http://www.pignc-ispi.com/articles/education/brief%20history.htm

Linstone, H., & Turoff, M. (1975). *The Delphi method: Techniques and applications*. Addison-Wesley, Reading, MA.

Lukaszewski, J. E. (1999). Seven dimensions of crisis communication management: A strategic analysis and planning model. *Ragan's Communications Journal* (*January/February 1999).*

Maricopa Center for Learning and Instruction. (2011). *Problem-Based learning.* Retrieved from: http://www.mcli.dist.maricopa.edu/pbl/info.html

Martin, A. G., & Frick, M. J. (1998). The Delphi technique: An informal history of its use in agricultural education research since 1984. *Journal of Agricultural Education, 1*(39), 73-79.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Fransisco, CA; Josey-Bass.

Morgan, A. C. (2010). Competencies Needed by Agricultural Communication Undergraduates: An Industry Perspective. *Journal of Applied Communications, 94*(1&2), p. 1-15.

Nash, V. (1928). What is taught in the school of journalism. *University of Missouri Bulletin (29).* Journalism Series, Dec. 1928.

National Agricultural Statistics Service (2011). *Headlines*. Retrieved from: http://www.nass.usda.gov/index.asp

O'Connor, B. N. (2004). The workplace learning cycle: A problem-based curriculum model for the preparation of workplace learning professionals. *The Journal of Workplace Learning, 16*(6), 341-349.

Osborne, E. W. (Ed.) (2007). National research agenda: Agricultural education and communication, 2007-2010. Gainesville: University of Florida, Department of Agricultural Education and Communication

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage Publications.

Palfrey, J., & Gasser, U. (2008). *Born Digital understanding the first generation of Digital Natives*. New York City, NY: Basic Books.

Pauchant, T., & Mitroff, I. (1992). *Transforming the crisis prone organization.* Jossey-Bass Publishers, San Francisco, California.

Pohl, C. (1999). *Methodik und Realisation von Systemen zur effezienten Wissensvermittlung durch Hypermedia,* Frankfurt am Main: Peter Lang Verlag.

Powell, C. (2003). The Delphi technique: myths and realities. *Journal of Advanced Nursing, 41*(4), 376-382.

Prince, M. (2004). Does active learning work? A Review of the Research. *Journal of Engineering Education, 93*(3), 223-231.

Reuter, C., Pipek, V., & Muller, C. (2009). Avoiding crisis in communication: a computer-supported training approach for emergency management. *International Journal of Emergency Management, 6*(3/4), 356-368.

Rogers, E. M. (1983). *Diffusion of innovations*. The Free Press. New York, NY.

Roy, J., Richards, D., & Pisan, Y. (2002). Helping teachers implement experience based learning. *Proceedings of the International Conference on Computers in Education*.

Schaub, J. D. (2002). Applying the risk analysis paradigm to bioterrorism in agriculture*. Presentation at the Bioterrorism and Food Security Conference*, Fargo, ND.

Schunk, D. H. (2012). *Learning theories: An educational perspective*. Pearson Education, Inc., Boston, MA.

Shrivastava, P., Mitroff, I. I., Miller, D., & Miglani, A. (1988). Understanding industrial crises. *Journal of Management Studies, 25*(4), 285-304.

Simon, L. (2003). *The Assessment and design of an agricultural communications curriculum at the master's level: A Delphi study.* Master's Thesis. Texas Tech University, Lubbock, TX.

Sprecker, K. J. (1996). *Opinions of instructors, practitioners and alumni concerning curricular requirements of agricultural commination students at the University of Florida*. Unpublished master's thesis. University of Florida, Gainesville, FA.

Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Grounded theory, procedures and techniques*. Newbury Park, CA: Sage.

Telg, R. (2010). Risk and crisis communication: When things go wrong. *Agricultural Education and Communication Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida,* WC093(1-9).

Turkle, S. (1995). *Life on the screen identity in the age of the internet*. New York City, NY: Simon & Schuster Paperbacks.

Ulmer, R. R., Sellnow, T. L., & Seeger, M. W. (2007). *Effective crisis communication: Moving from crisis to opportunity*. Sage Publications Thousand Oaks, CA.

United States Department of Agriculture. (2011). USDA Emergency Preparedness and Response: Wildfires. Retrieved from http://www.usda.gov/wps/portal/usda/usdahome?contentid=CA_fire_index.xml&contentidonly=true

U.S. Census Bureau. (2011). *Census Data and Emergency Preparedness*. Retrieved from: http://www.census.gov/newsroom/emergencies/

United States Geological Survey. (2011). Earthquake Hazards Program. Retrieved from http://earthquake.usgs.gov/earthquakes/eqinthenews/2011/usc0001xgp/#summary

University of Southern California Center for Excellence in Teaching. (2006). Case-based & problem-based teaching and learning. Retrieved from http://cet.usc.edu/resources/teaching_learning/case_based.html

Weber, R. P. (1990). Basic Content Analysis, 2nd ed. Newbury Park, CA.

Whiting, L. R., Tucker, M., & Whaley, S. R. (2004.) Level of preparedness for managing crisis communication on land grant campuses. Paper presented at the *Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences*, Lake Tahoe, Nevada.

Weiner, D. (2006). Crisis Communications: Managing corporate reputation in the court of public opinion. *Ivey Business Journal.*

Wittrock, M. C. (1990). Generative process of comprehension. *Educational Psychologist*, *24*, 345-376.

Wood, E. J. (2004). Review: Problem-based learning. *Acta Biochimica Polonica, 51*(2), 1-6.

APPENDICES

APPENDIX A

DELPHI STUDY DATA COLLECTION TIMELINE

DELPHI STUDY DATA COLLECTION TIMELINE

Snowball Sampling Period	
Call for experts email invitation	11/03/10
Call for experts email reminder	11/12/10
Survey closed	11/17/10
Email invitation to participate in Delphi Study	12/17/10
Round 1	
Email invitation to participate in Round 1	01/05/11
Round 1 open	01/05/11
Email invitation to participate in Round 1 reminder	01/10/11
Round 1 closed	01/10/11
Round 2	
Email invitation to participate in Round 2	01/24/11
Round 2 open	01/24/11
Email invitation to participate in Round 2 reminder	01/31/11
Round 2 closed	01/31/11
Round 3	
Email invitation to participate in Round 3	03/01/11
Round 3 open	03/01/11
Email invitation to participate in Round 3 update	03/03/11
Email invitation to participate in Round 3 reminder	03/08/11
Round 3 closed	03/14/11
Round 4	
Email invitation to participate in Round 4	04/05/11
Round 4 open	04/05/11
Email invitation to participate in Round 4 reminder 1	04/12/11
Email invitation to participate in Round 4 reminder 2	04/13/11
Round 4 closed	04/15/11
Round 5	
Email invitation to participate in Round 5	05/06/11
Round 5 open	05/06/11
Email invitation to participate in Round 5 reminder 1	05/17/11
Email invitation to participate in Round 5 reminder 2	05/20/11
Email invitation to participate in Round 5 reminder 3	05/24/11
Round 5 closed	05/24/11

APPENDIX B

DELPHI STUDY ELECTRONIC CORRESPONDENCE BETWEEN RESEARCHER AND PARTICIPANTS

Snowball Sampling Letter 1

11/3/10

Dear Agricultural Communications Professional:

We are seeking participants to assist us with identifying crisis communication training needs for new industry professionals and students. Please click on the link https://www.surveymonkey.com/s/SSWHZ7D to identify the names of individuals you consider experts in crisis communications. If you consider yourself an expert in crisis communications, please include yourself.

If you have already completed our survey, thank you so much.

In the future, we will be contacting this list of experts to assist us in a Delphi study to identify training needs for new professionals.

This study is confidential and all data will be reported as group data. The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only Dr. Leslie Edgar (UA), Dr. Tracy Rutherford (TAMU), Dr. David Doerfert (TTU), and Dr. Theresa Murphrey (TAMU), will have access to the records.

If you have questions regarding this study, you may contact Dr. Leslie Edgar, (479)575-6770, Dr. Tracy Rutherford, (979)458-2744, trutherford@tamu.eduor Dr. David Doerfert, (806)742-2816, david.doerfert@ttu.edu.

This research study has been reviewed by the Institutional Review Board at the University of Arkansas. For research-related problems or questions regarding your rights as a research participant, you can contact Ro Windwalker, the University's Compliance Coordinator, at (479) 575-2208 or emailirb@uark.edu.

We appreciate your assistance,

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Snowball Sampling Letter 2

11/12/10

Dear Agricultural Communications Professional:

If you have completed our survey, thank you! If not, we are seeking participants to assist us with identifying crisis communication training needs for new industry professionals and students. Please click on the link https://www.surveymonkey.com/s/SSWHZ7D to identify the names of individuals you consider experts in crisis communications. If you consider yourself an expert in crisis communications, please include yourself.

In the future, we will be contacting this list of experts to assist us in a Delphi study to identify training needs for new professionals.

This study is confidential and all data will be reported as group data. The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only Dr. Leslie Edgar (UA), Dr. Tracy Rutherford (TAMU), Dr. David Doerfert (TTU), and Dr. Theresa Murphrey (TAMU), will have access to the records.

If you have questions regarding this study, you may contact Dr. Leslie Edgar, (479)575-6770, Dr. Tracy Rutherford,(979)458-2744, trutherford@tamu.edu or Dr. David Doerfert, (806)742-2816, david.doerfert@ttu.edu.

This research study has been reviewed by the Institutional Review Board at the University of Arkansas. For research-related problems or questions regarding your rights as a research participant, you can contact Ro Windwalker, the University's Compliance Coordinator, at (479) 575-2208 or email irb@uark.edu.

We appreciate your assistance,

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate Letter

12/17/10

Dear Participant:

Greetings and happy holidays!

You have been identified by your colleagues as an expert in crisis communications. We respectfully request your assistance as we strive to identify crisis communication skills and competencies needed by new professionals. As part of this project, we have developed a crisis communications training simulation using Second Life. We plan to use insight gained from your expertise to modify and improve our instruction and simulation.

We are requesting your participation in a multi-round Delphi study. For each round, you will be asked to identify, rank, or identify and rank crisis communication needs. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

We hope you will assist us with this critical research. You will be receiving the first round of the study via Survey Monkey on Tuesday, January 4th. Please contact us, if you choose not to participate or if you would like to add a crisis communications expert to our study.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 1

1/5/11

Dear Participant:

You have been previously contacted because you were identified by your colleagues as an expert in crisis communications. We respectfully request your assistance as we strive to identify crisis communication skills and competencies needed by new professionals. As part of this project, we have developed a crisis communications training simulation using Second Life (a 3-D virtual world). We plan to use insight gained from your expertise to modify and improve our instruction and simulation.

We are requesting your participation in a multi-round Delphi study. For each round, you will be asked to identify, rank, or identify and rank crisis communication needs. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

Included is the link to the first round of the study via Survey Monkey. Please follow https://www.surveymonkey.com/s/LMPJZNG to visit Survey Monkey and complete the first round. You will have until Monday, January 10th to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you choose not to participate or if you would like to add a crisis communications expert to our study.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 1 Reminder

1/10/11

Dear Crisis Communication Professional:

This is just a reminder that today is the last day to participate in Round 1 of the multi-round Crisis Communication Needs Assessment Delphi Study.

