

Crisis Communication Needs Assessment: A Delphi Study to Enhance Instruction for Agricultural Communicators and Other Stakeholders¹



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Abstract

Agricultural communicators and industry stakeholders need to develop, prepare and implement crisis communication plans to help assure the sustainability of the agricultural industry. This study sought to determine competencies, traits, skills and tools needed by agriculture crisis communication professionals who manage public communication during times of turmoil. The researchers used a five-round Delphi to identify crisis communicator needs and the extent to which the identified competencies, traits, skills and tools exist in and with industry professionals. Eight major crisis communication need areas were identified and verified in the first two Delphi rounds: (a) areas of experience; (b) communication, media and

technical skills; (c) contingency plans and preparedness; (d) learning/training needs and opportunities; (e) media and technical skills; (f) networking opportunities; (g) personal traits; and (h) supplies and tools. Round three employed a five-point Likert-type scale to rank the eight identified need areas. Eleven independent items from the eight need areas for crisis communicators were noted with 100% acceptance for being highly important ($M = 5$, $SD = 0$) competencies, traits, skills and tools. There was no single crisis communication competency, trait, skill and/or tool where 100% of the participants ranked themselves as expert. Final rounds created a succinct, yet comprehensive and validated list of competencies, traits, skills and tools needed to train crisis communicators. Strategies

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and recommendations for improving crisis communications education and training are noted.

Introduction

Crisis communication management is important to the agricultural industry for a multitude of reasons, particularly because agriculture is crucial to human existence. The success of agriculture is often dependent on ideal weather, prevention of contamination, access to clean water and production of enough food, fiber and fuel to sustain the world. 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. 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 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 internal factors such as miscommunication, product failure, or infrastructure issues, agricultural crisis communicators must learn to prepare for many situations and effectively implement a crisis plan when the need arises.

“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 demonstrates the importance of good communication and media skills, especially when safety or the future of a company is involved. Pertaining to agriculture, the ability for a crisis to reach small to large amounts of people very quickly is not only possible but inevitable. Because many possible crises are potentially damaging, the importance of preparedness and effective training are critical. 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 et al., 2007, p. 3).

Crisis have been called “predictably unpredictable” (Heath and Miller, 2004). Effective managers understand that crises can occur; but they do not know when they will occur. Good managers recognize that crisis communications must move beyond storytelling to gain, renew and increase public perception and trust (Heath, 2004). Previous research noted that *“unfortunately, the number of crises impacting citizens and the agriculture and life science areas are increasing”* (Edgar et al., 2009, p. 2). The ability to emerge from crises such as these is fully dependent on an organi-

zation’s ability to effectively and efficiently manage through the crisis event. Even though all types of organizations are vulnerable to a crisis, certain industries are inherently more prone to a crisis event based on interconnectedness and complexity (Pauchant and Mitroff, 1992). Because of this, it is important to look at crisis preparation more than just from a single organizational viewpoint. Unfortunately, “few organizations are prepared to effectively deal with inevitable crises” (Edgar et al., 2009, p. 3).

“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, 1999, p. 1). Telg (2010) described several characteristics that all crises have in common— noting that they: (a) are potentially damaging; (b) can create improper or distorted perceptions; (c) are almost always disruptive to the organization; and (d) generally always take the organization by surprise. According to Lukaszewski (1999), the most challenging part of crisis communication is reacting—with the right response quickly. Therefore, organizations must be ready, willing and able to effectively prepare for, react to and manage a crisis.

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 and Tucker, 1990). Additionally, Finch and Crunkilton (1989) noted the vital importance of ensuring that curriculum content reflects the needs of the professional world.

The need for crisis communication professionals to have personal traits, tools, skills, competencies and plans in place prior to a crisis is critical regardless of the agricultural segment involved. However, currently no comprehensive list of crisis communications competencies, traits, skills and tools needed is available. Therefore, an understanding of crisis communicators’ needs to effectively manage a crisis was deemed essential to the foundational preparation of communicators in the agricultural sector. Furthermore, a need for understanding how to utilize the communication needs to train and teach future professionals in this field would facilitate the success of these efforts. Therefore, this study was used to assess crisis communication professionals’ needs in an effort to create future instruction that can more holistically train students.

