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Journal of Applied Communications

The Journal of Applied Communications

Editorial Board

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The *Journal of Applied Communications* is a quarterly, refereed journal published by the Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences (ACE).

The *Journal of Applied Communications* is:

• Focused specifically on issues and topics relevant to agricultural and applied communication professionals.

• Peer-reviewed to ensure accuracy and quality.

• Indexed selectively in AGRICOLA; listed in Ulrich's International Periodicals Directory and ARL's Directory of Scholarly Electronic Journals and Academic Discussion Lists.

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For literature citations, follow the style guidelines in the Publication Manual of the American Psychological Association (Sixth Edition). Within a paragraph, omit the year in subsequent references as long as the study cannot be confused with other studies cited in the article.

When statistical information is reported in an article, the author should contact the lead editor for special guidelines.

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ACE develops professional skills of its members to extend knowledge about agriculture, natural resources, and life and human sciences to people worldwide.

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Authors are to submit their manuscript as a PDF to Dr. Dwayne Cartmell via e-mail at dwayne.cartmell@okstate.edu.

It is to include two files - the cover sheet with author and contact information and the text with figures/tables.

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All submitted manuscripts are considered for publication. However, prospective contributors are encouraged to be aware of the focus of this journal and manuscript requirements.

A manuscript is accepted with the understanding that the Journal of Applied Communications has exclusive publication rights, which means that the manuscript has not been submitted concurrently, accepted for publication, or published elsewhere.

While every effort is made to maintain an interval of no more than nine months from submission to publication, authors should be aware that publication dates are contingent on the number and scope of reviewer comments as well as response times during the review process.

All submissions are peer-reviewed (blind).

Editor's Note

Mark Anderson-Wilk, Oregon State University Extension publishing leader and Oregon ACE member, died January 26, 2012, following a long illness.

In his four years at OSU, Mark advanced Extension publishing, increased access through partnership with OSU Library's ScholarsArchive, and raised the academic standard of OSU Extension publications.

Mark was active in ACE. He was Oregon's state representative, served on the Journal of Applied Communications editorial board, and won several gold and silver awards for publishing.

Not only a fine scholar, Mark was also an artist, a father of two young daughters, a husband, and a friend.

Included in this issue of JAC is a commentary submitted by Mark and co-author Ariel Ginsburg prior to his death.

Commentary

Book Review

Research

Journal of Applied Communications

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Attribution, Interpretation, and Integrity in Online Research-Based Communication

Mark Anderson-Wilk and Ariel Ginsburg

Abstract

Communicators have a role as standard setters in developing research-based land-grant public education products. This paper presents a rationale for communicators to help authors of public education materials understand the importance of attribution in their role as interpreters of research for their target audiences. It is also important for authors of public education materials to understand and follow best practices in documenting reference sources. These concepts are important not just in traditional publications but also when working in new media and online formats.

Keywords

attribution, creative integrity, research-based public education, science communication

Introduction

Communicators (publishers in all media) and content specialists who produce research-based public education materials are increasingly working in online media formats that do not commonly indicate attribution and reference information as rigorously as do typical research-based publications. As communicators, we must uphold standards of attribution and citation, no matter what medium we use. Understanding and promoting the educator's role as interpreter in the scientific process can help communicators maintain the integrity (we are what we say we are) of research-based public education delivery.

What Does "Research-based" Mean?

Land-grant university public education efforts are commonly referred to as research-based. This is sometimes misunderstood to mean that land-grant education products are "The Truth," as in a set of facts that are *so true* that they are not authored by anyone (or that the author does not need to be indicated because audiences just want factual information and do not need to be aware of "the messenger").

In fact, it is through the author's interpretation of research that information becomes useful. Land-grant faculty are uniquely positioned to communicate research findings in ways that are useful to target audiences because of their understanding of both the content area and the audiences

served. To transform data and research into useful communications products involves a process of interpretation.

Paul Grobstein (2005) reminds us that science is not so much a claim of truth as it is a series of incrementally improved interpretations. As new observations are made, existing interpretations must be reexamined and revised.

We can look to numerous examples of how human understanding undergoes continual improvement through refinement of scientific interpretations. For example, soil conservation scientists in the 1940s and '50s interpreted data available at that time to support the notion that *draining* wetlands was a sound conservation practice. Over time, scientists gathered more data and updated their interpretations to conclude that *protecting* wetlands was actually a better conservation practice (Biebighauser, 2007).

Another example relates to one of the best-known educational communication models, the food pyramid. Since the late 1800s, the United States Department of Agriculture (USDA) has issued dietary guidance. The agency regularly updates its dietary guidelines and "food groups" to reflect advancements in the science of nutrition as new data and interpretations become available. As part of this process, the USDA has revised the food pyramid numerous times and recently replaced it with the "Choose My Plate" model (USDA, 2011). The food pyramid and "My Plate" are clearly not absolute, timeless "Truths," but rather conceptual interpretations created by qualified science educators to both reflect best knowledge to date and present this knowledge in a way that target audiences can understand and use it.

The need to revise materials to better reflect advances in understanding is well known in the land-grant public education field. For example, Extension materials commonly have referred to pesticide usage and thus require regular revision to reflect changes in regulations and scientific knowledge. Extension organizations that once provided instructions on the use of DDT and other hazardous chemicals now provide guidance that reflects current regulations and an improved understanding of sustainable agricultural and gardening practices (Stone & Anderson, 2009).

Because land-grant educational materials reflect an author's understanding of the content and its significance at a particular place and time, attention must be given to clearly indicating the source of the information (references), who is making the interpretation (attribution), and when (date).

Common Challenges

References and attribution—two important elements that contribute to the integrity of research-based educational materials, as discussed above—are sometimes compromised in contemporary online educational media. Here are several examples:

- Social media. Extension and agricultural research organizations have migrated some of their communications activities to social media sites, where great numbers of potential users visit (Kinsey, 2010). While using social media can be a very effective strategy for engaging audiences, the way it is done affects whether the integrity between content and its source is maintained or compromised. In some cases, organizational accounts with names such as "Extension Service-Scott County" are used within social media applications; while this may be a very practical approach, creating a generic organizational "source" of information can contribute to losing recognition of the educator as an individual, an interpreter between the science and the audience.
- Resources maintained by communities of practice (such as wikis). "Knowledge commons" and community-maintained informational resource sites are now widely used, but many of

these sites do not offer a rigorous means of attribution, citation, or accountability. Communities of practice can be a very effective way to prioritize, produce, and vet content. The attribution and citation practices of communities, however, can vary widely. Many eXtension communities of practice, for example, do an excellent job of ensuring that the source of content is clearly labeled. Some communities of practice, however, may not be aware of the importance of listing authors and references. Communicators can help educate and point to examples of best practices.

- Organizational and program websites. Perhaps the most ubiquitous case of attribution loss occurs with Web page content on typical organizational websites. When organizations present information on the Web, the common practice or de facto standard is to omit the names of content authors; it is assumed that the information presented is general, represents the organization, is true, and does not need reference to research sources. We struggled with this question in a recent redesign of the Oregon State University Extension Service website. Some Web pages (for example, those introducing program areas) clearly present information that does not require attribution. Other pages include content from sources where attribution was important (for example, an article that was originally written for a magazine where a byline is significant). The Web developers were inclined to omit attribution as it is not a Web standard to list the author of Web pages. The editors involved argued that if we are publishing interpreted science, then we need to maintain best practices for attribution even if that is not common practice.

Conclusions and Implications

Delivering research-based education through new media can support and strengthen the land-grant university's "research-based" reputation when we follow two basic principles of creative integrity: (1) acknowledging authors' role as informed translators of research findings into information that is useful to their audiences and (2) referencing the sources that shape the authors' understanding. Land-grant communication offices can help content specialists understand the importance of these basic building blocks of effective science communication.

Encourage authors with whom you work to present themselves not as a fact delivery service but rather as informed translators of research findings into information that is useful to their audiences. Also, guide authors to follow best practices in reference documentation. Our land-grant communications should demonstrate (by referencing relevant sources) that the author's understanding is based on research. Science is a living conversation as scientists test and revise interpretations based on observations to date. Thus, referencing (dialoguing with) relevant work is an essential part of the language of communicating science (Anderson-Wilk, 2010). A clearly defined documentation of sources is necessary for science communication to live up to its reputation for delivering research-based information.

About the Authors

Mark Anderson-Wilk was publishing leader for the Extension and Experiment Station Communications department at Oregon State University from January 2009 until January 2012, when he passed away. He was an editor and director of publications for various academic presses and journals for over 10 years before coming to OSU, and an ACE award-winning publication designer and communications innovator.

Commentary

Ariel Ginsburg has been a publishing manager for the Extension and Experiment Station Communications department at Oregon State University for over 7 years, and for 10 years before that she was a freelance editor and publications designer. Over the past 5 years, she has won CASE District VIII gold and silver team awards and ACE gold and silver team awards as copyeditor for *Oregon's Agricultural Progress* magazine. She was awarded the ACE Pioneer Award (western region) in 2012.

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The New Community Rules: Marketing on the Social Web

Kelsey Hall

Book Title

The New Community Rules: Marketing on the Social Web

Author

Tamar Weinberg

Publisher

O'Reilly Media, Sebastopol, CA, 2009.

Additional Information

346 pages. $24.99, paperback, ISBN 978-596-15681-7

The Internet has evolved from being a source of information to becoming a "social web" where individuals interact with peers through blogs, Twitter, social networks, wikis, and social news websites to gather information used to make well-researched choices. Tamar Weinberg wrote *The New Community Rules: Marketing on the Social Web* to provide readers with strategies for successfully marketing ideas and products using social media.