Included is the link to the first round of the study via Survey Monkey. Please follow https://www.surveymonkey.com/s/LMPJZNG to visit Survey Monkey and complete the first round. We hope you will assist us with this critical research. Please contact us, if you choose not to participate or if you would like to add a crisis communications expert to our study.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770,ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 2

1/24/11

Dear Participant:

You have been previously contacted because you were identified by your colleagues as an expert in crisis communications. We respectfully request your assistance as we strive to identify crisis communication skills and competencies needed by new professionals. As part of this project, we have developed a crisis communications training simulation using Second Life (a 3-D virtual world). We plan to use insight gained from your expertise to modify and improve our instruction and simulation.

We are requesting your participation in the **second round** of a multi-round Delphi study. For this round, you will be asked to review, edit and add to crisis communication needs identified by your peers in round one of this study. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

To participate in round two, please click on https://www.surveymonkey.com/s/V79Q6Z8, and enter the following participation code: **XXXX**. This code will allow us to track your participation while maintaining your anonymity throughout this process.

This survey should take 30-45 minutes of your time to complete. You will have until **Monday, January 31st** to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the second round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770,ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas TechUniversity, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 2 Reminder

1/31/11

Dear Participant:

You have been previously contacted because you were identified by your colleagues as an expert in crisis communications. We respectfully request your assistance as we strive to identify crisis communication skills and competencies needed by new professionals. As part of this project, we have developed a crisis communications training simulation using Second Life (a 3-D virtual world). We plan to use insight gained from your expertise to modify and improve our instruction and simulation.

This is a reminder that we are requesting your participation in the **second round** of a multi-round Delphi study. For this round, you will be asked to review, edit and add to crisis communication needs identified by your peers in round one of this study. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

To participate in round two, please click on https://www.surveymonkey.com/s/V79Q6Z8, and enter the following participation code **XXXX**. This code will allow us to track your participation while maintaining your anonymity throughout this process.

This survey should take 30-45 minutes of your time to complete. You will have until **Monday, January 31st at midnight** to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the second round of the survey.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 3

3/1/11

Dear Participant:

You have been previously contacted because you were identified by your colleagues as an expert in crisis communications. We are requesting your participation in the **third round** of a multi-round Delphi study. For this round, you will be asked to rank a collection of areas gathered from you and your peers' responses in prior Delphi study rounds. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

To participate in round three, please click on https://www.surveymonkey.com/s/VFV63VS and enter the following participation code **XXXX**. This code will allow us to track your participation while maintaining your anonymity throughout this process.

This survey should take 45 minutes to one hour of your time to complete. You will have until **Friday, March 11th** to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the third round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University,(979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Round 3 Update

3/3/11

Dear Participant:

First of all, we want to thank you for your continued dedication and support to the Crisis Communication Professionals Needs Assessment for New Practitioners research project. We realize this has been a time consuming process, and we are grateful for your insight, advice and expertise.

Based on feedback, after we opened the round 3 survey, we decided to close the survey and reorganize and condense it. We currently have eight areas of crisis communications assessment. The assessment areas are: (a) Networking Opportunities; (b) Personal Traits; (c) Supplies and Tools; (d) Communication, Media and Technical Skills; (e) Contingency Plan and Preparedness; (f) Areas of Experience; (g) Knowledge; and (h) Learning/Training Needs and Opportunities. We have randomly assigned participants into two groups. Each group is being asked to rank a collection of areas gathered from you and your peers' responses in prior Delphi study rounds regarding the four crisis communication areas you were assignment. Also, we are requesting that you note your own level of competency/proficiency in each of the crisis communications areas.

To participate in the revised **third round** of a multi-round Delphi study, please click on https://www.surveymonkey.com/s/SGJTFLV and enter the following participation code **XXXX**. This code will allow us to track your participation while maintaining your anonymity throughout this process.

This survey should take 30 to 45 minutes of your time to complete. You will have until **Monday, March 14th** to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the third round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Round 3 Reminder

3/8/11

Dear Participant:

First of all, we want to thank you for your continued dedication and support to the Crisis Communication Professionals Needs Assessment for New Practitioners research project. We realize this has been a time consuming process, and we are grateful for your insight, advice and expertise.

Based on feedback, after we opened the round 3 survey, we decided to close the survey and reorganize and condense it. We currently have eight areas of crisis communications assessment. The assessment areas are: (a) Networking Opportunities; (b) Personal Traits; (c) Supplies and Tools; (d) Communication, Media and Technical Skills; (e) Contingency Plan and Preparedness; (f) Areas of Experience; (g) Knowledge; and (h) Learning/Training Needs and Opportunities. We have randomly assigned participants into two groups. Each group is being asked to rank a collection of areas gathered from you and your peers' responses in prior Delphi study rounds regarding the four crisis communication areas you were assignment. Also, we are requesting that you note your own level of competency/proficiency in each of the crisis communications areas.

This is a reminder that we would like you to participate in the revised **third round** of a multi-round Delphi study, please click on https://www.surveymonkey.com/s/SGJTFLV and enter the following participation code **XXXX**. This code will allow us to track your participation while maintaining your anonymity throughout this process.

This survey should take 30 to 45 minutes of your time to complete. You will have until **Monday, March 14th** to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the third round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 4

4/5/11

Dear Participant:

Thank you for your continued participation in the Crisis Communication Professional Needs Assessment Delphi Study. The results of the third round of this study have yielded very useful and interesting information. We would like to invite you to participate in round four at this time.

This round of the survey will show you a compiled list of information resulting from the previous three rounds of the study. You may find it interesting to see that the information presented to you in round four contains the top competencies from each of the eight emergent sections as determined by you and your peers. In this round, we are asking that you rank order the items within each of the eight emergent sections. The number of items within each section range from five to 19. This will allow us to determine the most important competencies within each section in a rank ordered list. At the end of this round, you will also be asked some demographic questions to help further enhance the quality of our findings. We will be concluding this multi-round study after a fifth round.

To participate in round four, please click on https://www.surveymonkey.com/s/BDGP3FQ and enter the following participation code **XXXX**. This code will allow us to track your participation while maintaining your anonymity throughout this process.

For your convenience, we are providing an alternative option to complete the survey. You may download and save or print a PDF version of the survey. You may complete the survey by hand and fax it to Allyson McGuire at 479-575-2610 or complete it electronically and email your results to amcguir@uark.edu by the deadline. You will receive an email shortly with the PDF attachment.

This survey should take 30 minutes of your time to complete. You will have until **Thursday, April 14th** to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fourth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 4 Reminder

4/12/11

Dear Participant:

This is a reminder that we would like to invite you to participate in the fourth round the Crisis Communication Professional Needs Assessment Delphi Study. Thank you for your continued participation in this process. The results of the third round of this study have yielded very useful and interesting information.

This round of the survey will show you a compiled list of information resulting from the previous three rounds of the study. You may find it interesting to see that the information presented to you in round four contains the top competencies from each of the eight emergent sections as determined by you and your peers. In this round, we are asking that you rank order the items within each of the eight emergent sections. The number of items within each section range from five to 19. This will allow us to determine the most important competencies within each section in a rank ordered list. At the end of this round, you will also be asked some demographic questions to help further enhance the quality of our findings. We will be concluding this multi-round study after a fifth round.

To participate in round four, please click on https://www.surveymonkey.com/s/BDGP3FQ and enter the following participation code **XXXX**. This code will allow us to track your participation while maintaining your anonymity throughout this process. **If you have already begun working on this round of the survey but have not completed it, you may still finish the survey by clicking on the link above.**

For your convenience, we are providing an alternative option to complete the survey. You may download and save or print a PDF version of the survey. You may complete the survey by hand and fax it to Allyson McGuire at 479-575-2610or complete it electronically and email your results to amcguir@uark.edu by the deadline. You will receive an email shortly with the PDF attachment.

This survey should take 30 minutes of your time to complete. You will have until **Thursday, April 14th at midnight** to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fourth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu. We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 4 Second Reminder

4/13/11

Dear Crisis Communication Professionals:

This is a reminder that we would like to invite you to participate in the fourth round the Crisis Communication Professional Needs Assessment Delphi Study. Thank you for your continued participation in this process. The results of the third round of this study have yielded very useful and interesting information.

This round of the survey will show you a compiled list of information resulting from the previous three rounds of the study. You may find it interesting to see that the information presented to you in round four contains the top competencies from each of the eight emergent sections as determined by you and your peers. In this round, we are asking that you rank order the items within each of the eight emergent sections. The number of items within each section range from five to 19. This will allow us to determine the most important competencies within each section in a rank ordered list. At the end of this round, you will also be asked some demographic questions to help further enhance the quality of our findings. We will be concluding this multi-round study after a fifth round.

To participate in round four, please click on https://www.surveymonkey.com/s/BDGP3FQ and enter your participant code. This code will allow us to track your participation while maintaining your anonymity throughout this process. If you have already begun working on this round of the survey but have not completed it, you may still finish the survey by clicking on the link above.

For your convenience, we are providing an alternative option to complete the survey. You may download and save or print a PDF version of the survey. You may complete the survey by hand and fax it to Allyson McGuire at 479-575-2610 or complete it electronically and email your results to amcguir@uark.edu by the deadline. You have previously received the PDF version of this survey via email.

This survey should take 30 minutes of your time to complete. You will now have until FRIDAY, APRIL 15th at midnight to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fourth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770,ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu. We appreciate your assistance.

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 5

5/6/11

Dear Participant:

Thank you for your continued participation in the Crisis Communication Professional Needs Assessment Delphi Study. The results of the fourth round of this study have provided us with interesting, and more importantly, useful information. We would like to invite you to participate in round five at this time. This will be the final round of the multi-round study.

The fifth round of the survey will prompt you to answer multiple types of questions in order to wrap-up the study in this final round. You will be asked to provide us with information regarding your experience as a crisis communication professional. You will also be asked to provide information regarding training opportunities with which you have been presented.

We are seeking to determine the best modes to present information/training to future crisis communication professionals. In this round of the survey, you will be presented the overall eight theme areas again, but this time with the top five to ten ranked competencies listed for each. These top ranked competencies were a result of round four of this study. You will be asked to determine which modes of training are best, in your opinion, to present information to students seeking to become crisis communicators.

In this final round, we are also seeking to assess the current state of the profession in certain areas, which are indicated later in the survey. You will be asked to determine your perception of the state of the profession for competencies in certain theme areas. This will help us truly identify "needs" for the profession.

Additionally, due to a technical error, the Communication, Media and Technology Skills Ranking section from round 4 is being repeated in this round. Please respond to this final portion of the survey to ensure the quality and consistency of the data for this study is maintained.

To participate in round five, please visit https://www.surveymonkey.com/s/YPPMQC5 and enter your participation code: **XXXX**. This code will allow us to track your participation while maintaining your anonymity.

This survey should take 30-45 minutes of your time to complete. You will have until **Wednesday, May 18th** to complete the final round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fifth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance. Thank you for participating in all five rounds of our study!