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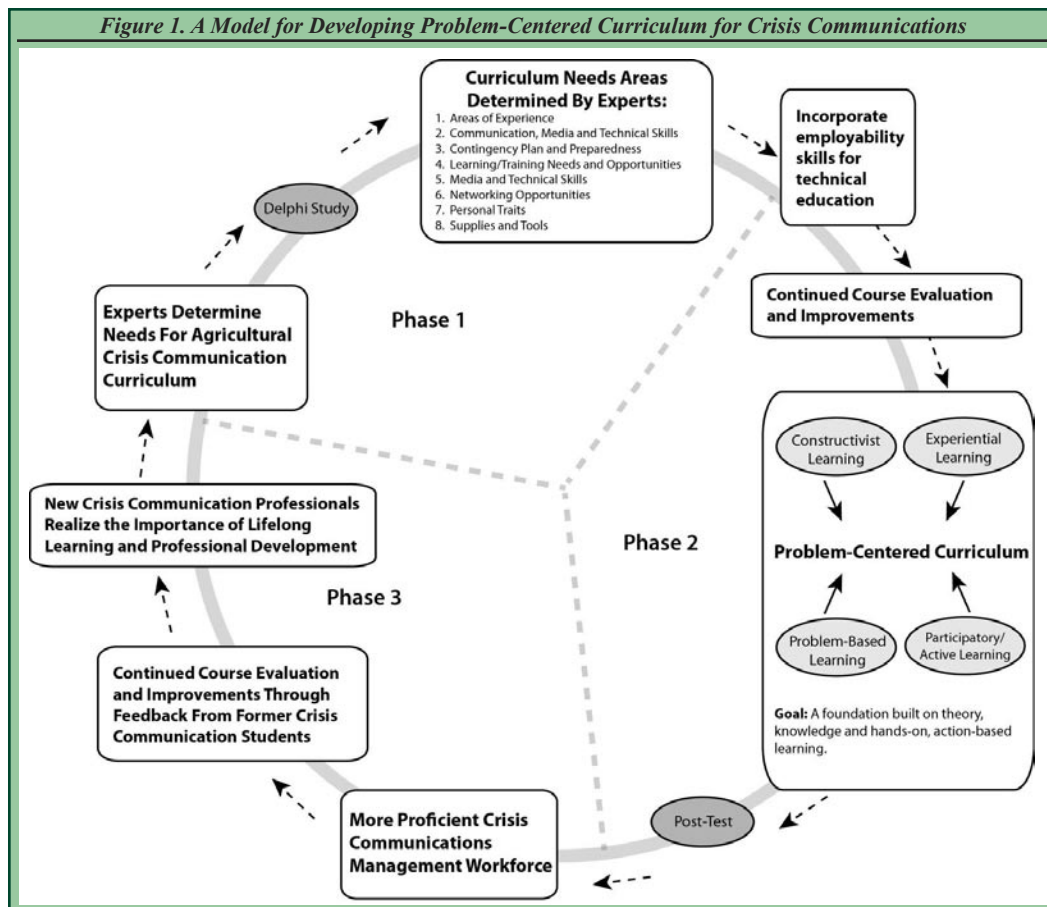
A Model for Developing Problem-Centered Curriculum for Crisis Communication

This study used multiple theories of learning in an effort to build a solid foundation to integrate crisis communications needs into a curriculum that would better prepare future professionals. Because this study was used to guide the development of a semester-long crisis communications course at three large universities, it was important for the researchers to have a solid foundation in learning theory. The theories outlined in this section were used to develop a model that would be used to guide the larger, longitudinal study (see Figure 1). This study focused only on Phase I of the three-phase model in Figure 1. Recommendations from this study were used to conduct research for Phases II and III of the model identified in Figure 1.

Learners have changed because of the influx of technology and pedagogy has followed suit (Leigh, 2006). Because of this change, it is essential to understand competencies, traits, skills and tools required by communication professionals in an effort to improve teaching in this area (Kort et al., 2001). By understanding the needs of future crisis communications professionals and identifying best practices in which to implement the findings (longitudinal study), a model for future curriculum development based on the needs

identified in this study could be developed. Therefore, understanding the pedagogical concepts participants have experienced and those competency areas needed to impact future crisis communication professionals grounded the foundation of this study.