The book is divided into 12 chapters that discuss the following topics: social media marketing, goal setting for social media marketing campaigns, participating in social communities, blogging, twittering, joining social networks, answering informational social networks, using social bookmarking sites, writing for social news websites, using new media tactics, and packaging social media marketing tactics.

In the first chapter, the book defines the different types of social media and reviews concepts of social media marketing. The author explains that social media marketing strategies are different than traditional advertising tactics because companies no longer have control of their messages. Weinberg stresses that companies can use social media marketing to improve search engine results, increase traffic, increase brand awareness, and increase sales of products and services. Yet, companies cannot blindly enter social media marketing campaigns without good planning, marketing goals, participation, and a long-time commitment. Participation is necessary for building authentic relationships between a company and customers, which would be violated if social media tools were used to only

promote products. Weinberg writes "Heuer asserts that the best marketing minds are those who participate in the communities they service and don't just aim to sell products directly to the people… Pitching products and services is an outdated tactic that will not be well received among individuals who have either grown tired of the same old marketing message strategies or who have gotten accustomed to the newer tactics of social media engagement" (p. 64).

Seven chapters provide background on social media tools, describe how the tools work, and explain how to use the tools for marketing campaigns. The sections about blogs and Twitter are written for an audience with little to no experience with using these tools. Even though blogs have existed for more than 10 years, Weinberg elaborates on the features and functionality of different blog platforms. Additionally, the author explains how the appearance and content are different for blog posts than traditional press releases that advertise services or products. She provides advice on writing corporate blog posts, especially writing headlines, using visual elements, linking to resources, using interviews, writing reviews of relevant products/services, and listening to readers. Weinberg could provide more case studies of good corporate blogs to better understand the advice for how to use blogs as a marketing tool. However, Weinberg's advice is more detailed than tips published by Shama Hyder Kabani in *The Zen of Social Media Marketing*. Kabani only rehashes basic tips for writing blog posts, which are not detailed enough for novice users and too basic for existing bloggers.

The chapter on Twitter relates to the strategies presented in the book *Twitter Power*, particularly in how companies can use Twitter for marketing purposes. *Twitter Power* and Weinberg's book both stress that successful Twitter users engage in building and facilitating relationships. More importantly, the most successful businesses use Twitter to monitor conversations and respond to tweets. For novice users, Weinberg does an excellent job in defining Twitter tools used by the Twitter community. The author explains how users can access Twitter through Seemic Desktop, TweetDeck, and TwitterFox instead of logging into Twitter directly. The book recommends three URL shorteners (cli.gs, TinyURL, bit.ly) since Twitter limits tweets to 140 characters. Marketers and academic researchers interested in Twitter can use the tools related to Twitter to learn about their account activity, number of followers, authority, reach, and influence.

The book is different from other social media and social media marketing books in that the author added information about the background and use of social bookmarking. Social bookmarking allows Internet users to store, organize, and share their bookmarks on the Internet. Even though Weinberg provides information on installing StumbleUpon, a social content discovery engine with bookmarking features, the instructions are vague for novice users. The author even claims that the bookmarking tool might be challenging if companies have social media marketing goals that focus on community involvement. However, marketers and teaching faculty could benefit from reading about Diigo, a social bookmarking network. Diigo allows registered users to access bookmarks from anywhere, search bookmark collections, write notes for a bookmarked page, highlight text in a bookmarked page, and share bookmarks with other users. Marketers could use this social media tool to share a blog or website with a group of Diigo users who have similar interests. Students could search their teacher's bookmarking site to conduct research on a topic.

Weinberg includes case studies that describe how companies like Tyson Foods, Home Depot, Southwest Airlines, and Burger King have used social media to promote their products and services. Readers would learn how social media marketing campaigns are different than other types of marketing and receive ideas for what other companies can do. Each case study focuses on how a company has used one social media tool to develop issue awareness, improve customer relations, or create

brand awareness. As a textbook for teaching undergraduate or graduate students how to use social media marketing, the case studies would provide realistic situations that are written in clear, concise paragraphs. Agricultural communications practitioners could use the case studies as ideas for how to implement a social media marketing campaign that is effective in developing followers of the information. Specifically, the author uses a case study about Tyson Foods to show how the company found no social media tool that discussed its interest in national and local hunger relief efforts. Therefore, Tyson Foods launched its Tyson Foods Hunger Relief blog to share information with a community of individuals concerned about hunger relief and to create awareness of hunger problems.

The Tyson Foods case study provides an example for how agricultural communications practitioners could generate support for ideas, services, or products without using persuasive sales messages. Additionally, the Southwest Airlines case study would show how bloggers enjoyed reading personal stories about the airline employees. Since the United States has roughly 2% of its population directly employed in the agricultural industry, agricultural communications practitioners could write blog posts about the family farmers who provide food and clothing material for Americans. A social media marketing campaign using a blog could generate awareness and appreciation for the agricultural industry.

The author's credibility and knowledge can explain why the book can thoroughly cover many social media tools for marketing purposes. Weinberg is a writer and Internet marketing consultant who specializes in blogger outreach, social media, viral marketing, reputation management, and search engine marketing. She has served as the community support & advertising manager at Mashable since 2007. Additional social media marketing information can be found on her personal blog located at techipedia.com.

Overall, the book would be valuable for practitioners who want to learn how to more effectively and efficiently use social media for campaigns. The book is also useful as a reference since it includes endnotes for each chapter, a social media etiquette handbook, and a list of recommended books and blogroll.

About the Author

Kelsey Hall is an assistant professor of agricultural communication and journalism at Utah State University.

Success Secrets of the Social Media Marketing Superstars

Corey Ann Duysen

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Mitch Meyerson

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Each day it seems new social media tools emerge and people wonder how they will learn yet another tool.

Success Secrets of the Social Media Marketing Superstars presents guidelines for professionals and individuals to manage these tools and gives suggestions for selecting the best one for your business or organization.

Author Mitch Meyerson uses his own experiences with social media and marketing throughout the book. Meyerson has written several books on online marketing; however, none have emphasized social media because it is an aspect that has emerged only in recent years.

Meyerson brings in experts in varied fields, to share how they used social media successfully. Each expert provides a chapter in the book on different social media types, strategies for using social media, and tools to help one use social media effectively.

The book is divided into two parts: 1) strategies and principles, and 2) applications and websites. The beginning section focuses heavily on building relationships online, and how an individual or company is perceived online. Meyerson writes, "In today's virtual world, you don't need a Twitter strategy or a Facebook strategy or even a Google strategy. You need a *relationship strategy* that leverages all aspects of social media" (p. 4).

With so many platforms of social media, it is often difficult to determine what to post online and where. The 70-20-10 rule for producing content is discussed in great detail. Seventy percent is

helpful content, 20 percent is original content, and 10 percent is you being you, letting your audience get to know you.

Social media has the ability to amplify situations in record time, and the book does a thorough job of providing suggestions for dealing with crisis situations. The author says that being transparent online builds relationships and strengthens accountability. "Accountability doesn't just build better relationships. It's what pushes us to try our best and give 110 percent every time" (p. 12), Meyerson writes.

The author provides several keys to communicate effectively using social media including "give a glimpse into your life" and "start juicy conversations." The author points out that some of his most viewed and commented posts were about a personal story of his family. He suggests that giving readers a glimpse into your life allows them to get to know you and become a part of your conversation.

Allowing readers of social media to get to know the author allows the author and the company to become more transparent. Meyerson suggests forgetting the jargon and just being real. Actively encouraging conversation allows the creator to comment and engage with readers, which improves company relationships. He shared that it is better to write your own story than to let someone else do the talking.

Social media now constantly deals with marketing, and the author continually stresses the importance of quality, not quantity, of your sites and content. at the beginning of the book several suggestions for improving quality are presented, such as sending social media sites to others to get their feedback before publicizing the site.

The book goes more in-depth about being strategic about your social media plan. Identify your goals and objectives upfront, before even starting your site. Following the development of goals, create a social media marketing calendar to schedule Facebook updates, blog posts, and any other social media occurrences that are essential to your success.

With a growing number of topics to discuss on social media websites, Meyerson says it is essential to create content people care about. The author considers this to be the cornerstone of social media. The author points out that engaging your target audience is the ultimate goal of social media. Audiences want something they can first understand. Good content will make people want to read, watch, listen to, interact with, and consume information. Great content will encourage your readers to pass around content, share with friends, and continue spreading the word on more social media platforms.

One chapter of the book provides an overview of how to get a massive number of followers with social media and how that can grow your business. The author discusses viewing social media websites as tools. Suggestions for tools included buying a Flip camera and post YouTube videos, creating a blog, finely targeting your ads, and continuing to search for new markets. "There are no shortcuts. The people who win have something worthwhile and unique to say and outwork others" (p. 71), Meyerson writes.

The second section of the book goes in-depth into several media platforms, how to use them, and what to focus on. Topics include blogs, Facebook, Twitter, LinkedIn, YouTube, podcasting, and other platforms.

Meyerson does a good job at not only identifying when to use which platform, but tips for optimizing the social media page or website. Additionally, Meyerson suggests ways to incorporate multiple platforms together, which increases readership and searchability.

The last chapter of the book is one of the most helpful: Social Media in One Hour a Day. It is easy for a company to have a team dedicated specifically to social media; however, that is not necessary to have a strong online presence. The book says that having strong focus anda to-do list, and knowing your social media goals will allow for effective communication. To save the most time, listen, respond, and participate. Lastly, the author highlights several power tools, including Gmail's Integrated Calendar and To-Do List, Posterous: Lifestreaming Made Simple, and Buzz Streamthan.

There is a broad range of people who would greatly benefit from reading *Success Secrets of the Social Media Marketing Superstars*. Small businesses can use the tools provided and take away a lot from conducting social media in an hour a day. The book, however, would really benefit anyone who actively participates in social media. The book covers as much about business as it does for personal success online.