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 5 Reminder

5/17/11

Dear Crisis Communication Professional:

Thank you for your continued participation in the Crisis Communication Professional Needs Assessment Delphi Study. The results of the fourth round of this study have provided us with interesting, and more importantly, useful information. This email is a reminder that we would like to invite you to participate in round five at this time. This will be the final round of the multi-round study.

The fifth round of the survey will prompt you to answer multiple types of questions in order to wrap-up the study in this final round. You will be asked to provide us with information regarding your experience as a crisis communication professional. You will also be asked to provide information regarding training opportunities with which you have been presented.

We are seeking to determine the best modes to present information/training to future crisis communication professionals. In this round of the survey, you will be presented the overall eight theme areas again, but this time with the top five to ten ranked competencies listed for each. These top ranked competencies were a result of round four of this study. You will be asked to determine which modes of training are best, in your opinion, to present information to students seeking to become crisis communicators.

In this final round, we are also seeking to assess the current state of the profession in certain areas, which are indicated later in the survey. You will be asked to determine your perception of the state of the profession for competencies in certain theme areas. This will help us truly identify "needs" for the profession.

Additionally, due to a technical error, the Communication, Media and Technology Skills Ranking section from round 4 is being repeated in this round. Please respond to this final portion of the survey to ensure the quality and consistency of the data for this study is maintained.

To participate in round five, please visit https://www.surveymonkey.com/s/YPPMQC5 and enter your participation code given to you in previous emails. This code will allow us to track your participation while maintaining your anonymity.

This survey should take 30-45 minutes of your time to complete. You will have until Wednesday, May 18th at midnight to complete the final round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fifth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770,ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance. Thank you for participating in all five rounds of our study!

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 5 Second Reminder

5/20/11

Dear Crisis Communication Professional:

Thank you for your continued participation in the Crisis Communication Professional Needs Assessment Delphi Study. The results of the fourth round of this study have provided us with interesting, and more importantly, useful information. **We have decided to extend the deadline for round five, and reopen the survey until Monday, May 23 at midnight.** This will be the final round of the multi-round study.

The fifth round of the survey will prompt you to answer multiple types of questions in order to wrap-up the study in this final round. You will be asked to provide us with information regarding your experience as a crisis communication professional. You will also be asked to provide information regarding training opportunities with which you have been presented.

We are seeking to determine the best modes to present information/training to future crisis communication professionals. In this round of the survey, you will be presented the overall eight theme areas again, but this time with the top five to ten ranked competencies listed for each. These top ranked competencies were a result of round four of this study. You will be asked to determine which modes of training are best, in your opinion, to present information to students seeking to become crisis communicators.

In this final round, we are also seeking to assess the current state of the profession in certain areas, which are indicated later in the survey. You will be asked to determine your perception of the state of the profession for competencies in certain theme areas. This will help us truly identify "needs" for the profession.

Additionally, due to a technical error, the Communication, Media and Technology Skills Ranking section from round 4 is being repeated in this round. Please respond to this final portion of the survey to ensure the quality and consistency of the data for this study is maintained.

To participate in round five, please visit **https://www.surveymonkey.com/s/YPPMQC5** and enter your participation code given to you in previous emails. This code will allow us to track your participation while maintaining your anonymity.

This survey should take 30-45 minutes of your time to complete. Again, you will have until **Monday, May 23 at midnight** to complete the final round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fifth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance. Thank you for participating in all five rounds of our study!

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Delphi Study Invitation to Participate in Round 5 Reminder 3

5/24/11

Dear Participant:

We have decided to extend the deadline for the fifth and final round of the study again, and it will be open until tonight at midnight. Thank you for your continued participation in the Crisis Communication Professional Needs Assessment Delphi Study. The results of the fourth round of this study have provided us with interesting, and more importantly, useful information.

The fifth round of the survey will prompt you to answer multiple types of questions in order to wrap-up the study in this final round. You will be asked to provide us with information regarding your experience as a crisis communication professional. You will also be asked to provide information regarding training opportunities with which you have been presented.

We are seeking to determine the best modes to present information/training to future crisis communication professionals. In this round of the survey, you will be presented the overall eight theme areas again, but this time with the top five to ten ranked competencies listed for each. These top ranked competencies were a result of round four of this study. You will be asked to determine which modes of training are best, in your opinion, to present information to students seeking to become crisis communicators.

In this final round, we are also seeking to assess the current state of the profession in certain areas, which are indicated later in the survey. You will be asked to determine your perception of the state of the profession for competencies in certain theme areas. This will help us truly identify "needs" for the profession.

Additionally, due to a technical error, the Communication, Media and Technology Skills Ranking section from round 4 is being repeated in this round. Please respond to this final portion of the survey to ensure the quality and consistency of the data for this study is maintained.

To participate in round five, please visit https://www.surveymonkey.com/s/YPPMQC5 and enter your participation code: XXXX. This code will allow us to track your participation while maintaining your anonymity.

This survey should take 30-45 minutes of your time to complete. Again, you will have until **Tuesday, May 24 at midnight** to complete the final round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fifth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance. Thank you for participating in all five rounds of our study!

Sincerely,

Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

APPENDIX C

DELPHI STUDY INSTRUMENTS

Snowball Sampling of Crisis Communication Experts

1. Identifying Crisis Communication Experts

Dear Agricultural Communications Professional -

We are seeking participants to assist us with identifying crisis communication training needs for new industry professionals and students. Please click on the link below and identify the names of individuals you consider experts in crisis communications. If you consider yourself an expert in crisis communications, please include yourself.

In the future, we will be contacting this list of experts to assist us in a Delphi study to identify training needs for new professionals.

This study is confidential and all data will be reported as group data. The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only Dr. Leslie Edgar (UA), Dr. Tracy Rutherford (TAMU), Dr. David Doerfert (TTU), and Dr. Theresa Murphrey (TAMU), will have access to the records.

If you have questions regarding this study, you may contact Dr. Leslie Edgar, (479)575-6770, Dr. Tracy Rutherford, (979) 458-2744, trutherford@tamu.edu or Dr. David Doerfert, (806)742-2816, david.doerfert@ttu.edu.

This research study has been reviewed by the Institutional Review Board at the University of Arkansas. For research-related problems or questions regarding your rights as a research participant, you can contact Ro Windwalker, the University's Compliance Coordinator, at (479) 575-2208 or email irb@uark.edu.

We appreciate your assistance.

1. Crisis Communication Expert #1

Type the name, email address, and contact information of the person you consider a crisis communications expert.

2. Crisis Communication Expert #2

Type the name, email address, and contact information of the person you consider a crisis communications expert.

3. Crisis Communication Expert #3

Type the name, email address, and contact information of the person you consider a crisis communications expert.

Snowball Sampling of Crisis Communication Experts

4. Crisis Communication Expert #4

Type the name, email address, and contact information of the person you consider a crisis communications expert.

5. Crisis Communication Expert #5

Type the name, email address, and contact information of the person you consider a crisis communications expert.

Crisis Communication Professionals Needs Assessment

Dear Crisis Communication Expert:

You have been previously contacted because you were identified by your colleagues as an expert in crisis communications. We respectfully request your assistance as we strive to identify crisis communication skills and competencies needed by new professionals. As part of this project, we have developed a crisis communications training simulation using Second Life (a 3-D virtual world). We plan to use insight gained from your expertise to modify and improve our instruction and simulation.

We are requesting your participation in a multi-round Delphi study. For each round, you will be asked to identify, rank, or identify and rank crisis communication needs. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

To complete the open-ended question for round one, please participate in this study by selecting the appropriate response below. You will have until Monday, January 10th to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us or choose the appropriate response below, if you choose not to participate. Please contact us if you would like to add a crisis communications expert to our study.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,
Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

1. Would you like to participate in this multi-round Delphi study?

◯ Yes, I would like to participate.

◯ No, I choose not to participate.

Crisis Communication Professionals Needs Assessment

Yes, I would like to participate selection.

***1. What do crisis communication professionals need in order to be trained for real life crises?**

Crisis Communication Professionals Needs Assessment

Thank you!

Thank you for participating in our research study. Your input is valuable.

Crisis Communication Professionals Needs Assessment Round 2

1. Crisis Communication Professional Expert Participant Code

Dear Crisis Communication Professional:

You have been previously contacted because you were identified by your colleagues as an expert in crisis communications. We respectfully request your assistance as we strive to identify crisis communication skills and competencies needed by new professionals. As part of this project, we have developed a crisis communications training simulation using Second Life (a 3-D virtual world). We plan to use insight gained from your expertise to modify and improve our instruction and simulation.

We are requesting your participation in the second round of a multi-round Delphi study. For this round, you will be asked to review, edit and add to crisis communication needs identified by your peers in round one of this study. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

You will be asked to enter your participant code given via email. This code will allow us to track your participation while maintaining your anonymity throughout this process.

This round of the survey should take about 30-45 minutes of your time. You will have until Monday, January 31st to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you choose not to participate or if you have additional questions about the second round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,
Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

***1. Please enter your four-digit participant code given to you via email. If you have lost access to this information, please email Allyson McGuire at amcguir@uark.edu to retrieve your participant code. You will be asked to use this code in future rounds of the study.**

Thank you!

Crisis Communication Professionals Needs Assessment Round 2

***3. Knowledge**

- **Comprehensive understanding of the company and its crisis plan**
- **Difference between business as usual versus crisis protocol**
- **Experience and knowledge of industry systems and processes**
- **Experts related to field**
- **General business acumen**
- **Incident command and related boundaries**
- **Risk Communication Principles**
- **Role of Media (Social Media) in a Crisis Context**
- **Roles, Duties and Responsibilities of Crisis Team (Internal and External)**
- **Traditional and Social Media as influencers**
- **Understand transparency is key**
- **Understand trends**
- **Understand U.S Food production, marketing and distribution and the various organizations , industry and government, that would likely be involved in a crisis**
- **Understanding of consumers through market research**
- **Understanding of what a crisis is**
- **Understanding organization dynamics**
- **What works and what doesn't via real life/case studies**
- **Work with and council CEO's**
- **Worst Case Scenarios Trigger Points, etc.**
- **Types of crises a (your) organization may encounter**

Crisis Communication Professionals Needs Assessment Round 2

***4. Learning/Training Needs and Opportunities**

- **Command Theory and Practice**
- **Communications Training**
- **Conduct Training**
- **Crisis Identification**
- **Discuss case studies(successful and unsuccessful) with all people involved**
- **Incident Command System (ICS) training if US Government is involved**
- **Issues tracking (recognition of an issue, and follow through)**
- **legal implications**
- **Media Training**
- **Opportunity to learn from others and compare notes**
- **Realistic Crisis Drills with positive and negative feedback**
- **Risk Management training**
- **Role Playing with positive/negative feedback**
- **Social Media Skills**
- **Stakeholder Identification and Engagement**
- **Tradition Media Skills**
- **Time allotted for training (professional development hours/ in-service credit)**

***5. Media Skills**

- **Credibility**

Crisis Communication Professionals Needs Assessment Round 2

***6. Networking**

- **Access to administrators and executives**
- **Contacts to assist managing the crisis**
- **Counselors**
- **Customers, Clients, and Audience (Internal and External**
- **Emergency and Regulatory Service**
- **External stakeholders**
- **External Support Group, unrelated to work**
- **Legal Support**
- **Peer Networking**
- **Subject Matter Experts**
- **Volunteers and Advocates**

Crisis Communication Professionals Needs Assessment Round 2

***7. Personal Traits**

- **Ability to multitask**
- **Ability to say "no"**
- **Anticipatory**
- **Assertive**
- **Calm**
- **Communicates openly and honestly**
- **Compassionate**
- **Critical thinker**
- **Discipline**
- **Empathy**
- **Endurance**
- **Flexibility**
- **Focus (ability to think under pressure)**
- **Fortitude**
- **Good judgment**
- **Good listener**
- **Integrity**
- **Objective**
- **Professional**
- **Resilience**
- **Stamina**
- **Task Oriented**
- **Team oriented/team player**
- **Willingness to accept uncertainty**

Crisis Communication Professionals Needs Assessment Round 2

***8. Supplies/Tools**

- **Alternative headquarters/office**
- **Basic office essentials**
- **Cell Phone**
- **Computer**
- **Emergency Notification System**
- **Have public/phantom site or working website**
- **Internet Access**
- **Office**
- **Updated databases**

***9. Technical/Communication Skills**

- **Analytical**
- **Critical Thinking**
- **Delegate**
- **Good Listening skills**
- **Good writing skills**
- **Journalistic communication skills**
- **Networking**
- **Prioritize**
- **Project management**
- **Public Speaking**
- **Quick and Rational decisions making skills**
- **Strategic thinking**

10. Do you agree with the nine Crisis Communication Professionals Needs Assessment Results areas listed in the previous questions and feel that these areas adequately describe training needs for crisis communication training?