Reviewing the evolution of the learning process and understanding current theoretical foundations of education are important concepts for this study. In the last century, education has shifted from recitation literacy to extraction literacy (Edgar, 2011). 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 the need to further process information resulting in specific knowledge need analysis and the creation of educational innovations to transform the classroom and allow students to more adequately prepare for professional careers. Constructivism has been used to represent a collection of theories, including generative learning (Wittrock, 1990), discovery learning (Bruner, 1961), and situated learning (Brown et al., 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). When preparing students to be effective and successful crisis communicators, applying a constructivist learning model



may be appropriate, because it allows students to learn skills and competencies using a hands-on approach.

Experiential learning is the process where knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming the experience (Kolb, 1984). Problem Based Learning has been described as “*particularly effective in 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). 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). Problem based learning is an integral focus when preparing to be a crisis communicator, as the problem-solving process is a large part of working through a crisis (Whiting et al., 2004).

Active or participatory learning is also critical to the success of problem-centered curriculum, as active learning requires that students be engaged in the learning process in the classroom. With active learning, students must participate in and think about the material being presented in the classroom. A person's experience is related to their knowledge, understanding and involvement in a subject area (Dewey, 1938; Kolb, 1984).

By understanding the learning theories outlined in this study, the researchers attempted to meet the need for a modern, useful and relevant curriculum in agricultural crisis communications by suggesting potential strategies and recommendations for improving education and training. By using crisis communication professionals to identify needs for future professionals' and with a strong model for active learning, the researchers attempted to create understanding, focus and a model to guide curriculum development that included critical competencies, traits, skills and tools needed to train students. An exhaustive review of literature did not yield a model precise enough to guide this study and the larger project; therefore, a model was developed to guide the creation, implementation and evaluation of crisis communication curriculum needed to train students at three universities (Figure 1).

Purpose of Study and Objectives

The integration of curriculum needs established by crisis communication professionals, combined with a problem-centered curriculum model for learning supported the purpose of this study and the

ultimate goal of crisis communications-develops 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. The purpose of this study was to determine crisis communication training needs for new professionals in an effort to guide crisis communications curriculum. Additionally, the study sought to outline competencies, personal traits, skills and tools needed to train postsecondary students in crisis communications. The objectives established to achieve the purpose of the study included:

- 1) Identify crisis communication needs for new professionals using a Delphi study with crisis communication professionals.

- 2) Identify the competencies, traits, skills and/or tools within each need area believed to be important to successfully manage a crisis.

- 3) Outline competencies, traits, skills and tools best taught through application based on simulation, application based on real-life experience, theory, both and/or neither.

Methods

This study used mixed methodologies to gather information regarding the needs of crisis communication professionals in an effort to improve education and training at three large universities in the South. The needs assessment gathered responses from crisis communication industry professionals via a five-round Delphi study administered using a web-based electronic survey (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 and Sandford, 2007, p. 1).

The study sought to provide emerging themes of educational content needs for future crisis communication professionals based on responses from industry professionals. Further, analysis was conducted to determine the level of importance of each area of educational and training content needed for crisis communication professionals and identify the level of skill and/or knowledge industry professionals had in each area specified.

Subjects were identified for this study using the snowball sampling technique in which subjects were given the opportunity to provide researchers with the name of another person, who could provide the name of a third subject and so on (Vogt, 1999). As the first step in the process, 49 crisis communication professionals from three professional organizations

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(National Agri-Marketing Association [NAMA], Canadian Agri-Marketing Association [CAMA] and the Association for Communication Excellence in Agriculture, Natural Resources and Life and Human Services [ACE]) were identified and asked to suggest one person each. Thirty-one professionals agreed to participate. Previous research has indicated that 13 to 15 participants would provide a high degree of reliability with a Delphi Study (Dalkey, 1972; Martin and Frick, 1988). 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 remained active in the study through each subsequent round(s).