Overall, the book is a great read for anyone interested in using social media to develop a brand, whether it is for personal use or for a business. The book is helpful in strategizing which social media platforms are right for you and how to manage social media efficiently and effectively.

About the Author

Corey Ann Duysen is currently working on her Ph. D. in agricultural communications and education at Texas Tech University. Corey received her bachelor's degree in agricultural communications from Oklahoma State University in 2010 and her master's in agricultural communications in 2011 from Texas Tech University.

Competencies Needed by Agricultural Communication Undergraduates: A Focus Group Study of Alumni

A. Christian Morgan

Abstract

A focus group study was conducted with agricultural communication program alumni to determine the competencies needed in current graduates of the University of Georgia program. Of the 12 alumni invited to contribute, four participated in the study, which represented a breadth from a recent graduate to a seasoned vice president in a global advertising agency. The competency receiving the greatest level of importance was the ability to write well; other competencies included having a familiarity with all types and styles of writing, in particular magazine or feature style. Possessing a broad spectrum of communication skills was also important, including public speaking, audience identification, conveying written thoughts well, using proper style, identifying a story, and strategic writing. In addition, understanding how new media is changing the industry and how to use that media effectively was expressed. Although agricultural knowledge and skills are a large part of the degree, participants stressed communication skills are the foundation. General employment skills, in the form of a good work ethic and willingness to take on basic tasks, were also emphasized. Recommendations included conducting research to determine faculty perspectives of competencies needed by program graduates, which forms of new media should be taught in programs, and what agricultural knowledge is most important for graduates to possess.

Keywords

Curriculum, focus group, undergraduate, alumni

Introduction

Agricultural communication course work in higher education took root more than 100 years ago, and since that time it has expanded well beyond basic print media (Doerfert & Miller, 2006). Today, graduates can pursue career options ranging from advertising to advocacy and public relations to photography, which equips agricultural communication graduates with skills valued by many sectors of agriculture (University of Georgia, 2007). The inherent value of this degree may be due to the nexus of disciplines found in this academic major, as students garner a foundation of knowledge and skills in courses such as basic science, agricultural science, and communications (Mencher, 2002; Tucker, Whaley, & Cano, 2003).

Over time, enrollment in agricultural communication programs has grown and the discipline has gained in popularity (Weckman, Witham, & Telg, 2000), while during the same period the communication needs and preferences of agricultural industry professionals and agricultural communication stakeholders have changed at a rapid pace (DiStaso, Stacks, & Botan, 2009; Doerfert & Miller, 2006). During the past three decades, several studies have reviewed agricultural communication curriculum by inquiring of industry, faculty, graduates, and students to help determine the coursework, competencies, and objectives to be included in an undergraduate program (Bailey-Evans, 1994; Irlbeck & Akers, 2009; Kroupa & Evans, 1973; Morgan, 2009; Sitton, Cartmell, & Sargent, 2005; Sprecker & Rudd, 1997; Terry, Lockaby, & Bailey-Evans, 1995; Terry et al., 1994). These studies are valuable to the discipline, but the dynamic nature of the agricultural communication profession and the technologies that continue to emerge in this field necessitate the frequent evaluation of curriculum (O'Sullivan & Heinonen, 2008; Pavlik, 2001). Indeed, agricultural communication programs should strive to provide students with curriculum that equips them for the work-place. To achieve this, curriculum must be examined periodically by seeking input from students, instructors, graduates, and professionals to determine the current needs of the profession (Doerfert & Miller, 2006).

Similarly, industry suggests the profession should review curriculum every 2 to 5 years to "reassess and readdress the agricultural communications curriculum" (Terry et al., 1994, p. 24). To accomplish this, a model was sought for curriculum revision. Finch and Crunkilton (1999) developed a systems program model which encourages feedback from graduates to improve the academic program (see Figure 1).
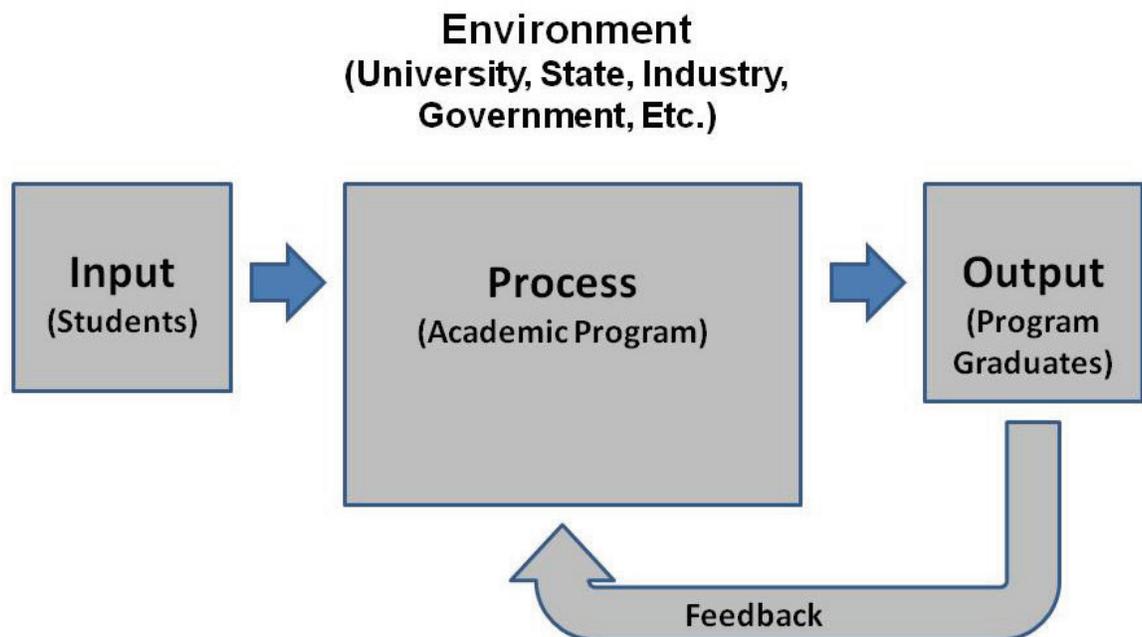
Figure 1. Program System Model. From Finch and Crunkilton, 1999, *Curriculum development in vocational education and technical education: Planning, content, and implementation* (p. 27), Boston: Allyn and Bacon.

The *National Research Agenda for Agricultural Education and Communication: 2007–2010* (Osborne, 2007) also encourages evaluating curriculum. Agricultural Communications Research Priority Area 4 provides 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, p. 11).

Earlier studies have evaluated curriculum from many perspectives. A panel of leaders from seven agricultural communication professional organizations who gathered in a 1994 study by Terry et al. determined agricultural communication coursework should consist of courses from 28 disciplines consisting of 89 specific concepts. The concepts receiving 100% agreement were grammar, government policies, history of American agriculture, communicating agriculture to the public-domestic , communicating agriculture to the public-international, agricultural policy, geography, word processing, creative strategies, campaign planning, graphic design, news writing, reporting, editing, ethics, design and layout, problem solving, speech writing, oral communication, scripting writing, and an internship that allows the student to apply learned concepts.

In 1997, Sprecker and Rudd surveyed faculty, practitioners, and alumni of agricultural communication and found these three groups felt the most valuable skill for graduates was writing. Their study revealed four key competencies needed by graduates: agricultural knowledge, communication skills, application of these skills, and networking. Participants felt a broad overview of agriculture, especially as it applies to their respective states, including policy, law, economics, and trade was important. Second, communication skills were more important than possessing agricultural knowledge, which was emphasized by statements such as "first and foremost" agricultural communication students are communicators, rather than agriculturalists (p. 9) and graduates' communication skills will allow them to land a job, not their agricultural knowledge. Next, graduates need to be able to apply a wide variety of communication skills proficiently. Finally, participants indicated the ability to network is a key ingredient in agricultural communication.

When Sprecker and Rudd (1997) analyzed statements among the groups studied, instructors and practitioners viewed internships favorably, yet many internship cooperators found students lacked appropriate writing skills. Similarly, alumni felt coursework that required students to take on a project "from inception to completion" (p. 9) was valuable and offered students the environment in which they could apply learned communication skills. Other courses recommended for inclusion were government policy, agricultural issues, economics, politics, and international trade. Supporting this theme of coursework beyond communication-focused classes, current journalism educators have proclaimed the need for journalism curriculum to be interdisciplinary and that students should develop a critical depth of knowledge in a single discipline beyond necessary journalism courses (Commission on Public Relations Education, 1999; Dates, Glasser, Stephens, & Adam, 2006; Mencher, 2002).

Sitton, Cartmell, and Sargent (2005) investigated curriculum requirements for public relations and found practitioners placed more importance on communication and public relations skills than on agricultural proficiencies. Skills most frequently used by public relations professionals were computer applications, human relationship, time management, writing, and editing. When asked about agricultural proficiencies, understanding of government and legislative policy was most valued, followed by interpreting data to make good business decisions, defining conservation, and identifying government regulatory agencies. The most valued general communication proficiencies were using appropriate style, describing the principles of journalism, apply writing and reporting skills, interviewing, and editing. Within public relations, the popular proficiencies were effective writing, identifying problems and solutions, business knowledge, designing a marketing plan, and publicizing events.

A synthesis of research (Ettredge & Bellah, 2008) illustrated the importance of a strong foundation in journalism and public relations skills, which were deemed more important than agricultural skills. Having a way to apply learned skills, either through capstone courses, extra-curricular activities, or internships, was also a theme among these studies. However, no specific competencies were presented.

Carpenter (2009) evaluated journalism position advertisements (n = 664) and discovered that new media and skills focused on developing web content were frequently listed. Specifically, employers desired applicants to possess the ability to write code (HTML/CSS), post content to Web, and edit images. General communication skills listed in these advertisements were writing and editing, and the ability to work under a deadline.