◯ Yes, I think these nine areas adequately cover the needs for Crisis Communication Professional training. I am finishing completing round 2 of this survey.

◯ No, I think there are additional areas that need to be covered in order to adequately train Crisis Communication Professionals. I would like to contribute additional information to round 2 of this survey.

Crisis Communication Professionals Needs Assessment Round 2

3. Additional Training Areas for Crisis Communication Professional Training

I think there are additional areas that need to be covered in order to adequately train Crisis Communication Professionals.

***1. Please describe any additional areas you feel are necessary to adequately train and prepare Crisis Communication Professionals. You may also choose to omit any areas you deem unnecessary. Include any details you feel support your answer.**

The nine areas include:

- **Contingency Plan and Preparedness**
- **Experience**
- **Knowledge**
- **Learning/Training Needs and Opportunities**
- **Media Skills**
- **Networking**
- **Personal Traits**
- **Supplies/Tools**
- **Technical/Communication Skills**

Crisis Communication Professionals Needs Assessment Round 2

4. Thank you!

Thank you for participating in round 2 of the Crisis Communication Professional Needs Assessment Delphi Survey. We appreciate your time and cooperation with our research project.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

Dear Crisis Communication Professional:

You have been previously contacted because you were identified by your colleagues as an expert in crisis communications. We are requesting your participation in the third round of a multi-round Delphi study. For this round, you will be asked to rank a collection of areas gathered from you and your peers' responses in prior Delphi study rounds. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. This procedure will continue until you and your peers have agreed upon a list of crisis communication needs for new professionals.

To participate in round three, please enter your four-digit participation code given via email. This code will allow us to track your participation while maintaining your anonymity throughout this process.

This survey should take 45 minutes to one hour of your time to complete. You will have until Friday, March 11th to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the third round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,
Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

***1. Please enter your four-digit participant code given to you via email. If you have lost access to this information, please email Allyson McGuire at amcguir@uark.edu to retrieve your participant code. You will be asked to use this code in future rounds of the study.**

Thank you!

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Contingency Plan and Preparedness

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
24/7 Community and Media Outreach Hotline		
A 15 minute plan, four hour plan, day one plan, then week 1, 2 and beyond		
A situation assessment following the crisis should be the first step, with established protocol for regular situation updates.		
Ability to forecast trigger events		
Ability to identify organizational values that guide all communications		
Access to outside PR services		
Be able to implement plan quickly		
Communications chain of command/Identify key personnel		
Contact lists: media, staff, leadership, counsel, counselors, etc.		
Core team identified and then second layer of stakeholders identified		
Crisis Comm Plan for institution (regularly updated, web based, practiced)		
Crisis Plan with appropriate training for affiliates or outlets		
Dark/phantom intranet site for employee communications with author rights ready to be active		
Designated spokesperson (should not be the same person that is in charge of managing the crisis)		
Early Warning System: issues / crisis monitoring system and escalation / assessment plan		
Everyone in the organization must carry with them at all times the contact information for his/her administrators, including cell phone and home phone numbers		
Everyone within the organization must receive crisis communication training, either separate or part of media relations training		
Have each function staffed two or three deep to account for multiple operational periods, vacations, illness, direct involvement in the emergency, etc.		
Have in place an emergency notification system for both internal communications staff and administration and for key internal and external audiences		

Crisis Communication Professionals Needs Assessment Round 3

Have materials ready (talking points, crisis steps)		
Identify possible crises at staff meetings to stay up-to-date, discuss possible plans of action		
Must get endorsement and communicate regularly with chief administrator.		
On site and off-sight locations for crisis headquarters		
Periodic testing of plan with mock crisis drills		
Post-crisis and reputation-building activities		
Prepared statements for media		
Prepared statements for those affected by crisis (victims, families, stakeholders, etc.)		
Print and electronic Emergency notification of students, staff and other stakeholders (multiple vehicles) is of prime importance		
Process and protocol for gathering information		
Remember to include internal audiences in all communications		
Safety policies should be in place and be known to everyone.		
Staffing plan for short and long-term events		
Stand-by emergency locations for triage and media		
Support and participation of C-suite		
Technical, Human Resources, IT, and Communications,and legal personnel are available		
Vulnerability assessments		

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Contingency Plan and Preparedness". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Experience

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Being on a crisis communication team		
Coaching		
Coordination		
Delegating		
Familiarity with organizations		
Financial authority		
Leadership		
Logistics and procurement		
Media relations experience (a thorough understanding of journalist needs, wants and pressures)		
Participate in and lead mock crisis drills		
People management		
Practice responding to media and hotlines		
Public relations experience		
Spokesperson experience		
Study case histories of crisis situations and outocmes		
Technical experience related to the area of crisis		
Verbal and written communications		

Crisis Communication Professionals Needs Assessment Round 3

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Experience". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Knowledge

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Clear definition of the difference between an issue and a crisis		
Comprehensive understanding of the company and its crisis plan		
Crisis knowledge (familiar with issues, crises, responses and non-responses, communication theory)		
Difference between business as usual vs crisis protocol		
Employee communications		
Experience and Knowledge of industry systems and processes.		
Experts related to field		
General business acumen		
How to troubleshoot and fix problems before they lead to a crisis		
Incident command and related boundaries		
Managerial skills (leadership, delegation, communication practice)		
Risk Communication Principles		
Role of Media (Social Media) in a Crisis Context		
Role of non-mediated communications		
Roles, Duties and Responsibilities of Crisis Team (Internal and External)		
Technical skills (writing, speaking)		
Traditional and Social Media as influencers		
Types of crises a (your) organization may encounter		
Understand organization's non-crisis objectives		
Understand perspectives of various stakeholder groups		
Understand transparency is key		
Understand trends		
Understand U.S Food production, marketing and distribution and the various organizations , industry and government, that would likely be involved in a crisis		

Crisis Communication Professionals Needs Assessment Round 3

Understand who audiences are in a specific scenario and what key concerns are for each		
Understanding how to communicate internally		
Understanding of consumers through market research		
Understanding organization dynamics		
What works and what doesn't via real life/case studies		
Work with and counsel CEO's		
Worst Case Scenarios Trigger Points, etc.		

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Experience". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Learning/Training Needs and Opportunities

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Best practices from CDC and National Center for Food Protection and Defense		
Command Theory and Practice		
Communications Training		
Conduct Training sessions		
Crisis Identification		
Critical thinking skills		
Differentiate training needs depending on role (example: doer, manager, thinker)		
Discuss case studies (successful and unsuccessful) with all people involved		
Exposure to media in a non-crisis mode		
Incident Command System (ICS) training if US Govt is involved		
Issues tracking (recognition of an issue, and follow through)		
legal implications		
Media Training		
NIMS/ICS training if local, county or state EMA is involved		
Opportunity to learn from others and compare notes		
Realistic Crisis Drills with positive and negative feedback		
Risk Management training		
Role Playing with positive/negative feedback		
Social Media Skills		
Stakeholder Identification and Engagement		
Time allotted for training (professional development hours/ in-service credit)		
Traditional Media Skills		
Vulnerability assessments		
Writing key messages (conveying messages through sound bytes)		

Crisis Communication Professionals Needs Assessment Round 3

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Learning/Training Needs and Opportunities". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Media Skills and Knowledge

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Ability to balance timely access of information with needs of organization		
Ability to be an active listener		
Ability to communicate with accuracy and clarity		
Ability to deliver empathy		
Ability to quickly distribute clear, effective communication about the crisis		
Contacts and relationships with media		
Credibility		
Difference between communicating in a crisis versus a non-crisis		
How to say "no"		
Interview management skills		
Message construction		
On-camera training		
Ongoing communications with media		
Process for media follow-up		
Respect for the media		
Timeliness		
Understand process for gathering and disseminating news		
Understanding different types of media and how their interests differ		
Understanding of deadlines		
Understanding of importance of photos, videos, access to information, etc.		

Crisis Communication Professionals Needs Assessment Round 3

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Media Skills and Knowledge". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Networking

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Access to administrators and executives		
Advocates		
Centers of influence		
Contacts to assist managing the crisis		
Counselors		
Customers, clients, and audience (Internal and External		
Emergency and Regulatory Service		
External stakeholders		
External Support Group, unrelated to work		
Human resources		
Identify primary staff (direct and indirect reports)		
Identify secondary staff (people in institution with experience but who are not direct reports)		
Insurance contacts		
Internal communications		
Keeping contact lists up-to-date more than once a year		
Legal Support		
Local and trade media		
Media networking		
News media		
Peer Networking		
Risk management contacts		
Security		
Shareholders for publicly held companies		
Subject Matter Experts		

Crisis Communication Professionals Needs Assessment Round 3

Volunteers and Advocates

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Networking". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Personal Traits

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Ability to improvise		
Ability to multitask		
Ability to prioritize		
Ability to say "NO"		
Anticipatory		
Assertive		
Calm		
Collaborative		
Common sense		
Communicates openly and honestly		
Compassionate		
Confidence		
Critical thinker		
Detail oriented		
Discipline		
Empathy		
Endurance		
Flexibility		
Focus/think under pressure		
Fortitude		
Good judgment		
Good listener		
Integrity		
Open-minded		

Crisis Communication Professionals Needs Assessment Round 3

Professional		
Professional appearance		
Resilience		
Resourceful		
Stamina		
Strategic thinker		
Task Oriented		
Team oriented/team player		
Willingness to accept uncertainty		

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Personal Traits". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Supplies and Tools

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Ability to access office files from anywhere		
Ability to quickly create website		
Access to fax machine		
Access to plans of larger organization and partner organizations		
Access to radio		
Access to television		
Alternative headquarters/office		
Basic office essentials		
Cell Phone		
Computer		
Conferencing capabilities		
Crisis plan binders		
Digital and physical storage of plan for easy access during crisis		
Emergency Notification System		
Food and beverage for headquarters and on-site team		
Have public/phantom site or working website		
Hotel access near crisis site		
Land line phones		
Maps (internet and print versions)		
Media "clipping" service on a 24/7 basis		
Multiple chargers (car, building, portable batteries)		
Multiple internet sources (air-card, hot-spot, Ethernet)		
Multiple rooms in office space (some for conference calls or quiet work, etc.)		
Office		

Crisis Communication Professionals Needs Assessment Round 3

Official vehicles with signage for vehicles		
Physical space modeling of incident		
PIO vest institutional ID to identify members of crisis response team		
Satellite phone access		
Security at the information center/HQ		
Social media preparedness (Facebook and Twitter accounts in place and ready to use with a built list of followers)		
Specific maps of transportation routes		
Updated databases		

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Supplies and Tools". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Crisis Communication Professionals Needs Assessment - Round 3

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Technical/Communication Skills

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Ability to be an improvisational speaker		
Ability to think and act quickly		
Analytical		
Collaboration		
Conflict management		
Critical Thinking		
Delegate		
Good Listening skills		
Good writing skills		
Journalistic communication skills		
Networking		
Prioritize		
Project management		
Public Speaking		
Quick and Rational decisions making skills		
Sales training (must listen 80 percent and talk 20 percent)		
Social media		
Strategic thinking		

Crisis Communication Professionals Needs Assessment Round 3

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Technical/Communication Skills". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3

Thank you!