The first two rounds of the Delphi collected a broad range of competencies, personal traits, supplies and information needed by crisis communicators. These competencies were compressed and organized into nine competency area categories by the researchers. 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. Participants were asked to use two, five-point Likert type scales to rank each need identified in the nine competency areas noted in rounds one and 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 need area based on the ranking from the five-point Likert type scale in round three. For each of the eight crisis communication need areas, a ranked competency list of supporting topics (from most to least important) for each broad area was provided to participants, where they were allowed to re-order the supporting need list in order of importance. Participants were also asked to identify 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 solicited participants to view the most important ranked items from round four and determine if each supporting topic under the eight broad competency areas should be taught via: (a) application based on simulation; (b) application based on real life experience; (c) theory only; (d) both theory and application; or (e) none. Because the results of each round determined the content for the subsequent round, each questionnaire and scale provided to respondents was adjusted according to the needs and purpose of each round.

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 faculty and graduate students at three large Southern universities. This group of professionals 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). Because of the broad nature of this study five rounds of the Delphi assessment were needed to meet consensus of crisis communications needs with supporting competencies, traits, skills and tools for success as a new professional.

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

Results and Discussion

Objective 1: Identify Crisis Communication Needs for New Professionals Using a Delphi Study with Crisis Communication Professionals

In the first round of the study, respondents were asked a broad open-ended question to determine what crisis communication professionals needed in order to be prepared for potential crisis events. Because the question was open-ended and designed to elicit many ideas from respondents, results from round one were extremely varied and extensive. In round two, participants were asked to verify and add or eliminate details associated with nine emergent theme need areas. This resulted in eight themes with supporting competencies being identified for each. Between rounds the themes “media skills” and “technical communication skills” were compressed into one crisis communications need area. The resulting eight identified crisis communication training/curriculum need themes are noted below.

Eight Emergent Need Areas for Crisis Communication Professionals as a Result of the Delphi Round Two Data:

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

Objective 2: Identify the Competencies, Traits, Skills and/or Tools within Each Need Area Believed to be Important to Successfully Manage a Crisis

Round three evoked an in-depth narrowing process for participants. An edited list for each theme area was presented to participants based on results of round two. The eight competency areas were split into two groups of four competencies, creating a “Round 3A” and “Round 3B” survey and participants were randomly assigned one of the instruments. This was designed to reduce participant exhaustion. Participants used a five-point Likert-type scale to rank each competency, trait, skill and tool identified under each of the eight crisis communication need areas. The scale prompted participants to rank “How important is this competency, trait, skill and tool for new crisis communication professionals?” on a scale of one to five (1 = Unimportant to 5 = Important). The most important needs were selected by mean score and it was determined that all need areas (competencies, traits, skills and tools) scoring a mean of 4.0 to 5.0 would be considered the most important items within each of the eight thematic content areas. As a result, each of the eight crisis communication need areas had varying numbers of supporting competencies, traits, skills and tools identified as important techniques for each content area (14 to 27 specific supporting needs for each of the eight broad thematic content areas).

For round four, participants were given feedback from the previous round. Responses were collected based on the information from round three. For each of the eight content areas, participants ranked the most important competencies, traits, tools and skills for each need area (a mean score of 4.0 to 5.0). The crisis communication needs listed within each of the eight content areas ranged from

five to 21 items. Participants were asked to rank each item in order of importance, with one being the most important.

The Networking Opportunities content area maintained five possible need areas for crisis communicators to be successful in the industry. The needs were ranked from lowest to highest mean score. The most important Networking Opportunities were “Administrators and Executives” (M = 3.07; SD = 1.90) and “Experts on Subject Matter Related to Respective Organization” (M = 3.60; SD = 2.03). The remaining need areas are noted in Table 1.

The Communication, Media and Technology Training content area had 10 needs noted as important. Respondents rank ordered each item from most to least important (Table 2). The most important Communication, Media and Technology Training was “Accurate and Clear Communication Skills” (M = 4.31; SD = 4.53) followed by “Critical Thinking Skills” (M = 5.94; SD = 4.27).

The Supplies and Tools content area had five need items that respondent’s ranked as most important to crisis communication professionals (Table 3).

Table 1. Respondent’s 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

Table 2. Respondent’s Ranking of Importance of Communication, Media and Technology Training (n = 16)

Rank	Communication, Media and Technology Training	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

Table 3. Respondent’s 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

Table 4. Respondent’s 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

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Table 5. Respondent's 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

Table 6. Respondent's 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

Table 7. Respondent's 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

Table 8. Respondent's Ranking of Importance of Contingency Plans and Preparedness (n = 15)

Rank	Contingency Plan and Preparedness	M	SD
1	Crisis communication plans (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

Respondents rank ordered each item from most to least important in terms of supporting tools needed to be successful in a crisis communications career. The most important Supply and Tool need 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).