A 2009 study by Morgan surveyed 37 practitioners to determine the skills needed by new agricultural communication graduates. The skills most frequently desired of graduates were meeting deadlines, possessing high journalistic ethics, dependability, work ethic, oral communication skills, enthusiasm about agriculture, reliable, ability to multi-task, proper use of grammar, and business etiquette, of which most would be expected of any graduate from a college of agriculture. The communication skills most desired were verbal communications, understanding the "media mix," identifying barriers to communication, editing, and effective interviewing and reporting skills. In addition, grammar usage, writing, spelling, networking, and punctuation were also highly valued.

Although various researchers have conducted studies to analyze agricultural education curriculum from a variety different perspectives, many of the studies were conducted prior to the widespread use of the Internet and none were found that utilized a focus group to determine curriculum needs. This study sought to determine the competencies needed for graduates as perceived by a focus group of alumni.

Purpose

The purpose of this study was to determine the competencies needed by agricultural communication graduates as perceived by agricultural communication program alumni at the University of Georgia. The specific objectives were to determine the following:

- The competencies needed by agricultural communication program graduates.
- Suggestions for improvements of the current agricultural communication program.
- If an internship should be a required part of the curriculum.
- What experiences should be included in an internship.

This information would allow for the evaluation of existing curriculum or the development of new curriculum to meet the needs of current industry trends. Although regional in nature, this study provides a framework for determining knowledge and skills needed by current graduates which may be valuable to other institutions seeking to evaluate current curriculum.

Methods

The focus group method was used to collect this qualitative data. A focus group is a "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, nonthreatening environment" (Krueger & Casey, 2009, p. 2), usually consisting of 5 to 10 participants, but "can range from as few as four to as many as twelve" (p. 8). Focus groups and interviews

have been used successfully to gather curriculum information in previous studies (Frasier, Slatt, Kowlowitz, Kollisch, & Mintzer, 1997; Scanlon, Bruening, & Cordero, 1996; Sprecker & Rudd, 1997).

Because responses from agricultural communication program alumni were desired, purposive sampling was used (Ary, Jacobs, & Razavieh, 1996). A list of 136 program graduates from 1982-2007 was obtained and these graduates were contacted using telephone numbers and e-mail addresses. Of the 136, 47 responded to the inquiry, and 12 were actively involved in the communication field and subsequently invited to participate in the study. Due to schedule conflicts, only six graduates agreed to participate. This was beneficial because Krueger and Casey (2009) suggest when a researcher is investigating a complex topic, that recruiting fewer people with a deep experience base or recruiting people who have a high level of passion for the topic being discussed, is more beneficial than having more participants. On the scheduled day of the study four alumni were available to contribute. Because of the small number of participants, the application of the results of this study are limited in nature and should not be generalized to a larger population; nonetheless, these findings are valuable and may provide a benchmark from which to begin discussions regarding curriculum, especially as it pertains to the university from which these alumni were graduated.

Participants were located in three states, up to 1,200 miles away from the researcher. Due to this distance, the cost of bringing all the participants to one location, and the participants' busy schedules, the researcher chose to conduct the focus group using a conference call. Conducting a focus group using the telephone is recommended when participants are geographically dispersed, do not have the time to travel to a central meeting location, or when logistical costs to do so are prohibitive (Krueger & Casey, 2009). Limitations of conducting a focus group this way include the inability to observe body language and other forms of non-verbal communication, which may decrease the richness of the data (Krueger, n.d.).

Using telephone focus group guidelines provided by Krueger (n.d.), participants were notified via e-mail of the date, time, and procedures for the conference call. In addition, participants were provided with a list of questions which they were asked to consider in advance so they might be fully prepared to engage in discussion (Edwards & Briers, 2001). The questions asked were the following:

- What competencies do you think an agricultural communication graduate should have?
- Is there additional information that you think would be beneficial as we begin to design courses for the agricultural communication program?
- Should an internship be part of the agricultural communication program and, if so, what experiences should it include?

The focus group discussion was audio recorded and transcribed to ensure accuracy of the data. The transcript was analyzed by using inductive data analysis, which allows ideas and themes to emerge from the data. Participant statements were coded and categorized based on emergent themes (Lincoln & Guba, 1985). Dependability of the analysis was established by having two researchers analyze the transcript. Themes identified by each researcher were compared and consistencies between the two researchers were presented in this report (Anfara, Brown, & Mangione, 2002). To maintain confidentiality, quotes from the transcripts were coded and attributed to the participants by their focus group participant number (e.g., "FGP1").

Results

Participants represented a broad range of ages and experiences. Consisting of three females and one male from 23 to 47 years of age, these graduates held the following positions: vice president of a global public relations agency with offices in 76 countries; news editor for the regional office of a national agricultural organization; vice president and creative director for a "Top 100" national advertising agency; and congressional legislative assistant for agricultural, natural resource, energy, nutrition, and trade policy.

The conference call was approximately one hour in length and, due to the discussion, only one question was formally asked during the interview. However, because the participants were presented all of the questions in advance, most of the question topics were addressed.

In response to the first question, "What competencies do you think an agricultural communication graduate should have?" the consensus of the participants was writing. The participants were emphatic that the ability to write well was the foundation of a communication graduate, regardless of the specialized area of communication a graduate pursues. One participant stated, "These students need to be able to write regardless of whether they're going to be writing for a magazine or whether they're going to do PR or, you know, whatever they do, they need to be able to write" (FGP4). Another participant emphasized the point that the technological medium does not compensate for good writing skills:

> … [program graduates] need to know, regardless and you have all testified to the fact from FGP1, and probably in both marketing and advertising, how crucial it is that you be able to write. And FGP4, you said that too, in your job, and you know these kids though, it needs to be drilled into them that even though they're using the latest, cutting edge technology, they have to know how to write. (FGP2)

When looking at the styles of writing for which graduates should be prepared, participants felt newspaper writing was declining, and stated that magazine and public relations style writing are more important skills:

> …if you look at what's happening in the publishing industry, the communications industry, you know, newspapers are dying and their writers are all looking for jobs and they've got a bunch of inverted pyramid stuff to show and not a lot of more magazine-style, narrative types of training. (FGP1)

FGP2 further explained this need for magazine style writing:

> …I think the value of the magazine writing goes back to the piece, as I mentioned earlier, about being able to tell a story. I mean newspaper writing essentials are necessary to what we're doing…But the magazine-type writing, the feature-style writing is more about looking at the world around you and finding a story and then asking the right questions …Finding the right questions to find the story angle. That ability applies no matter what you're doing. If you're putting together a website for a client and you wanna (sic) look at all the different ways you can tell that client's story on a website, you need that skill. (FGP2)

Another perspective was revealed as well that reinforced the need for strong communication skills. The statement was made that "everyone is a consumer" (FGP1) meaning that not only are people consumers of goods, but of information too. Beyond reporting or magazine style writing, the ability to deliver business writing is important as well. "Whether it's letters, memos, [etc.] …I have to utilize a lot of my writing skills" (FGP4).

The second skill that participants thought was most important was what they termed basic communication skills. This includes understanding one's audience, identifying the desired outcome from communication, developing a plan to achieve that desired outcome, editing, broad skill base, getting words down on paper, ability to organize thoughts, proper grammar, using proper style, and strategic writing. One participant stated this is the "price of entering" (FGP1) the communication industry. This statement led FGP1 to emphasize that, although agricultural communication is an agriculture degree, it is the communication part of the degree that is most important, and will enable the graduate to land the job: "by having these competencies in communications, they can parlay that. If they leave a job working on an ag account, they can go work on something else," "her communications skill is what's gonna (sic) get her that next job," and "I think the crux of it is that it's as much a communications degree as it is an ag degree." (FGP1).

This base set of skills was defined by one participant as "getting words down on paper, being able to organize your thoughts, knowing what grammar and style are, and how to execute those" (FGP2). Regarding the term "strategic writing," one participant defined it this way:

> … [the graduate] can look at what the desired outcome is for an audience and really put together a plan for achieving that outcome, and I think that kind of skill set is not just useful in PR and advertising, I think it's true on the editorial side as well; you need to know who your audience is and figure out the best editorial mix and plan for reaching them… (FGP2)

As stated earlier, agricultural knowledge is an important part of the degree, providing contextual knowledge for the students, and allowing them to differentiate themselves from other applicants. Indeed, the agriculture component of the degree has tremendous value, as emphasized by the following participant:

> What the ag side of the degree brings is serious icing on the cake, I don't want to diminish it, but it is icing on the cake. For instance, it brings a competency in the field of agriculture and acknowledges the field of agriculture, especially for an advertising or a PR firm, [which] is a major bonus for a [new] hire. When I'm pitching an ag account, somebody with an ag knowledge – I don't have to teach a city boy from New York how to write to a farmer about tractors (laughter). But, I mean, a lot of agencies attempt that and it's difficult and quite honestly, the agency that I work for right now has got a bunch of city boys from Pittsburgh writing to farmers about tractors. They miss the mark sometimes. So, I think that the degree is icing on the cake, but you don't get the job unless you've got those communication skills in that specialty. (FGP1)

Similarly, another participant supported this proposition by saying "I'm looking to hire [some interns who have] that ag background and who can come in and start applying that immediately in the program … [The agriculture knowledge is] an advantage…" (FGP2). These comments illus-

trated the importance and value of having an agricultural context in which students can apply their communication skills to their careers.

FGP3 related an experience in which the agriculture dimension influenced a hiring decision. An applicant was hired specifically because she had an agriculture background, alluding to how her agricultural background set her apart from other candidates. Similarly, FGP4 shared how her agricultural knowledge provided her with a foundation to effectively assist with agricultural legislation being crafted by a congressional representative.