Thank you for participating in round 3 of the Crisis Communication Professional Needs Assessment Delphi Survey. We appreciate your time and cooperation with our research project.

Crisis Communication Professionals Needs Assessment Round 3 Part A

Crisis Communication Professionals Needs Assessment - Round 3 Part A

Dear Crisis Communication Professional:

First of all, we want to thank you for your continued dedication and support to the Crisis Communication Professionals Needs Assessment for New Practitioners research project. We realize this has been a time consuming process, and we are grateful for your insight, advice and expertise.

Based on feedback, after we opened the round 3 survey, we decided to close the survey and reorganize and condense it. We currently have eight areas of crisis communications assessment. The assessment areas are: (a) Networking Opportunities; (b) Personal Traits; (c) Supplies and Tools; (d) Communication, Media and Technical Skills; (e) Contingency Plan and Preparedness; (f) Areas of Experience; (g) Knowledge; and (h) Learning/Training Needs and Opportunities. We have randomly assigned participants into two groups (four assessment areas each). Each group is being asked to rank a collection of areas gathered from you and your peers' responses in prior Delphi study rounds regarding the four crisis communication areas you were assignment. Also, we are requesting that you note your own level of competency/proficiency in each of the crisis communications areas.

This survey should take 30 to 45 minutes of your time to complete. You will have until Monday, March 14th to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the third round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,
Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

***1. Please enter your four-digit participant code given to you via email. If you have lost access to this information, please email Allyson McGuire at amcguir@uark.edu to retrieve your participant code. You will be asked to use this code in future rounds of the study.**

Thank you!

Crisis Communication Professionals Needs Assessment Round 3 Part A

Crisis Communication Professionals Needs Assessment - Round 3 Part A

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Networking Opportunities

	How important is this area for new crisis communication professionals?	What is your current networking level in this area?
Administrators and executives		
Advocacy groups		
Counselors		
Emergency service personnel		
Human resources		
Primary staff (direct and indirect)		
Secondary staff		
Insurance agencies		
Legal counsel		
Media outlets		
Outside PR services		
Peers		
Risk Management		
Security		
Shareholders for publicly held companies		
Experts on subject matter related to respective organization		
Volunteers		
Customers, clients and audience (internal and external)		

Crisis Communication Professionals Needs Assessment Round 3 Part A

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Networking Opportunities". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part A

Crisis Communication Professionals Needs Assessment - Round 3 Part A

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Knowledge

	How important is this area for new crisis communication professionals?	What is your current knowledge level in this area?
Clear definition of the difference between an issue and a crisis		
Comprehensive understanding of company/organization and its crisis plan and dynamics		
Traditional and social media knowledge (as influencers and specifically in a crisis context)		
Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)		
Knowledge of audiences for specific scenarios and key concerns for each		
Knowledge of difference between business as usual versus crisis protocol		
Industry systems and processes knowledge		
General business knowledge		
Knowledge of how to troubleshoot and address problems before they lead to a crisis		
Incident command knowledge		
Knowledge of risk communication principles		
Knowledge of role of non-mediated communication		
Knowledge of roles, duties and responsibilities of crisis team (both internal and external)		
Knowledge of types of crises potentially affecting organization		
Knowledge of various stakeholder groups and understanding of their perspectives		
Knowledge of trends		
Knowledge and understanding of organization's non-crisis objectives		
Knowledge and understanding of consumers through market research		
Knowledge and understanding of food production, marketing and distribution, and the various industry and government organizations that would likely be involved in a crisis		

Crisis Communication Professionals Needs Assessment Round 3 Part A

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Knowledge". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part A

Crisis Communication Professionals Needs Assessment - Round 3 Part A

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Communication, Media and Technical Skills

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Improvisational speaking skills		
Analytical thinking skills		
Conflict management skills		
Critical thinking skills		
Good listening skills		
Journalistic writing skills		
Public speaking skills		
Quick and rational decision-making skills		
Social media skills (knowledge of how to use social media, strategies, etc.)		
Strategic thinking skills		
Interview management skills		
On-camera interview and speaking skills		
Ability to meet deadlines and remain timely		
Message construction skills		
Gathering and disseminating news skills		
Media and understanding how they differ, and skills to target different media outlets		
Photography and video skills		
Communication skills in both a crisis and non-crisis situation		
Accurate and clear communication skills		
Delegation skills		
Project management skills		

Crisis Communication Professionals Needs Assessment Round 3 Part A

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Communication, Media and Technical Skills". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part A

Crisis Communication Professionals Needs Assessment - Round 3 Part A

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Contingency Plan and Preparedness

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Crisis communication plan (including 15-minute plan, four hour plan, day one plan, and weeks one and two plans)		
Situation assessment for post-crisis		
Chain of command with identification of key personnel		
Contact lists (media, staff, leadership, counsel, etc.)		
Core team identification and organization		
Staff each job function two or three deep to account for multiple operational periods, vacations, illnesses, etc.		
Designated spokesperson (not same person managing crisis)		
Early warning/notification system		
Prepared statements and talking points ready for media interviews		
Periodic testing of plan with mock crisis drills		
Vulnerability assessments		
All members of the organization trained in crisis communication		
Distribute contact information to all members of organization for constant access		
Identify possible crises at staff meetings		
Plan on-site and off-site locations for crisis headquarters		
Standby emergency locations for triage and media		
Develop a process and protocol for gathering and disseminating information		
Put in place safety policies		
Support and participation of C-Suite		

Crisis Communication Professionals Needs Assessment Round 3 Part A

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Contingency Plan and Preparedness". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part A

Thank you!

Thank you for participating in round 3 of the Crisis Communication Professional Needs Assessment Delphi Survey. We appreciate your time and cooperation with our research project.

Crisis Communication Professionals Needs Assessment Round 3 Part B

Crisis Communication Professionals Needs Assessment - Round 3 Part B

Dear Crisis Communication Professional:

First of all, we want to thank you for your continued dedication and support to the Crisis Communication Professionals Needs Assessment for New Practitioners research project. We realize this has been a time consuming process, and we are grateful for your insight, advice and expertise.

Based on feedback, after we opened the round 3 survey, we decided to close the survey and reorganize and condense it. We currently have eight areas of crisis communications assessment. The assessment areas are: (a) Networking Opportunities; (b) Personal Traits; (c) Supplies and Tools; (d) Communication, Media and Technical Skills; (e) Contingency Plan and Preparedness; (f) Areas of Experience; (g) Knowledge; and (h) Learning/Training Needs and Opportunities. We have randomly assigned participants into two groups (four assessment areas each). Each group is being asked to rank a collection of areas gathered from you and your peers' responses in prior Delphi study rounds regarding the four crisis communication areas you were assignment. Also, we are requesting that you note your own level of competency/proficiency in each of the crisis communications areas.

This survey should take 30 to 45 minutes of your time to complete. You will have until Monday, March 14th to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the third round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,
Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

***1. Please enter your four-digit participant code given to you via email. If you have lost access to this information, please email Allyson McGuire at amcguir@uark.edu to retrieve your participant code. You will be asked to use this code in future rounds of the study.**

Thank you!

Crisis Communication Professionals Needs Assessment Round 3 Part B

Crisis Communication Professionals Needs Assessment - Round 3 Part B

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Personal Traits

	How important is this area for new crisis communication professionals?	What is your current level in this area?
Ability to improvise		
Ability to multi-task		
Ability to prioritize		
Foresight		
Assertiveness		
Calm demeanor		
Ability to collaborate		
Common sense		
Honesty		
Compassion		
Confidence		
Detail-oriented nature		
Discipline		
Empathy		
Endurance and stamina		
Flexibility		
Ability to focus		
Fortitude		
Good judgment		
Integrity		
Open-mindedness		
Professional demeanor and appearance		
Resourcefulness		
Strategic thinker		

Crisis Communication Professionals Needs Assessment Round 3 Part B

Task-oriented nature		
Team-oriented		
Ability to say "no" when needed		

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Personal Traits". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part B

Crisis Communication Professionals Needs Assessment - Round 3 Part B

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Supplies and Tools

	How important is this area for new crisis communication professionals?	What is your current access in this area?
Radio		
Television		
Internet sources		
Fax machine		
Cell phones		
Computers		
Land line telephones		
24/7 hotline		
Maps (both digital and print versions)		
Emergency notification system		
Food and beverages for headquarters and on-site team		
Hotel access near crisis site		
Official vehicles		
Office space		
Updated databases and office files accessible from anywhere		
Alternative headquarters and office space		
Basic office essentials (paper, ink, writing utensils, etc.)		
Website		
Public phantom site ready to make live during crisis		
Multiple chargers for electronics (car, wall, portable)		
Digital and print versions of the crisis plan		
Physical space modeling of crisis location		
Security for headquarters and on-site information center		
Social media preparedness (Facebook and Twitter accounts set up and ready to use with followers)		

Crisis Communication Professionals Needs Assessment Round 3 Part B

PIO vest institutional ID to identify members of crisis response team		

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Supplies and Tools". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part B

Crisis Communication Professionals Needs Assessment - Round 3 Part B

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Areas of Experience

	How important is this area for new crisis communication professionals?	What is your current experience level in this area?
Leadership		
Finances		
Logistics		
Media relations		
Management		
Public relations		
Being a spokesperson for an organization		
Analyzing case studies and past crisis situations		
Technical		
Verbal and written communication		
Being a member of a crisis communication team		
Coaching		
Coordination of plans, events, meetings, etc.		
Participation in and leading of mock crisis drills		

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Areas of Experience". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part B

Crisis Communication Professionals Needs Assessment - Round 3 Part B

The following is a collection of areas gathered from from you and your peers' responses in prior Delphi study rounds. Some areas may not have been omitted due to responses from other participants. This round of the Delphi will allow us to gain more in-depth feedback from you and your peers. Please rank each area 1 to 5 in the two sections described below. If you feel an area is of the least importance to the study, rank 1. If you feel an area is of the greatest importance, rank 5. You may use the rank numbers multiple times during this round. At the conclusion of this round and prior to the next round, you will be provided with a ranked list of responses from this round.