The Learning/Training Needs and Opportunities content area had five needs noted as important (Table 4). The highest ranking item was "Crisis Identification Training (issues tracking, recognition and planning)" (M = 2.07; SD = 1.03) followed by "Communication Training" (M = 2.13; SD = 1.20).

The content theme area of Areas of Experience had five items ranked by participants as the most important needs (Table 5) The Area of Experience with the lowest mean was "Verbal and Written Communication" (M = 2.26; SD = 1.28) followed closely by "Leadership" (M = 2.47; SD = 1.26).

The Knowledge content area had 10 supporting items (Table 6). The most important item with the lowest mean in this content area was "Crisis Knowledge" (M = 2.26; SD = 2.88). The second most important item in rank was "Comprehensive Understanding of Company/Organization and its Crisis Plan and Dynamics" (M = 4.26; SD = 3.02).

The Personal Traits content area with supporting need items ranked from most to least important are identified in Table 7. The most important item reported was being a "Strategic Thinker" (M = 5.00; SD = 5.60) followed by "Good Judgment" (M = 6.20; SD = 3.53).

The rankings of most to least important supporting items for the Contingency Plans and Preparedness content area are listed in Table 8. The highest-ranked items were "Crisis Communication Plans" (M = 2.33; SD = 1.71) and "Core Team Identification and Organization" (M = 3.67; SD = 3.00).

Objective 3: Outline Competencies, Traits, Skills and Tools Best Taught through Application Based on Simulation, Application Based on Real-Life Experience, Theory, Both and/or Neither

Round five assessed respondents' views of how the most important competencies, traits, skills and tools for each crisis communications need area should best be presented to students training to become crisis communication professionals. Because of the nature of the problem-centered curriculum model (Figure 1), multiple avenues for teaching crisis communication competencies and skills are necessary. Professionals participating in the Delphi study were asked to choose all training areas they believe applied to each competency, trait, skill and/or tool item identified in each of the eight crisis communication content need 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; and (e) neither application nor theory.

Table 9. Teaching Techniques Needed to Train New Crisis Communication Professionals in Regards to the Eight Broad Competency Areas (n=16)