Another theme which emerged was finding the story. Participants stated it was important for graduates to be able to recognize, pursue, and hone in on a story. They should have excellent listening skills, ask the right questions, and then tell the story, as was stated by one participant, "…I want people to recognize a story and tell it well" (FGP3). Another participant stated the lack of this skill seemed to be rather prevalent among graduates, "…but the piece that I see missing the most often is that ability to hone in on a story…" (FGP2)

Public speaking surfaced as a theme too. FGP3 stated that public speaking was second only to writing, referring to the communication skills they used. Another emphasized the importance of this skill, stating "I have to be able to perform under pressure and speak about [agriculture] in front of lots of people, and I think that public speaking is another definite tool that I've had to use as an ag comm grad" (FGP4).

General employment skills were mentioned by most of the participants as important qualities, specifically a strong work ethic and understanding that many routine tasks are associated with entry-level positions. One participant declared:

> …what I always hope to have in our [new hired employees] is a willingness to engage in everything, from the most mundane task to higher level assignments, and I [want to] see them do all that with, you know, the same amount of enthusiasm and skill… oddly enough, what I find a lot when people come to us, [is that many new] folks start out kind of expecting the world when they walk in the door. (FGP2)

Having a strong familiarity with "new media," such as Web 2.0 and social media, is expected of graduates too. This familiarity goes beyond knowing how to post text and photos on Facebook and blogs, but extends to having a strong understanding of how these tools are used for marketing, public relations, and information gathering. Also stated was the phenomenon that the industry is making a "huge transition" (FGP1) from traditional media to new media. However, one participant was less concerned about graduates' ability to use new media, and more concerned that they understand how media is changing:

> I don't see a problem with [graduates] understanding Web 2.0; I think what they need to understand and keep an eye on is how the role of traditional media will evolve or how it will change in response to that. (FGP2)

In addition to competencies, participants added that internships were a critical component of an undergraduate program. They felt that an internship experience was where students would hone the skills that have been developed in their coursework, as one participant related, "you can get the job skills through an ag communication internship…and to this day I still have things that I learned

on that internship that I apply in the work that I do" (FGP3). Overall, they indicated these types of hands-on writing experiences were a valuable asset for the graduate. In lieu of an internship, a suggestion made was to find industry mentors for students, people who would be willing to coach students as they moved through the university. One participant stated:

> …if you paired students with people who are out there working in the field so they would touch base with their coach, maybe once a quarter, to see if [they had] any questions, or to talk about things they're working on…(FGP3)

Discussion

The Program System Model (Finch and Crunkilton, 1999) encourages the use of feedback from program graduates to inform the current program so improvements can be made. This study sought to capture alumni feedback necessary for an evaluation of the current program curriculum.

Participants thought the ability to write well was the most important competency for graduates to possess, whether it is journalistic writing or business writing. This opinion aligns with previous studies that found writing and editing to be the most important courses (Irlbeck & Akers, 2009; Morgan, 2009; Sprecker & Rudd, 1997; Terry et al., 1994). Moreover, Dates et al. (2006) stated that the "spine" of a journalism program should consist of "writing courses." However, the style of writing was not defined in earlier studies, whereas in the current study magazine or feature style writing was thought to be most important, along with strategic writing. Based on these findings it appears that University of Georgia students should focus more on these styles of writing, and less on traditional news writing.

Basic communication skills were stressed by participants, as they were in previous studies as well (Irlbeck & Akers, 2009; Morgan, 2009; Sprecker & Rudd, 1997; Terry et al., 1994), yet this study added additional definition to these skills: understanding one's audience, identifying the desired outcome from communication, developing a plan to achieve that desired outcome, editing, getting words down on paper, ability to organize thoughts, proper grammar, using proper writing style, and strategic writing. This proposal of strategic writing was underscored by the idea that people are consumers of information and, therefore, the presentation of information (i.e., writing) should be appealing to consumers. Specifically, in regard to strategic writing, the competencies needed in University of Georgia graduates are audience analysis, determining the desired outcome for the audience, developing a plan to achieve that outcome, and using the best rhetorical mix to meet the desired goals. In addition, as writers and communicators, graduates must know how to communicate with people outside the field of agriculture. This ability is especially important as we find ourselves in an increasingly agriculturally illiterate society within which graduates must present information (Fritz, Birkenholz, Gardner, & Machtmes, 1995).

Sprecker and Rudd (1997) stated that being a communicator was the priority of an agricultural communication degree, rather than being an agriculturalist. This sentiment was reinforced by the current study that emphatically found agricultural knowledge is a valuable part of the degree, but seen more as "icing on the cake" (FGP1) rather than a foundational skill needed for this career. However, recent authors have stressed the importance of students developing an area of knowledge so that upon being graduated they can write knowledgably about a subject and provide critical analysis (Carpenter, 2009; Dates et al., 2006).

Finding the story was a theme that emerged which has not been mentioned in previous studies; however, Terry et al. (1994) did identify the skill of "reporting," furthermore Morgan (2009) found

many reporting skills that seem closely aligned to finding the story, such as "Communication skills beyond 'listening' - being able to understand what the person is saying. Repeat back what you understand to make sure you are hearing what truly has been (at least attempted to be) communicated" (p. 8). Perhaps reporting was the skill described by participants in the current study, but the semantics used by participants made the researcher look beyond graduates possessing the skill of cursory reporting. Terms and phrases used included "recognize," "pursue," "hone in on," and "tell it well," (FGP2), with which the other participants showed agreement, and leads this researcher to believe the competency being described may be similar to that found in a seasoned reporter who has a passion to pursue a story and to tell it with such vibrancy that readers will be engaged. Developing such skills in students could be a haughty challenge for any university to attain.

Similarly, public speaking was a theme found in earlier research (Morgan, 2009; Terry et al., 1994) as it was in the current study. Indeed, Morgan's 2009 study ranked verbal communication highest among all communication skills identified by practitioners. Although the present University of Georgia degree program requires a public speaking course for students, it may be valuable to provide additional coursework in this area or perhaps additional opportunities for oral presentations in current agricultural communication courses.

General employment skills were desired by participants, a finding that was not revealed in early studies (Sprecker & Rudd, 1997; Terry et al., 1994), but is similar to findings of recent studies (Brooks et al., 2008; Irlbeck & Akers, 2009; Morgan, 2009). Notably, Morgan's (2009) inquiries of practitioners indicated that employment skills were more important than many communication skills. Perhaps this generation of students has a work ethic that is interpreted to be less than what previous generations have exhibited? This finding may prompt the University of Georgia program to emphasize the necessity of a strong work ethic to students and encourage them to engage in experiences that will help develop this attribute. Indeed, courses that require application of communication knowledge and skills, such as capstone courses and internships, may help to instill some of these desired general employment traits.

A familiarity with new media was a fresh finding, primarily because these technologies are relatively new to the industry and did not exist when many of the previous studies were conducted. However, one recent study did find that familiarity with these technologies was valuable to current graduates and that they should have an "understanding [of] the media mix and how to use them effectively and efficiently" (Morgan, 2009, p. 8). Conversely, Irlbeck and Akers (2009) stated that "emerging technologies" were less important than "basic communication skills—writing, news editing, photography, and Web design…" (p. 70). The development of new media is a reminder that communication course work must continue to evolve as technology progresses, so that graduates will be properly equipped to perform effectively in the current marketplace. Other authors have referred to these multimedia and Web-based skills as *media convergence* (Geimann, 2001; Lawson-Borders, 2010).

Finally, internships were found to be important for applying and honing skills learned in the classroom. Similar findings were revealed by Sprecker and Rudd (1997), Terry et al. (1994), and Dates et al. (2006). Perhaps internships would be an appropriate environment for students to develop some of the competencies discussed earlier, such as work ethic and a thorough understanding of new media.

Although this study is regional in breadth, it may be a useful model for other agricultural communication programs desiring to evaluate their curriculum. Consequently, this report garnered per-

spectives from participants located in a variety of communication businesses from different areas of the country; therefore, additional research is needed to determine if these findings are applicable beyond the participants' alma mater.

One consistent thread among many studies, including this one, is that writing is critical to the success of graduates, yet many employers have been underwhelmed by the writing skills of program graduates. Investigating the best practices for teaching journalistic and public relations style writing would be beneficial to the discipline; still, this may be a skill that is most effectively learned in the workplace. Likewise, identifying the best practices for teaching students reporting, including "honing in on a story," may be advantageous to agricultural communication.

Additionally, studies have confirmed that a baseline of agricultural knowledge is important for graduates to posses; therefore, it would be beneficial to determine if there is a consensus among practitioners of the specific agricultural areas students should study. Regarding course development, research is needed to determine what specific "new media" or "emerging technology" competencies are necessary for graduates. Finally, a study should be conducted to determine what competencies that faculty believe graduates should attain and if faculty perspectives influence program curriculum.

About the Author

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Research

Using Horticulturists' Input to Inform a Home Horticultural Website Redesign Process

Jason D. Ellis, B. Lynn Gordon, and Lana Johnson

Abstract

The Internet is a growing source of information for consumers. Website design and development become important factors in website usability as consumers' Internet access increases and they seek home horticulture and gardening resources. The University of Nebraska–Lincoln developed a website in the 1990s to supplement its *Backyard Farmer* television program. Consumers' expectations of websites changed as technology changed, which resulted in the site no longer meeting visitors' needs. Two focus groups evaluating the website's usefulness as an information source were conducted with home and professional horticulturalists. Participants were most interested in locating concise information about horticulture and gardening on a website that was easy to navigate; had many links to additional information; and contained timely and current information. Overall, content quality, usability and aesthetics were highly ranked as important for a "perfect" website.