*Learning/Training Needs and Opportunities

	How important is this area for new crisis communication professionals?	What is your current competency/skill level in this area?
Need for time-allotment for professional development hours and/or in-service credit		
Opportunity to learn in groups and compare notes and experiences		
Training opportunities depending on role		
Communication training		
Conduct training		
Crisis identification training (issues tracking, recognition and planning)		
Non-crisis media exposure training		
National Incident Management System (NIMS)/Incident Command System (ICS) training		
Training using best practices from CDC and National Center for Food Protection and Defense		
Training in command theory and practice		
Legal implication training		
Training that includes realistic crisis drills and role playing (with positive and negative feedback and evaluation)		
Risk management training		
Social media training		
Stakeholder identification training		
Vulnerability assessments training		
Training for writing and conveying key messages		

Crisis Communication Professionals Needs Assessment Round 3 Part B

Please add comments or any additional information you feel is necessary to adequately train Crisis Communication Professionals in "Learning/Training Needs and Opportunities". Include any details you feel support your answer.

Crisis Communication Professionals Needs Assessment Round 3 Part B

Thank you!

Thank you for participating in round 3 of the Crisis Communication Professional Needs Assessment Delphi Survey. We appreciate your time and cooperation with our research project.

Crisis Communication Professionals Needs Assessment Round 4

1. Crisis Communication Professionals Needs Assessment Round 4

Dear Crisis Communication Professional:

Thank you for your continued participation in the Crisis Communication Professional Needs Assessment Delphi Study. The results of the third round of this study have yielded very useful and interesting information. We would like to invite you to participate in round four at this time.

This round of the survey will show you a compiled list of information resulting from the previous three rounds of the study. You may find it interesting to see that the information presented to you in round four contains the top competencies from each of the eight emergent sections as determined by you and your peers. In this round, we are asking that you rank order the items within each of the eight emergent sections. The number of items within each section range from five to 19. This will allow us to determine the most important competencies within each section in a rank ordered list. At the end of this round, you will also be asked some demographic questions to help further enhance the quality of our findings. We will be concluding this multi-round study after a fifth round.

To participate in round four, please enter your participation code below. This code will allow us to track your participation while maintaining your anonymity throughout this process.

For your convenience, we are providing an alternative option to complete the survey. You may download and save or print a PDF version of the survey which was sent to you via email. You may complete the survey by hand and fax it to Allyson McGuire at 479-575-2610 or complete it electronically and email your results to amcguir@uark.edu by the deadline.

This survey should take 30 minutes of your time to complete. You will have until Thursday, April 14th to complete this round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fourth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance.

Sincerely,
Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

***Please enter your four-digit participant code given to you via email. If you have lost access to this information, please email Allyson McGuire at amcguir@uark.edu to retrieve your participant code. You will be asked to use this code in future rounds of the study.**

Thank you!

Crisis Communication Professionals Needs Assessment Round 4

2. Areas of Experience

***Below are the top five competencies in the Areas of Experience section as determined by round 3 of this study. This round is designed to compile a ranked list to determine the most important competencies within each section as determined by you and your peers.**

Please rank the following five competencies within the Areas of Experience section in order of importance - one being most important and five being least important.

	1	2	3	4	5
Being a member of a crisis communication team	◯	◯	◯	◯	◯
Leadership	◯	◯	◯	◯	◯
Media relations	◯	◯	◯	◯	◯
Public relations	◯	◯	◯	◯	◯
Verbal and written communication	◯	◯	◯	◯	◯

Crisis Communication Professionals Needs Assessment Round 4

3. Knowledge

***Below are the top 16 competencies in the Knowledge section as determined by round 3 of this study. This round is designed to compile a ranked list to determine the most important competencies within each section as determined by you and your peers.**

Please rank the following 16 competencies within the Knowledge section in order of importance - one being most important and 16 being least important.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Clear definition of the difference between an issue and a crisis	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Comprehensive understanding of company/organization and its crisis plan and dynamics	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Incident command knowledge	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Knowledge and understanding of consumers through market research	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Knowledge and understanding of food production, marketing and distribution, and the various industry and government organizations that would likely be involved in a crisis.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Knowledge and understanding of organization's non-crisis objectives	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Audiences for specific scenarios and key concerns for each	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
The difference between business as usual versus crisis protocol	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
How to troubleshoot and address problems before they lead to a crisis	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Risk communication principles	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Role of non-mediated communication	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Roles, duties and responsibilities of crisis team (both internal and external)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Types of crises potentially affecting organization	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Knowledge of various stakeholder groups and understanding of their perspectives	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Traditional and social media knowledge (as influencers and specifically in a crisis context)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Crisis Communication Professionals Needs Assessment Round 4

4. Supplies and tools

***Below are the top 11 items in the Supplies and Tools section as determined by round 3 of this study. This round is designed to compile a ranked list to determine the most important items within each section as determined by you and your peers.**

Please rank the following 11 items within the Supplies and Tools section in order of importance - one being most important and 11 being least important.

	1	2	3	4	5	6	7	8	9	10	11
Cell phones	○	○	○	○	○	○	○	○	○	○	○
Computers	○	○	○	○	○	○	○	○	○	○	○
Digital and print versions of the crisis plan	○	○	○	○	○	○	○	○	○	○	○
Emergency notification system	○	○	○	○	○	○	○	○	○	○	○
Internet sources	○	○	○	○	○	○	○	○	○	○	○
Multiple chargers for electronics (car, wall, portable)	○	○	○	○	○	○	○	○	○	○	○
Radio	○	○	○	○	○	○	○	○	○	○	○
Social media preparedness (Facebook and Twitter accounts set up and ready to use with followers)	○	○	○	○	○	○	○	○	○	○	○
Television	○	○	○	○	○	○	○	○	○	○	○
Updated databases and office files accessible from anywhere	○	○	○	○	○	○	○	○	○	○	○
Website	○	○	○	○	○	○	○	○	○	○	○

Crisis Communication Professionals Needs Assessment Round 4

5. Communication, media and technology skills

Communication, Media and Technology Skills

	Ability to meet deadlines and remain timely	Accurate and clear communication skills	Analytical thinking skills	Communication skills in both a crisis and non-crisis situation	Conflict management skills	Critical thinking skills	Delegation skills	Gathering and disseminating news skills	Good listening skills	Improvisational speaking skills	Interview management skills	Journalistic writing skills
1	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
2	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
3	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
4	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
5	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
6	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
7	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
8	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
9	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
10	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
11	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
12	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
13	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
14	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
15	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
16	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
17	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
18	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
19	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
20	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Crisis Communication Professionals Needs Assessment Round 4

6. Learning/training needs and opportunities

***Below are the top five competencies in the Learning/Training Needs and Opportunities section as determined by round 3 of this study. This round is designed to compile a ranked list to determine the most important competencies within each section as determined by you and your peers.**

Please rank the following five competencies within the Learning/Training Needs and Opportunities section in order of importance - one being most important and five being least important.

	1	2	3	4	5
Communication training	◯	◯	◯	◯	◯
Crisis identification training (issues tracking, recognition and planning)	◯	◯	◯	◯	◯
Non-crisis media exposure training	◯	◯	◯	◯	◯
Stakeholder identification training	◯	◯	◯	◯	◯
Training for writing and conveying key messages	◯	◯	◯	◯	◯

Crisis Communication Professionals Needs Assessment Round 4

7. Personal traits

***Below are the top 19 items in the Personal Traits section as determined by round 3 of this study. This round is designed to compile a ranked list to determine the most important items within each section as determined by you and your peers.**

Please rank the following 19 items within the Personal Traits section in order of importance - one being most important and 19 being least important.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Ability to collaborate	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Ability to focus	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Ability to multi-task	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Ability to prioritize	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Calm demeanor	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Common sense	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Compassion	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Confidence	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Empathy	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Endurance and stamina	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Flexibility	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Foresight	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Good judgment	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Honesty	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Integrity	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Professional demeanor and appearance	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Resourcefulness	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Strategic thinker	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Team-oriented	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Crisis Communication Professionals Needs Assessment Round 4

8. Contingency plan and preparedness

***Below are the top 17 competencies in the Contingency Plan and Preparedness section as determined by round 3 of this study. This round is designed to compile a ranked list to determine the most important competencies within each section as determined by you and your peers.**

Please rank the following 17 competencies within the Contingency Plan and Preparedness section in order of importance - one being most important and 17 being least important.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Chain of command with identification of key personnel	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Contact lists (media, staff, leadership, counsel, etc.)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Core team identification and organization	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Crisis communication plan (including 15-minute plan, four hour plan, day one plan, and weeks one and two plans)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Designated spokesperson (not same person managing crisis)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Develop a process and protocol for gathering and disseminating information professionals	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Distribute contact information to all members of organization for constant access	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Early warning/notification system	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Identify possible crises at staff meetings	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Periodic testing of plan with mock crisis drills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Plan on-site and off-site locations for crisis headquarters	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Prepared statements and talking points ready for media interviews	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Put in place safety policies	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Situation assessment for post-crisis	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Staff each job function two or three deep to account for multiple operational periods, vacations, illnesses, etc.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Standby emergency locations for triage and media	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Vulnerability assessments	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Crisis Communication Professionals Needs Assessment Round 4

9. Networking opportunities

***Below are the top nine items in the Networking Opportunities section as determined by round 3 of this study. This round is designed to compile a ranked list to determine the most important items within each section as determined by you and your peers.**

Please rank the following nine items within the Networking Opportunities section in order of importance - one being most important and nine being least important.

	1	2	3	4	5	6	7	8	9
Administrators and executives	○	○	○	○	○	○	○	○	○
Customers, clients and audience (internal and external)	○	○	○	○	○	○	○	○	○
Experts on subject matter related to respective organization	○	○	○	○	○	○	○	○	○
Human resources	○	○	○	○	○	○	○	○	○
Legal counsel	○	○	○	○	○	○	○	○	○
Media outlets	○	○	○	○	○	○	○	○	○
Primary staff (direct and indirect)	○	○	○	○	○	○	○	○	○
Risk Management	○	○	○	○	○	○	○	○	○
Security	○	○	○	○	○	○	○	○	○

Crisis Communication Professionals Needs Assessment Round 4

10. Demographic Information

***Please provide us with some basic demographic information. Your identity will remain anonymous. This more detailed information will help us to enhance the use of results from this study to improve curriculum taught to master's level agricultural crisis communication students.**

Company:

State:

Country:

***What is your job title?**

Note the percentage of time you invest annually in each of following industry sectors.

"Improving quality of human life"

"Improving the environment"

"Improving animal production practices"

"Improving crop production practices"

***How many years have you been working in your field?**

Please check which degree(s) you have completed and describe the focus of your degree in the space provided.