Ranking of Competencies and Supporting Traits by Competency Area	Application Based on Simulation %	Application Based on Real-Life Experience %	Theory %	Both Application and Theory %	Neither Application nor Theory %
Networking Opportunities					
1. Administrators and executives	43.8	68.8	12.5	37.5	0.0
2. Experts on subject matter related to respective organization	37.5	68.8	6.3	37.5	0.0
3. Primary staff (direct and indirect)	37.5	75.0	12.5	31.3	0.0
4. Customers, clients and audience (internal and external)	50.0	68.8	6.3	31.3	0.0
5. Media outlets	37.5	75.0	12.5	37.5	0.0
Communication, Media, and Technology Training					
1. Accurate and clear communication skills	37.5	62.5	18.8	50.0	0.0
2. Critical thinking skills	43.8	62.5	25.0	50.0	0.0
3. Analytical thinking skills	43.8	62.5	12.5	50.0	6.3
4. Strategic thinking skills	31.3	68.8	25.0	56.3	6.3
5. Communication skills both in a crisis and non-crisis situation	37.5	75.0	25.0	56.3	0.0
6. Quick and rational decision-making skills	37.5	75.0	0	43.8	0.0
7. Message construction skills	43.8	68.8	25.0	56.3	0.0
8. Ability to meet deadlines and remain timely	43.8	56.3	6.3	37.5	0.0
9. Media and understanding of how they differ, and skills to target different media outlets and communication professionals	25.0	68.8	18.8	56.3	0.0
10. Good listening skills	37.5	75.0	12.5	50.0	0.0
Supplies and Tools					
1. Cell phones	37.5	75.0	0	12.5	0.0
2. Digital and print versions of the crisis plan	50.0	62.5	0	31.3	6.3
3. Computers	37.5	68.8	0	12.5	6.3
4. Emergency notification system	50.0	62.5	6.3	25.0	0.0
5. Updated databases and office files accessible from anywhere	43.8	62.5	6.3	18.8	0.0
Learning/Training Needs and Opportunities					
1. Crisis identification training (issues tracking, recognition and planning)	50.0	75.0	12.5	56.3	0.0
2. Communication training	43.8	68.8	37.5	75.0	0.0
3. Training for writing and conveying key messages	50.0	62.5	25.0	62.5	0.0
4. Stakeholder identification training	56.3	68.8	0	50.0	0.0
5. Non-crisis media exposure training	31.3	68.8	25.0	56.3	6.3
Areas of Experience					
1. Verbal and written communication	43.8	75.0	12.5	56.3	0.0
2. Leadership	37.5	81.3	6.3	56.3	0.0
3. Media relations	43.8	81.3	12.5	56.3	0.0
4. Public relations	37.5	81.3	12.5	50.0	0.0
5. Being a member of a crisis communication team	43.8	81.3	12.5	37.5	0.0
Knowledge					
1. Crisis knowledge (familiarity with issues, potential crises, responses and plans of action)	68.8	68.8	18.8	43.8	0.0
2. Comprehensive understanding of company/organization and its crisis plan and dynamics	37.5	75.0	6.3	43.8	0.0
3. How to troubleshoot and address problems before they lead to a crisis	68.8	75.0	18.8	62.5	0.0
4. Types of crises potentially affecting organization	62.5	62.5	25.0	43.8	0.0
5. Knowledge of various stakeholder groups and understanding of their perspectives	50.0	81.3	6.3	31.3	0.0
6. Risk communication principles	50.0	62.5	37.5	62.5	0.0
7. Clear definition of the difference between an issue and a crisis	43.8	68.8	37.5	56.3	0.0
8. Roles, duties and responsibilities of crisis team (both internal and external)	62.5	62.5	25.0	50.0	0.0
9. Audiences for specific scenarios and key concerns for each	50.0	62.5	18.8	37.5	0.0
10. Knowledge and understanding of organization's non-crisis objectives	43.8	68.8	25.0	50.0	0.0
Personal Traits					
1. Strategic thinker	37.5	50.0	12.5	62.5	0.0
2. Good judgment	37.5	68.8	6.3	37.5	0.0
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	0.0
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	0.0
8. Ability to collaborate	43.8	37.5	12.5	56.3	0.0
9. Common sense	25.0	56.3	6.3	31.3	12.5
10. Confidence	31.3	62.5	6.3	37.5	0.0
Contingency Plans and Preparedness					
1. Crisis communication plans (including 15-minute plan, four hour plan, day one plan and weeks one and two plans)	62.5	62.5	18.8	56.3	0.0
2. Core team identification and organization	56.3	56.3	6.3	50.0	0.0
3. Chain of command with identification of key personnel	50.0	62.5	12.5	37.5	0.0
4. Contact lists (media, staff, leadership, counsel, etc.)	43.8	68.8	6.3	37.5	0.0
5. Designated spokesperson (not same person managing crisis)	37.5	68.8	18.8	43.8	0.0
6. Early warning/notification system	50.0	56.3	12.5	56.3	0.0
7. Vulnerability assessments	68.8	62.5	25.0	43.8	0.0
8. Develop a process and protocol for gathering and disseminating information professionals	50.0	68.8	18.8	37.5	0.0
9. Prepared statements and talking points ready for media interviews	56.3	68.8	6.3	50.0	0.0
10. Identify possible crises at staff meetings	50.0	68.8	25.0	62.5	0.0

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

Crisis Communication Needs

Results are reported as percentages of respondents who believed each item should be presented to students using the respective choices (Table 9).

The majority of respondents indicated that seven of the eight content need areas should be taught to new crisis communications professionals through “application based on real-life experience” including: 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 Plans 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” - a large percentage of the respondents reported new crisis communication professionals could benefit through learning the supporting competencies, traits, skills and tools identified as most important in this manner.

The majority of respondents (50-75%) noted that 31 of the 55 supporting items (competencies, traits, skills and/or tools) within the eight content theme areas 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 or higher level to be taught via “theory only”.