Keywords

Website testing, Horticulture, Gardening, Usability, Design, Focus Groups, Television

Introduction

Rogers (1976) studied the adoption and diffusion of new products and defines such practice as "the innovation, defined as an idea, practice or object perceived as new by an individual or other relevant unit of adoption, which is communicated through certain channels over time, among the members of a social system," (p. 292). The Internet as an information source has been one of society's major new innovations in the last decade. The development of information flow through websites is constantly changing and the Internet is probably one of the most influential new technologies society has faced (Wolcott, Press, McHenry, & Goodman, 2001). The Internet is now a common tool for facilitating business transactions, aiding in communication, and providing opportunities for profit and non-profit companies and organizations to compete more effectively (Kallioranta, Vlosky & Leavengood, 2006).

Computer and Internet use continues to grow rapidly. In 1984, only 8% of households had a computer, increasing to 62% of American households (70 million) in 2003 (Day, Janus, & Davis, 2005). These households utilize the Internet in many ways; however, its major use is for disseminating news. Internet use for obtaining information about "news, weather or sports" increased from 7%

to 40% between 1997 and 2003. In 2003, nearly 54.5% of Internet users utilized the Internet for e-mail purposes and 46.5% were seeking product- or service-related information (Day, Janus, & Davis).

The Pew Research Center (2009) found similar increases in the growth of Internet use. More than 70% of American adults have used the Internet (Pew Research Center, 2009). The top five Internet uses were sending or reading e-mail; using a search engine; researching a product or service; checking the weather; and buying a product. A study of 330 Agricultural Extension Service clients on the Big Island of Hawaii yielded similar results. Their primary Internet uses were for e-mail (96%), business-related research (92%) and the purchase of goods or services (90%) (Burke and Sewake, 2008).

The ever-growing use of the Internet presents a challenge of consumers locating a website with the needed information that also maintains their interest enough to return later for additional information. Melgares (2005) wrote, "A well-built Web page is like a well-adorned entryway…open 24 hours a day and seven days a week…" (p. 9). Usability is key to an acceptable website (Yates, Akers, & Irlbeck, 2008).

Consumers determine if a site is credible based on a professional design; the source of content; comprehendible text; and a picture of the site author or owner (Sutherland, Wildemuth, Campbell, & Haines, 2005). Sutherland, et al., (2005) concluded that websites located using popular search engines were aesthetically appealing and easy to use, but often contained inaccurate information. Therefore, site developers should create sites that provide web users user-friendly gateways to accurate and reliable information and education materials.

Web usage is not limited to browsing and shopping by general consumers, but is also done by enthusiasts of various types. One such group is home horticulturists, who enjoy gardening or working with lawns and are often interested in learning about new practices and gardening tips (Meyers, Irani, & Eckhardt, 2006). This information is not always easy to locate, but the Internet can be a valuable tool for reaching stakeholders and target audiences (Ruth, Bortree, Ford, Braun, & Flowers, 2005).

The Internet provides access to a lot of horticulture and gardening information. However, consumers may have difficulty locating websites they consider reliable, that have quality information, and that are easy to navigate.

Providing horticultural information through various communications channels is not a new practice. The University of Nebraska–Lincoln developed a website to correspond with its home horticultural television show *Backyard Farmer* that has existed since 1953. The television show, which still airs from April through mid-September, consists of a panel of university specialists and gardening experts who share gardening tips and answer questions about topics from insects and pests to fruits and vegetables; and from turf to landscape design. The corresponding website was developed in the late 1990s to meet information demands as consumers gained Internet access and began seeking educational resources on horticultural topics. The site has remained fundamentally the same since its inception. This site is the focus of the present research study.

The horticultural program is a successful, long-running television show that airs weekly on Nebraska Educational Television and has a web presence on iTunesU and YouTube besides the traditional website. However, the growth of the Internet in created a need and expectation for a credible and user-friendly website to benefit television viewers and Internet users. This research project sought to gather information from current and prospective users of the horticultural website to aid in developing a more useful Internet-based resource for the target audience.

Purpose and Objectives

If home horticulturists are seeking information on gardening topics and have access to the Internet, what should a website offer them? What is the purpose of the website? What features should the site contain? These questions are addressed in this research project. The goal of this research project was to identify the components of an effective, interactive and valued home horticultural website per the input of both home and professional horticulturists.

Agricultural communicators need to understand the demands and expectations of their target audience when developing effective websites (Emery, 1999). To this end, the research objectives of this project were as follows:

1. Quantify user expectations for a home horticultural website.
2. Determine what home and professional horticulturists would include in a "perfect" website.
3. Analyze the current *Backyard Farmer* website and develop a list of key features for a revised site.

Methods/Procedure

The present study used a qualitative research design of semi-structured focus groups to collect data. Focus group research includes a small group discussion among carefully selected participants who share common characteristics. The interaction among the focus group participants is more likely than individual interviews or surveys to yield useful information for the researchers and allows for efficient gathering of information (Krueger, 1994; Melgares, 2005). The focus group discussion for this project centered on participants' information needs and what they considered essential elements of a "perfect" horticultural website. This method allowed researchers to develop a detailed understanding of the issue by talking directly to the prospective users (home and professional horticulturalists) who would access the horticultural website (Creswell, 2007).

Web usability testing should be conducted with the target audience because the site is intended to meet their specific needs and interests. Developing and designing a website specifically to meet the target audience's preferences is critical as people become more dependent on the Internet as an information source. (Yates, Akers & Irlbeck, 2008). *Backyard Farmer* program personnel provided a list of target audience members for this study. Potential research participants 1) had provided their contact information to Backyard Farmer when interacting with the television program or website, or 2) were identified by the state Master Gardener director as a potential participant. Potential participants were invited via telephone call or e-mail to participate in one of the two focus groups. Eight to 10 participants were recruited for each of the sessions with a goal of having six to eight participants at each session (Krueger, 1994). Each session was scheduled to last approximately one hour.

The focus groups were led by a primary moderator (secondary reviewer) and then confirmatory review was conducted by the secondary moderator. The focus group moderator led the sessions by asking questions of the group to guide the discussion. More than one focus group session was conducted with similar participants to determine the trends and patterns of the target group (Krueger, 1994). The sessions were audio recorded to assist in the reliability and comprehensiveness of the findings. The secondary moderator also recorded written notes during each session.

Questions for the semi-structured focus groups were oriented on how or where participants sought gardening information; how they determined information quality; how often they sought the information; what they liked or disliked about gardening websites; and how they located useful websites. Demographic information about the participants and their horticultural experience was

collected using a pre-session questionnaire. *Backyard Farmer* staff and Extension horticultural specialists reviewed the survey and focus group questions for thoroughness and clarity prior to university human subjects approval and the focus group sessions.

Results/Findings
Horticultural information sources

To determine a baseline and gain a greater understanding of where the focus group participants sought information about horticulture and gardening, they were asked, "When you have a question about gardening or landscaping, where do you go to find information?" Respondents commonly identified university or Extension publications; county Extension offices; or continuing education from the Extension service's Master Gardener program as key information sources. However, not all information sources were university or Extension related. Respondents also looked to books; newspaper articles or regular columns; gardening and horticultural magazines; and seed catalogs for gardening and landscaping information in the media or press. In addition, some respondents also received information via personal discussion with experts at their local garden center or nursery, or botanical gardens or nurseries.

Participants were asked their opinion about the quality of information from the previously identified sources. Participants value the university or Extension service information. They indicated university/Extension service information is science based rather than opinion based. In many cases, this information about gardening or landscaping has been tested in the state and therefore is highly specific and relevant to their needs and situation. "I appreciate the research-based information as I know it has been tested in our area," said one participant.

Educational sites such as the Extension service or university are more reliable than seed catalogs, retail stores or chemical company sites, based on participants' responses. Participants were not confident that commercial gardening or landscape sites were objective enough. The participants also hesitatingly placed value on information provided by blogs. "They are interesting, but take them with a grain of salt," said one focus group member.

A "Perfect" horticultural website

Focus group participants were asked a number of questions about their opinion of gardening, landscaping and other horticultural websites. Questions targeted how often they sought information on these sites; what they preferred or did not prefer about these sites; and what was missing or should be included to make these sites more useful.

Participant use of the Internet for seeking home horticultural information varied in frequency from daily to weekly. Some participants indicated an increased Internet use for horticultural information. "I am trying to get more Internet savvy, but it needs to be simple as I am not knowledgeable and comfortable with computers," said a respondent.

Overall many of the participants emphasized the importance of a website that is current, easy to navigate and contains concise information. "An updated, timely website will cause the reader to go back and see what new, current or timely information may now be added to that site," said one gardening enthusiast.

The focus group participants were complimentary about websites with easily accessible information; that could be easily scanned to see new information and were updated continually. More specifically, the participants stressed the importance of sites including a calendar feature. This calendar

could contain information about horticultural or gardening activities to conduct that week or season (spring, summer, fall); updates for certain weeks or times of the year; problems or situations to be aware of during different times of the year; and specific plans of action for preventing and treating such issues.

Focus group participants highly regarded access to research-based information. Many believed links or access to complete, detailed information such as step-by-step action items would be most helpful. Participants also stressed that a "perfect" website should contain both local and regional information. Some participants valued having access to information specific to a region, such as the eastern part of the state, versus generalized statewide information. Information localized by zone, such as soil temperatures and weather forecasts, was considered very beneficial to participants. Research-based information for gardening or horticultural topics is not always available for specific locations; therefore, these potential website viewers stressed the importance of at least providing regionalized information as the next best option to local information.

An ideal or "perfect" website should make locating answers easy. For example, participants indicated that a site should include a question/answer section and/or a relevant search engine to help users locate information. Some participants suggested an index of items to more quickly find the desired resources or information. "I don't have a lot of time to read a lot of content, so a search engine would be most helpful," said one participant. In addition, several other participants emphasized the need for photos on horticultural websites. "Gardeners tend to be visual people, so don't forget the photos," said a second participant, and many others agreed. Seeing photos of the plants, trees, insects, and other items helps reinforce the information presented on the site.