- [ ] BS
- [ ] BA

in

Please check which degree(s) you have completed and describe the focus of your degree in the space provided.

- [ ] MS
- [ ] MA

in

Crisis Communication Professionals Needs Assessment Round 4

Please check which degree(s) you have completed and describe the focus of your degree in the space provided.

☐ Ph.D

☐ Ed.D

in

Please describe any additional degrees or certifications in the space provided.

Please include any additional information you feel is necessary or helpful to this study.

Crisis Communication Professionals Needs Assessment Round 5

1. Crisis Communication Professionals Needs Assessment Study Round 5

Dear Crisis Communication Professional:

Thank you for your continued participation in the Crisis Communication Professional Needs Assessment Delphi Study. The results of the fourth round of this study have provided us with interesting, and more importantly, useful information. We would like to invite you to participate in round five at this time. This will be the final round of the multi-round study.

The fifth round of the survey will prompt you to answer multiple types of questions in order to wrap-up the study in this final round. You will be asked to provide us with information regarding your experience as a crisis communication professional. You will also be asked to provide information regarding training opportunities with which you have been presented.

We are seeking to determine the best modes to present information/training to future crisis communication professionals. In this round of the survey, you will be presented the overall eight theme areas again, but this time with the top five to ten ranked competencies listed for each. These top ranked competencies were a result of round four of this study. You will be asked to determine which modes of training are best, in your opinion, to present information to students seeking to become crisis communicators.

In this final round, we are also seeking to assess the current state of the profession in certain areas, which are indicated later in the survey. You will be asked to determine your perception of the state of the profession for competencies in certain theme areas. This will help us truly identify "needs" for the profession.

Additionally, due to a technical error, the Communication, Media and Technology Skills Ranking section from round 4 is being repeated in this round. Please respond to this final portion of the survey to ensure the quality and consistency of the data for this study is maintained.

To participate in round five, please enter your participation code below. This code will allow us to track your participation while maintaining your anonymity.

This survey should take 30-45 minutes of your time to complete. You will have until Wednesday, May 18th to complete the final round of the Delphi study. We hope you will assist us with this critical research. Please contact us, if you have questions regarding the fifth round of the survey.

If you have questions regarding this study, you may contact Dr. Leslie Edgar at the University of Arkansas, (479) 575-6770, ledgar@uark.edu; Dr. Tracy Rutherford at Texas A&M University, (979) 458-2744, trutherford@tamu.edu; or Dr. David Doerfert at Texas Tech University, (806) 742-2816, david.doerfert@ttu.edu.

We appreciate your assistance. Thank you for participating in all five rounds of our study!

Sincerely,
Allyson McGuire
Graduate Research Assistant
(479) 575-3506

Leslie D. Edgar, Assistant Professor
Agricultural Communications
University of Arkansas
Department of Agricultural and Extension Education
205 Agriculture Building; Office 201
Fayetteville, AR 72701
(479) 575-6770
(479) 575-2610 Fax

Crisis Communication Professionals Needs Assessment Round 5

***1. Please enter your four-digit participant code given to you via email. If you have lost access to this information, please email Allyson McGuire at amcguir@uark.edu to retrieve your participant code.**

Thank you!

Crisis Communication Professionals Needs Assessment Round 5

2. Crisis Communication Expert Experience

***1. Approximately how many crises have you been involved with professionally?**

- ◯ 0
- ◯ 1-2
- ◯ 2-5
- ◯ 5-10
- ◯ More than 10

Crisis Communication Professionals Needs Assessment Round 5

3.

1. Please describe the crises you have worked with throughout your career.

2. What roles have you played in crisis communication and management throughout your career? Please note job titles and a brief list of responsibilities.

***3. Approximately how often do you have access to training opportunities?**

- ◯ More than once a month
- ◯ Once a month
- ◯ Twice a year
- ◯ Once a year
- ◯ Once every two years
- ◯ Every 3 to 5 years

***4. If crisis communication training was offered online, would you access it?**

- ◯ Yes
- ◯ No

***5. If crisis communication training was offered through simulation/drill in a virtual world, would you choose to participate?**

- ◯ Yes
- ◯ No

Crisis Communication Professionals Needs Assessment Round 5

4. Learning/Training Needs and Opportunities

***1. Have you recently seen training opportunities offered for this specific area?**

Crisis identification training (issues tracking, recognition and planning)

- ◯ Yes
- ◯ No

Crisis Communication Professionals Needs Assessment Round 5

5. Learning/Training Needs and Opportunities - Opportunity Options

1. Through what avenues have you seen training offered for <u>crisis identification(issues tracking, recognition and planning)</u>?
Check all that apply.

	Organization	Professional conference	Industry training	Other (please specify)
Crisis identification training (issues tracking, recognition and planning)	☐	☐	☐	☐

Other (please specify)

Crisis Communication Professionals Needs Assessment Round 5

6. Learning/Training Needs and Opportunities 2

***1. Have you recently seen training opportunities offered for this specific area?**

Communication training

- ◯ Yes
- ◯ No

Crisis Communication Professionals Needs Assessment Round 5

7. Learning/Training Needs and Opportunities 2 - Opportunity Options

1. Through what avenues have you seen training offered for communication training? Check all that apply.

	Organization	Professional conference	Industry training	Other (please specify)
Communication training	☐	☐	☐	☐

Other (please specify)

Crisis Communication Professionals Needs Assessment Round 5

8. Learning/Training Needs and Opportunities 3

***1. Have you recently seen training opportunities offered for this specific area?**

Training for writing and conveying key messages

- ◯ Yes
- ◯ No

Crisis Communication Professionals Needs Assessment Round 5

9. Learning/Training Needs and Opportunities 3 - Opportunity Options

1. Through what avenues have you seen training offered for <u>training for writing and conveying key messages</u>?
Check all that apply.

	Organization	Professional conference	Industry training	Other (please specify)
Training for writing and conveying key messages	☐	☐	☐	☐

Other (please specify)

Crisis Communication Professionals Needs Assessment Round 5

10. Learning/Training Needs and Opportunities 4

***1. Have you recently seen training opportunities offered for this specific area?**

Stakeholder identification training

- ◯ Yes
- ◯ No

Crisis Communication Professionals Needs Assessment Round 5

11. Learning/Training Needs and Opportunities 4 - Opportunity Options

1. Through what avenues have you seen training offered for <u>stakeholder identification training</u>?
Check all that apply.

	Organization	Professional conference	Industry training	Other (please specify)
Stakeholder identification training	☐	☐	☐	☐

Other (please specify)

Crisis Communication Professionals Needs Assessment Round 5

12. Learning/Training Needs and Opportunities 5

***1. Have you recently seen training opportunities offered for this specific area?**

Non-crisis media exposure training

- ◯ Yes
- ◯ No

Crisis Communication Professionals Needs Assessment Round 5

13. Learning/Training Needs and Opportunities 5 - Opportunity Options

1. Through what avenues have you seen training offered for <u>non-crisis media exposure training</u>?

Check all that apply.

	Organization	Professional conference	Industry training	Other (please specify)
Non-crisis media exposure training	☐	☐	☐	☐

Other (please specify)

Crisis Communication Professionals Needs Assessment Round 5

14. Information Presentation Modes for Crisis Communicators

In this section, we would like to assess the best modes to present information to new crisis communications professionals.
Each of the eight main theme areas are listed. Within each theme area, the top five to ten competencies resulting from round four are listed below.

*1. Learning/Training Needs and Opportunities

How do you believe it is best for new professionals to be presented the learning/training needs and opportunities identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
1) Crisis identification training (issues tracking, recognition and planning)	☐	☐	☐	☐	☐
2) Communication training	☐	☐	☐	☐	☐
3) Training for writing and conveying key messages	☐	☐	☐	☐	☐
4) Stakeholder identification training	☐	☐	☐	☐	☐
5) Non-crisis media exposure training	☐	☐	☐	☐	☐

*2. Personal Traits

How do you believe it is best for new professionals to be presented the personal traits identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
1) Strategic thinker	☐	☐	☐	☐	☐
2) Good judgment	☐	☐	☐	☐	☐
3) Integrity	☐	☐	☐	☐	☐
4) Honesty	☐	☐	☐	☐	☐
5) Team-oriented	☐	☐	☐	☐	☐
6) Calm demeanor	☐	☐	☐	☐	☐
7) Ability to prioritize	☐	☐	☐	☐	☐
8) Ability to collaborate	☐	☐	☐	☐	☐
9) Common sense	☐	☐	☐	☐	☐
10) Confidence	☐	☐	☐	☐	☐

Crisis Communication Professionals Needs Assessment Round 5

***3. Contingency Plan and Preparedness**

How do you believe it is best for new professionals to be presented and taught to implement the contingency plan and preparedness areas identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
1) Crisis communication plan (including 15-minute plan, four hour plan, day one plan, and weeks one and two plans)	☐	☐	☐	☐	☐
2) Core team identification and organization	☐	☐	☐	☐	☐
3) Chain of command with identification of key personnel	☐	☐	☐	☐	☐
4) Contact lists (media, staff, leadership, counsel, etc.)	☐	☐	☐	☐	☐
5) Designated spokesperson (not same person managing crisis)	☐	☐	☐	☐	☐
6) Early warning/notification system	☐	☐	☐	☐	☐
7) Vulnerability assessments	☐	☐	☐	☐	☐
8) Develop a process and protocol for gathering and disseminating information professionals	☐	☐	☐	☐	☐
9) Prepared statements and talking points ready for media interviews	☐	☐	☐	☐	☐
10) Identify possible crises at staff meetings	☐	☐	☐	☐	☐

***4. Networking Opportunities**

How do you believe it is best for new professionals to be presented and taught to implement the networking opportunities identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
1) Administrators and executives	☐	☐	☐	☐	☐
2) Experts on subject matter related to respective organization	☐	☐	☐	☐	☐
3) Primary staff (direct and indirect)	☐	☐	☐	☐	☐
4) Customers, clients and audience (internal and external)	☐	☐	☐	☐	☐
5) Media outlets	☐	☐	☐	☐	☐

Crisis Communication Professionals Needs Assessment Round 5

***5. Communication, Media and Technology Training**

How do you believe it is best for new professionals to be presented information regarding communication, media and technology training identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
Ability to meet deadlines and remain timely	☐	☐	☐	☐	☐
Accurate and clear communication skills	☐	☐	☐	☐	☐
Analytical thinking skills	☐	☐	☐	☐	☐
Communication skills in both a crisis and non-crisis situation	☐	☐	☐	☐	☐
Conflict management skills	☐	☐	☐	☐	☐
Critical thinking skills	☐	☐	☐	☐	☐
Delegation skills	☐	☐	☐	☐	☐
Gathering and disseminating news skills	☐	☐	☐	☐	☐
Good listening skills	☐	☐	☐	☐	☐
Improvisational speaking skills	☐	☐	☐	☐	☐
Interview management skills	☐	☐	☐	☐	☐
Journalistic writing skills	☐	☐	☐	☐	☐
Media and understanding how they differ, and skills to target different media outlets and communication professionals	☐	☐	☐	☐	☐
Message construction skills	☐	☐	☐	☐	☐
On-camera interview and speaking skills	☐	☐	☐	☐	☐
Project management skills	☐	☐	☐	☐	☐
Public speaking skills	☐	☐	☐	☐	☐
Quick and rational decision-making skills	☐	☐	☐	☐	☐
Social media skills (knowledge of how to use social media, strategies, etc.)	☐	☐	☐	☐	☐
Strategic thinking skills	☐	☐	☐	☐	☐

Crisis Communication Professionals Needs Assessment Round 5

***6. Supplies and Tools**

How do you believe it is best for new professionals to learn to implement and use the supplies and tools identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
1) Cell phones	☐	☐	☐	☐	☐
2) Digital and print versions of the crisis plan	☐	☐	☐	☐	☐
3) Computers	☐	☐	☐	☐	☐
4) Emergency notification system	☐	☐	☐	☐	☐
5) Updated databases and office files accessible from anywhere	☐	☐	☐	☐	☐

***7. Areas of Experience**

How do you believe it is best for new professionals to learn the areas of experience identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
1) Verbal and written communication	☐	☐	☐	☐	☐
2) Leadership	☐	☐	☐	☐	☐
3) Media relations	☐	☐	☐	☐	☐
4) Public relations	☐	☐	☐	☐	☐
5) Being a member of a crisis communication team	☐	☐	☐	☐	☐

Crisis Communication Professionals Needs Assessment Round 5

***8. Knowledge**

How do you believe it is best for new professionals to learn the knowledge areas identified below? Check all that apply.