Respondents noted a wide-variety of teaching techniques needed for the content area of Knowledge. With seven out of ten supporting items (competencies, traits, skills and/or tools) ranked at 50% or above as a need to be taught through “application based on simulation”. In comparison, respondents noted that all ten supporting items should be taught via “application based on real-life experience” (62.5-81.3%). In contrast, not one of the ten supporting areas for Knowledge were noted as needing to be taught via “theory only” at a 50% or higher agreement level. Additionally, teaching new crisis communications professionals through “theory” regardless of the crisis communications content area ranked low throughout each supporting competency, trait, skill and/or tool item.

Summary

Results of this Delphi study should guide the development of crisis communication curriculum/ training in the future. Findings indicate that crisis communications competencies identified are important to professionals in crisis communications. Eight overall emergent theme areas were identified by

agricultural industry professionals as important content areas for students prior to entering the workforce with careers in crisis communications. The eight crisis communication content areas were: (a) networking opportunities; (b) communication, media and technical training; (c) supplies and tools; (d) learning/training needs and opportunities; (e) areas of experience; (f) knowledge; (g) personal traits; and (h) contingency plans and preparedness.

The dedicated participation and quality responses of professionals in this study show the need for and possible impact of crisis communication professionals on the lives of many. Results indicated significant content diversity needed in crisis communication curriculum. The content areas and the supporting competencies, traits, skills and/or 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 the Model for Developing Problem-Centered Curriculum for Crisis Communications (DP-CCCC) (Figure 1). These results are deemed important to the overall structure and success of a semester-long course in crisis communication in agriculture and content areas were incorporated into a crisis communications course taught at three Southern universities.

Each crisis communications content area contained crucial need areas of training for new crisis communications professionals. While this study focused predominately on Phase 1 of the DP-CCCC Model, findings identified curriculum/training methods for each of the eight crisis communications content areas noted as important by current professionals. Findings indicated that crisis communication professional’s competency, knowledge and skill level would be strengthened if taught via problem-centered curriculum, namely via “application based on real-world experience”. Additionally, 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”.

Results of this study indicated that crisis communications professionals believed teaching the eight content theme areas via “application” of either “real-world” or “simulation” experience would be the most useful/effective 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. O’Connor (2004) stated that

learning associated with these types of theory based instructional designs is needed to teach students application-based curriculum within the problem-centered curriculum model. As a result of this study, not only were important curriculum items determined, but useful methods for presenting the information were determined by respondents. Results indicated that application-based learning via the problem-centered curriculum design is the best way to incorporate the eight content areas into curriculum.

Through problem-centered curriculum, new professionals have the opportunity to work through crises prior to entering the workforce and practice a problem-solving approach to crisis communication. Based on the results of this study, theory alone is not a valid method for training crisis communication professionals. Therefore, a passive approach to learning in preparation for crisis communication is not considered solely effective by respondents. Results indicated that teaching crisis communication competencies should occur through “application based on real-life experience” and “application based on simulation.” Therefore, the eight identified content areas should be taught using a hands-on method to allow students to participate fully using resources that allow students to simulate the experience of a crisis and react to it. Lukaszewski (1999) noted that the most challenging part of crisis communication is reacting—with the right response quickly. Identified methods of teaching must occur through constructivism, experiential, problem-based and participatory/active learning (as noted in problem-centered curriculum – Figure 1).

Whiting et al. (2004) noted the importance of adding both internal and external catalysts to crisis communications instruction. In this study, crisis communications professionals agreed that being able to manage crises impacting both internal and external situations was necessary for success, as seen in the supporting items listed within each of the eight content areas. The crisis communication education/training needs areas developed as a result of this study showed a well-rounded, comprehensive array of information. Because University degrees are now more practitioner-oriented with an emphasis in skill and career development and a focus on pragmatic goals (Simon, 2003, p. 34), it is important for individual courses to keep pace. The results of this Delphi study directly related to the practitioner-oriented degree concept. The eight identified content need areas and corresponding supporting competencies, traits, skills and/or tasks provided the evidence of and need for a

degree program that provides professional development and useful objectives for future practice.

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 and Tucker, 1990). 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.

Based on the data, it is recommended that results from this study be used to improve current curriculum for crisis communications. Additionally, it is important to note the competencies and skills are best taught using varying teaching and learning methods such as application or theory. Results from this study can be used to assist higher education/industry training outlets to improve curriculum and instructional methods for crisis communications education. Practitioner-based feedback validates competencies needed by future professionals allowing them to be better equipped to prepare for, manage, and recover from crises.

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