The panelists emphasized that timely updates should be linked to Extension materials; other, more detailed information; or research. This allows gardeners or horticulturalists seeking detailed or technical information to access it while not overloading the site with in-depth information. "I particularly like the 'What to do this week' sections as I am a maintenance gardener and thus I am always looking to see what I should be doing that week for my garden in order to stay on track," said one participant.

The existing horticultural website

Focus group members were asked about their level of familiarity with the existing horticultural website; if they had ever visited the site; their reaction to the site; what they liked and disliked; and their expectations of the website. A screen capture of the existing site's Home page was provided to all participants as a reminder or in case they were not familiar with the site.

In addition, the live site was available via projector if participants had questions about aspects of the site.

The focus group members disappointed with the existing website. They said the site was not concise and was too cluttered and busy, making navigation and finding needed information very challenging. They indicated the site was frustrating to visit because it was wordy and did not contain photos that were helpful in the learning and education process. Some respondents spoke positively about the site's video segments and said the segments were beneficial. However, others indicated the videos did not contain added written information (verbatim scripts) that one could skim for content or print for future reference.

Participants said the existing website lacked an easy way to interact with the television program's panelists and experts. Participants wanted to easily send e-mail to the television show's experts. Re-

spondents agreed the panelists were easily accessible on the television program, which should also be possible through the site.

Conclusions

Internet use is growing rapidly as more adults gain access to and develop interest in obtaining information electronically. However, the continued growth of websites does not mean they all are effectively designed to meet the target audience members' needs or preferences. Time is important, which is one reason why home horticulturalists seek resources via the Internet. However, a poorly designed website that is hard to navigate, wordy, confusing and not appealing will result in diminishing traffic user traffic.

This research characterized users' expectations for horticultural websites. The identified qualities of a "perfect" website included timely and current information that is updated and refreshed often; information that is localized as much as possible; color photos demonstrating the topics; access to contact persons; links or search engines for additional information; and easy navigation. Users' demands seem simple, yet are complex when considering how to meet them via the Internet without overwhelming content providers and site developers. Study participants indicated they wanted research-based information, but they did not want to read a lot of technical jargon or verbose text. They wanted access to experts from the television show because the participants are searching for the needed information immediately. They preferred visuals to help illustrate or explain techniques or procedures but preferred not to watch an entire video segment to discover that it did not address their specific situation. Participants also valued print media, but timeliness also was critical as often they were searching for information to address an immediate problem.

Managing the continuity of content between a television show, where viewers prefer a longer format explanation of topics not necessarily of immediate concern, and a website, where uses want concise information for their specific needs, provides content managers a sometimes paradoxical situation that must be addressed to meet the needs of both audience segments. The present study indicates that a *Backyard Farmer* website overhaul is necessary to meet user needs. Few, if any, aspects of the existing site were included on the participants' list of preferred items of a "perfect" site. The differences between television and Internet media provide opportunities to serve horticulturalists' information needs in a variety of ways. The Internet has allowed university experts to reach a new and different audience, but efforts must be made to maximize the benefit to the clientele reached.

Implications/Recommendations

Focus group results indicate the need to redesign the existing horticultural website to address issues with content, navigation, aesthetics, search capabilities and Internet-based horticultural resource access. One recommendation is to redesign the site not only from an aesthetic standpoint, but also for function and content. The redesigned website would more effectively meet audience needs. The new website should be formatted better for easier navigation; more appropriately designed to include visuals in the design and the content; intentionally populated with relevant content; and applicable to the information needs of today's home horticulturalists.

Agricultural communicators and Extension educators can benefit from this study as it demonstrates the importance of connecting with the target audience when providing educational information and resources in a format and style that is appealing to the target audience. Unfortunately, this is not a new issue for agricultural communicators (Emery, 1999). When the website was first launched

it was advanced in its method for delivering video to audiences via the Internet. However, the website failed to evolve with advancements in Internet technology and capabilities and user preferences. Sites are no longer considered successful if they simply disseminate information in the same format but through a different medium. A site will be successful if the target users can locate answers to their questions and find value in the site; enough so to warrant return visits and engagement with the site. Website developers and managers should refer to this study specifically regarding horticulturalist preferences, but also should consult the Checklist for Internet Operations (Emery) as its ten items are still tenets of effective strategic communications.

As the Internet continues to increase in use as an information source, competition for visitors among horticultural websites also will increase. A website needs to maintain a visitor base to meet its purpose as an information source. To do this, site developers must anticipate information needs of visitors rather than react to them. Horticultural website managers should continue measuring their site's acceptability and usability as an information source. The rapidly advancing capabilities in technology and changes in user needs and preferences demand frequent monitoring of the site's relevance to its clients.

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Kansas Beef Feedlot Managers' Trusted Sources of Information Concerning an Agroterrorism Event

Kendra Riley, Dwayne Cartmell, and Traci Naile

Abstract

Managers of Kansas beef feedlots were surveyed to determine managers' preferred sources of information about agroterrorism as a foundation for law enforcement programs to disseminate information about protecting American animal agriculture. Developing producers' awareness of and support for proposed law enforcement initiatives is vital to successfully implementing those strategies. Effective communication with producers depends on identification of producers' preferred and trusted sources of information related to agrosecurity and agroterrorism. In this study, Kansas beef feedlot managers' preferences for obtaining agrosecurity and agroterrorism information were described through a descriptive telephone survey. Feedlot managers' preferences for veterinarians as sources of information were consistent with the results of previous studies (Ashlock, 2006; Extension Disaster Education Network, 2002) and indicated the importance of veterinarians as channels for dissemination of information from law enforcement agencies. Managers' preferences for veterinarians as a source of information also reflected behaviors associated with the persuasion stage of the innovation-decision process. Inclusion of veterinarians and other preferred sources of information in county Extension meetings and county Extension publications could add value to these channels for dissemination of agroterrorism information to Kansas beef feedlot managers. Feedlot managers' adoption of agroterrorism preparedness programs may be enhanced by educational programs about preventive protocols.

Keywords
agroterrorism, feedlot, biosecurity, beef cattle, innovation, law enforcement, information sources

Introduction

"The deliberate introduction of an animal or plant disease with the goal of generating fear over the safety of food, causing economic losses, and/or undermining social stability" is how agroterrorism has been defined for members of the United States Congress (Monke, 2007, p. CRS-1). Since 1912, 12 acts against agriculture involving biological agents have been reported and confirmed, including two acts that fit within the definition of agroterrorism (Carus, 2002). One of those acts, the poisoning of steers by a Kenyan independence movement group in the 1950s, resulted in the death of eight of 33 affected animals and was an attack on the British government in colonial Kenya (Carus;

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Kohnen, 2000). The second attack was an attempt by the Rajneeshee Cult to influence county commission election results in 1984 by poisoning customers of public restaurants in Dalles, OR, resulting in 751 voters becoming ill after the county election (Carus). Other acts of bio- and agroterrorism have been reported, including acts by interest groups that have been estimated to cost industries more than $200 million (Animal Agriculture Alliance, 2006).

Characteristics of U.S. agriculture that contribute to its susceptibility to agroterrorism incidents include geographical disbursement in unsecured environments, concentration of livestock in confined locations, the number of biological agents that may pose a threat to animals and plants, transportation and blending of agricultural inputs and products, the influence of disease-free status on international trade, and veterinarians' lack of direct experience with foreign diseases (Monke, 2007). Despite these vulnerabilities, agriculture largely was ignored by various government entities in plans to ensure homeland security, until recently. As agriculture has been increasingly included in homeland security initiatives, research, and response plans, biological weapons have received much attention as they are considered to be more significant threats to agriculture than chemical weapons (Monke). In animal agriculture, foot-and-mouth disease has been identified as the most serious biological threat to animals, followed by bovine spongiform encephalopathy (Kohnen, 2000).

An intentionally introduced disease resulting in a nationwide outbreak could cost from $750,000 to $1 million per minute of each operating business hour (Kosal & Anderson, 2004). The livestock industry may be particularly susceptible to costly interruptions in operations as farms, feedlots, and fields often are exposed. Beef cattle feedlots have been identified as probable agroterrorism targets (Knowles et al., 2005) along with feed mills that serve as point sources for distribution of products to large numbers of livestock (Kosal & Anderson). As the second-ranked state in U.S. cattle production (USDA, 2007a), Kansas could be impacted heavily by an act of agroterrorism. Cattle and calves are the leading livestock commodity in Kansas (USDA, 2007b), with 2.4 million cattle on feed—or about 17% of cattle on feed in the U.S. (USDA, 2011).

Knowles et al. (2005) defined five categories of agroterrorism threats: international terrorists, such as al-Qaeda; domestic terrorists; militant animal rights groups; economic opportunists who would benefit from changes in market prices; and disgruntled employees. Of these five types of threats, international terrorists pose the most likely threat for introduction of a foreign animal disease to the United States (Knowles et al.). Three levels of socioeconomic costs could result from an agroterrorism event of any type. These costs include direct revenue losses from the elimination of diseased animals, indirect revenue losses sustained by other industries following quarantines, and losses in exported agricultural products from protective embargoes imposed by other countries (Chalk, 2004).

In response to the potential for agroterrorism events and subsequent impacts, four preventive levels for countering agroterrorism have been identified: organism, such as resistance of animals or plants to diseases; farm, including facility management techniques and security measures to prevent introduction or transmission of disease; sector, including disease detection and response procedures of government agencies such as the United States Department of Agriculture or the National Institute of Justice; and national, such as policies to minimize the social and economic costs of potentially catastrophic disease outbreaks (Kohnen, 2000). In this study, attention was focused on improving the role of law enforcement in prevention of and response to agroterrorism events at the farm level.