	Application based on Simulation	Application based on Real Life Experience	Theory	Both Application and Theory	Neither Application nor Theory
1) Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)	☐	☐	☐	☐	☐
2) Comprehensive understanding of company/organization and its crisis plan and dynamics	☐	☐	☐	☐	☐
3) How to troubleshoot and address problems before they lead to a crisis	☐	☐	☐	☐	☐
4) Types of crises potentially affecting organization 6.42	☐	☐	☐	☐	☐
5) Knowledge of various stakeholder groups and understanding of their perspectives	☐	☐	☐	☐	☐
6) Risk communication principles	☐	☐	☐	☐	☐
7) Clear definition of the difference between an issue and a crisis 7.53	☐	☐	☐	☐	☐
8) Roles, duties and responsibilities of crisis team (both internal and external)	☐	☐	☐	☐	☐
9) Audiences for specific scenarios and key concerns for each	☐	☐	☐	☐	☐
10) Knowledge and understanding of organization's non-crisis objectives	☐	☐	☐	☐	☐

Crisis Communication Professionals Needs Assessment Round 5

15. Current State of the Profession for Crisis Communication in Agriculture

In this section, we would like to assess your perception of the current state of the profession for certain main theme areas and the competencies within each area.

*1. Networking Opportunities

What do you believe is the *current state of the profession* in regards to the networking opportunities identified below?

	Not at all	Novice	Intermediate	Advanced	Expert
1) Administrators and executives	☐	☐	☐	☐	☐
2) Experts on subject matter related to respective organization	☐	☐	☐	☐	☐
3) Primary staff (direct and indirect)	☐	☐	☐	☐	☐
4) Customers, clients and audience (internal and external)	☐	☐	☐	☐	☐
5) Media outlets	☐	☐	☐	☐	☐

*2. Areas of Experience

What do you believe is the *current state of the profession* in regards to the areas of experience identified below?

	Not at all	Novice	Intermediate	Advanced	Expert
1) Verbal and written communication	☐	☐	☐	☐	☐
2) Leadership	☐	☐	☐	☐	☐
3) Media relations	☐	☐	☐	☐	☐
4) Public relations	☐	☐	☐	☐	☐
5) Being a member of a crisis communication team	☐	☐	☐	☐	☐

Crisis Communication Professionals Needs Assessment Round 5

***3. Knowledge**

What do you believe is the *current state of the profession* in regards to crisis communicator knowledge areas identified below?

	Not at all	Novice	Intermediate	Advanced	Expert
1) Crisis knowledge (familiarity with issues, potential crises, responses, and plans of action)	☐	☐	☐	☐	☐
2) Comprehensive understanding of company/organization and its crisis plan and dynamics	☐	☐	☐	☐	☐
3) How to troubleshoot and address problems before they lead to a crisis	☐	☐	☐	☐	☐
4) Types of crises potentially affecting organization 6.42	☐	☐	☐	☐	☐
5) Knowledge of various stakeholder groups and understanding of their perspectives	☐	☐	☐	☐	☐
6) Risk communication principles	☐	☐	☐	☐	☐
7) Clear definition of the difference between an issue and a crisis 7.53	☐	☐	☐	☐	☐
8) Roles, duties and responsibilities of crisis team (both internal and external)	☐	☐	☐	☐	☐

Crisis Communication Professionals Needs Assessment Round 5

16. Communication, Media and Technology Skills Ranking

Due to a technical error, the ***Communication, Media and Technology Skills Ranking*** section from **round 4** is being repeated in this round.

Please respond to the following section to ensure the quality and consistency of the data for this study is maintained.

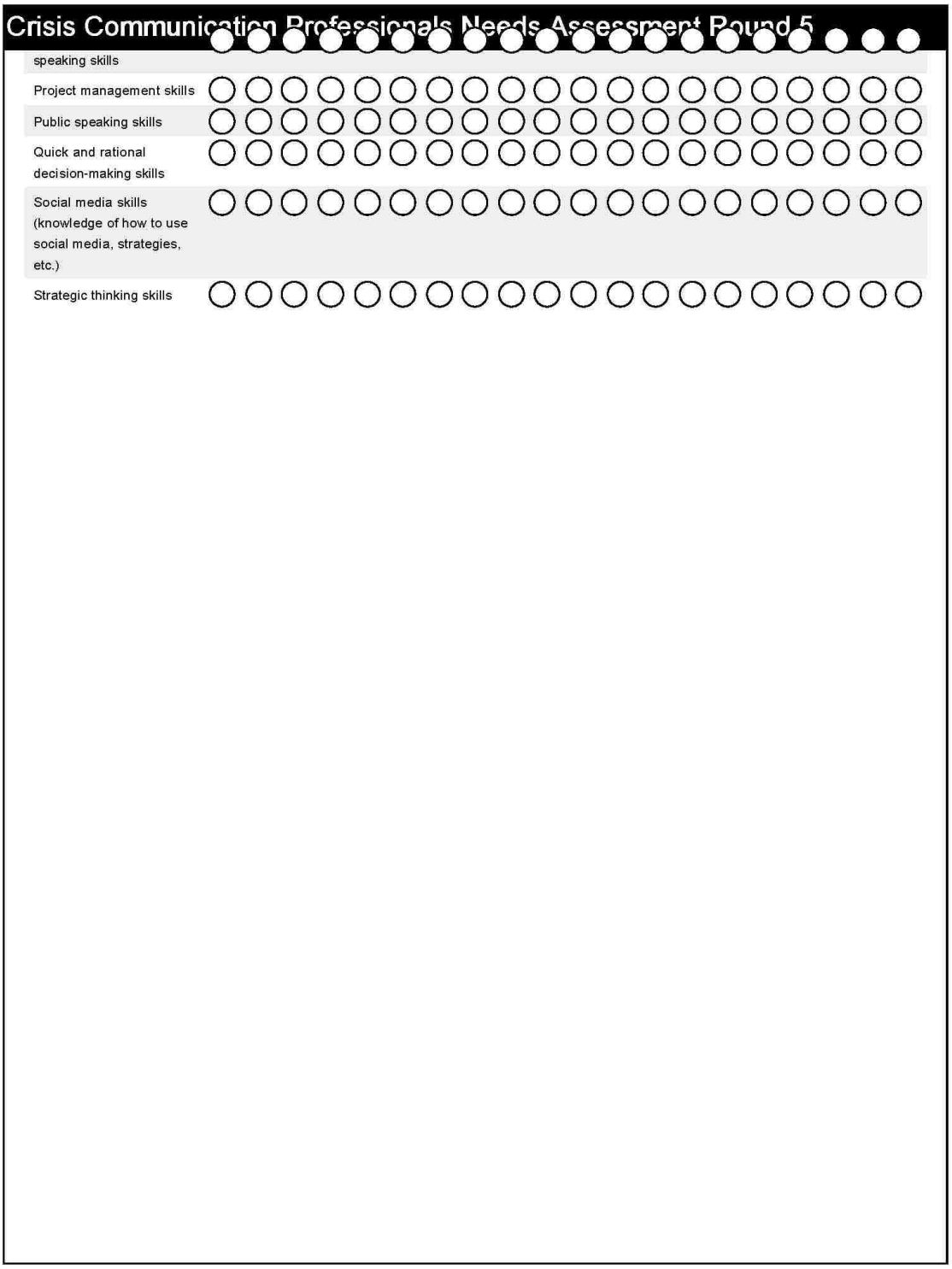
Thank you!

***1. Below are the top 20 competencies in the Communication, Media and Technology Skills section as determined by round 3 of this study.**

This round is designed to compile a ranked list to determine the most important competencies within each section as determined by you and your peers.

Please rank the following 20 competencies within the Communication, Media and Technology Skills section in order of importance - one being most important and 20 being least important.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ability to meet deadlines and remain timely	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Accurate and clear communication skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Analytical thinking skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Communication skills in both a crisis and non-crisis situation	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Conflict management skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Critical thinking skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Delegation skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Gathering and disseminating news skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Good listening skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Improvisational speaking skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Interview management skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Journalistic writing skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Media and understanding how they differ, and skills to target different media outlets and communication professionals	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Message construction skills	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
On-camera interview and	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○


Crisis Communication Professionals Needs Assessment Round 5
speaking skills
Project management skills
Public speaking skills
Quick and rational decision-making skills
Social media skills (knowledge of how to use social media, strategies, etc.)
Strategic thinking skills

APPENDIX D

INSTITUTIONAL REVIEW BOARD
PROJECT CONTINUATION APPROVAL FORM

120 Ozark Hall • Fayetteville, Arkansas 72701 • (479) 575-2208 • (479) 575-3846 (FAX)
Email: irb@uark.edu

Research Support and Sponsored Programs
Institutional Review Board

October 6, 2010

MEMORANDUM

TO:	Leslie Edgar Donald Johnson William Bailey Don Edgar
FROM:	Ro Windwalker IRB Coordinator
RE:	PROJECT CONTINUATION
IRB Protocol #:	09-10-136
Protocol Title:	*The Educational Effectiveness of Utilizing Second Life (SL) in Teaching Graduate-Level Agricultural Crisis Communications*
Review Type:	☒ EXEMPT ☐ EXPEDITED ☐ FULL IRB
Previous Approval Period:	Start Date: 10/22/2009 Expiration Date: 10/21/2010
New Expiration Date:	10/21/2011

Your request to extend the referenced protocol has been approved by the IRB. If at the end of this period you wish to continue the project, you must submit a request using the IRB approved form "Request for Continuation." Failure to obtain approval for a continuation on or prior to this new expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

If you have questions or need any assistance from the IRB, please contact me at 120 Ozark Hall, 5-2208, or irb@uark.edu.