The typical response of law enforcement agencies to criminal activities is reactive, occurring after the crime and encompassing follow-up investigations, arrests, and prosecutions of the person or people who conducted the crime (Knowles et al., 2005). During the response to an introduction

of a foreign animal disease, law enforcement agencies also would play a major role in the quarantine of the infected area and as on-site security for an average of 60 days (Knowles et al.). However, law enforcement's role may be increased and criminal activities such as agroterrorism events may be prevented in part through the distribution of information about community policing programs and local partnerships with law enforcement (Knowles et al.).

To help meet this need, the National Institute of Justice has developed preventive strategies and initiatives for law enforcement officials to strengthen defenses against agroterrorism threats, although implementation of these strategies has been impeded by a lack of financial resources and manpower available to law enforcement agencies (Knowles et al., 2005). The strategies proposed by the National Institute of Justice include Agro-Guard, which is a partnership between law enforcement and livestock producers to identify suspicious activities and threats to agriculture; establish specialized regional response teams; provide training to local law enforcement officers in the identification and seizure of illegally imported food products; establish interaction between state and federal intelligence databases to assist in managing potential threats; and develop baseline data to increase law enforcement's readiness capabilities in Kansas (Knowles et al.).

Developing producers' awareness of and support for the proposed strategies for amplifying law enforcement's role in agroterrorism prevention and response is a key step in the successful implementation of those strategies, and reaching producers effectively is dependent on identification of producers' preferred and trusted sources of information related to agrosecurity and agroterrorism. Previous studies (Ashlock, 2006; Extension Disaster Education Network, 2002) have shown that producers prefer to receive information about agrosecurity, agroterrorism and disasters that impact animals through veterinarians. In addition, producers previously have identified county Extension educators as preferred and reliable sources of information (Extension Disaster Education Network; Miller, Israelsen, & Jensen, 2008). Knowledge of producers' preferred and trusted sources of information also reflects the stage of the innovation-decision process in which producers may be, and the innovation-decision process then may be used to determine which communication channels will best serve in distributing information to producers to advance law enforcement programs.

According to Rogers (2003), an innovation is an idea, practice, or object perceived as new by an individual (p. 12). For example, the innovation of interest in this study is preventive protocols to be used by feedlot managers and law enforcement officials. Such innovations are communicated through social systems by diffusion through specified channels, and four elements play a role in diffusion: the innovation, communication channels, time, and the social system (Rogers, p. 11). The innovation-decision process is a series of stages through which an individual determines whether an innovation should be adopted (Rogers, p. 167). The five modern stages of the process are: knowledge, which includes an individual's first exposure to an innovation and understanding of how it functions; persuasion, which occurs when an individual forms a favorable or unfavorable attitude toward the innovation; decision, which occurs when a choice is made to adopt or reject the innovation; implementation, which occurs when the innovation begins to be used; and confirmation, during which the decision is reinforced and may be reversed (Rogers, p. 169).

Adoption decisions are influenced by numerous factors, including perceived advantages of the innovation; perception of the consistency of the innovation with existing values or needs; and complexity of the innovation, which varies inversely with adoption rate (Oskam, 1992; Rogers, 2003, pp. 168-179). In the case of agriculture and potential tragedies, people involved in agriculture may believe tragedy will not happen to them and disregard the necessity of preventive protocols (Oskam,

1992), resulting in rejection of programs and strategies such as those proposed by the National Institute of Justice. In addition, the channels through which information about the innovation is received and personal preferences for information channels influence decisions about whether to adopt agricultural innovations (Rogers, 2004).

This study sought to determine Kansas feedlot managers' preferred sources of information about agroterrorism events, which will be used as a foundation for law enforcement programs to disseminate timely information about protecting American animal agriculture from agroterrorism events. The study was guided by three research questions:

1. What sources of information do feedlot managers use to seek information regarding security issues?
2. How do the managers' preferred sources of information differ based on location and capacity of the feedlot?
3. What are the demographic characteristics of Kansas beef feedlots and feedlot managers?

Methods

All managers or owners of beef feedlots registered with the Kansas Department of Health and Environment were selected for this study. The population included 259 registered beef feedlots, 228 of which had working telephone numbers. Feedlot managers without telephone information or with disconnected numbers were excluded from the study.

Descriptive survey methodology was used to determine feedlot managers' preferred sources of information about agroterrorism. Survey responses were gathered via telephone survey. The questionnaire included 24 multiple-choice, scaled, and ranked items. All scales were five-point Likert scales. Questions about sources of information about agroterrorism and demographic characteristics of feedlot managers were adapted from Ashlock (2006) and a literature review of agroterrorism preparedness and information sources. The survey was reviewed by a panel of experts to establish face and content validity. A post-hoc reliability analysis performed on the scaled items in the instrument produced a Cronbach's alpha of 0.895.

The telephone surveys were conducted during a one-week period by one interviewer. Responses were obtained from 175 feedlot managers, resulting in a response rate of 76.8%.

Quantitative data were analyzed using the Statistical Package for Social Sciences. Descriptive data, including frequencies, ages, means, and standard deviations, were used to interpret the data and to describe feedlot managers' responses.

Findings
Preferred sources of information about feedlot security

Feedlot managers indicated from which sources they would seek information when reacting to a feedlot animal health issues (Table 1) and in what format they would prefer to receive information about preventive measures for agroterrorism events (Table 2). A majority (69%) of managers reported they would prefer to receive information from a consulting veterinarian or nutritionist. Additional preferred information sources included state authorities (10.7%), livestock association (9.5%), university researchers (7.1%), and word of mouth (1.2%). About 2% of managers did not indicate a preferred information source. Managers were asked to indicate their first, second, and third choices of information formats. Overall, e-mail was preferred by 61.9% of managers, followed by 52.4% who

preferred association meetings, 44% who preferred newsletters, 39.4% who preferred county Extension meetings, and 25% who preferred standard mail.

Table 1
Feedlot Managers' Preferred Sources of Information about Animal Health Issues

Information source	%	n
Consulting veterinarian/nutritionist	69.0	58
State authorities	10.7	9
Livestock association	9.5	8
University researchers	7.1	6
Word-of-mouth	1.2	1
No answer	2.4	2

Feedlot managers were asked to indicate their perceptions of reliability of (Table 3) and levels of trust in (Table 4) specified information sources using 5-point Likert scales. Managers viewed local/consulting veterinarians as most reliable, followed by university specialists, livestock associations, magazines, the USDA, periodicals, the Internet, radio, agricultural Extension agents, and local daily newspapers. Managers reported having the highest level of trust in local/consulting veterinarians, followed by the USDA, university specialists, livestock associations, area law enforcement, magazines, agricultural Extension agents, periodicals, the Internet, radio, and local daily newspapers.

Managers were asked to indicate their first, second, and third choices for information source they trusted the most (Table 5). Overall, local/consulting veterinarians were trusted the most, followed by university specialists, livestock associations, the USDA, area law enforcement, agricultural Extension agents, the Internet, magazines, periodicals, local daily newspapers, and radio.

Table 2
Feedlot Managers' Preferred Formats of Information about Preventive Measures for Agroterrorism Events

Format	First (%)	n	Second (%)	n	Third (%)	n	Total %	Total n
E-mail	47.6	40	3.6	3	10.7	9	61.9	52
Association meetings	11.9	10	23.8	20	16.7	14	52.4	44
Newsletter	6.0	5	17.9	15	20.2	17	44.0	37
County Extension meetings	14.3	12	15.5	13	9.5	8	39.4	33
Mail	4.8	4	9.5	8	10.7	9	25.0	21
Other	1.2	1	2.4	2	21.5	18	15.0	21
Internet	4.8	4	14.3	12	4.8	4	23.8	20
Magazine articles	4.8	4	4.8	4	2.4	2	11.9	10
County Extension publications	3.6	3	4.8	4	2.4	2	10.7	9
Daily newspaper	0.0	0	3.6	3	1.2	1	4.8	4

Table 3
Feedlot Managers' Perceptions of Reliability of Information Sources

Source	Not reliable (%)	Slightly reliable (%)	Neutral (%)	Reliable (%)	Very reliable (%)	M
Local or consulting veterinarian	0.0	6.0	3.6	19.0	71.4	4.56
University specialists	1.2	0.0	25.0	45.2	27.4	3.99
Livestock association	1.2	3.6	21.4	44.0	29.8	3.98
Magazine	2.4	4.8	38.1	40.5	14.3	3.60
USDA	3.6	13.1	34.5	31.0	17.9	3.46
Periodicals	3.6	9.5	42.9	35.7	8.3	3.36
Internet	2.4	17.9	42.9	21.4	14.3	3.28
Radio	8.3	22.6	39.3	23.8	6.0	2.96
Agricultural Extension agent	13.1	20.2	33.3	23.8	8.3	2.94
Local daily newspaper	25.0	35.7	23.8	11.9	3.6	2.33

Note. Perceptions were reported on a 5-point scale (1 = not reliable, 2 = slightly reliable, 3 = neutral, 4 = reliable, 5 = very reliable).

Table 4
Feedlot Managers' Perceptions of Trustworthiness of Information Sources

Source	Not trustworthy (%)	Slightly trustworthy (%)	Neutral (%)	Trustworthy (%)	Very trustworthy (%)	M
Local or consulting veterinarian	0.0	1.2	4.8	25.0	69.0	4.62
USDA	0.0	8.3	28.6	42.9	20.2	4.46
University specialists	1.2	1.2	13.1	53.6	28.6	4.21
Livestock association	0.0	3.6	13.1	52.4	31.0	4.11
Area law enforcement	1.2	8.3	34.5	40.5	15.5	3.61
Magazine	1.2	11.9	54.8	23.8	8.3	3.26
Agricultural Extension agent	10.7	14.3	28.6	32.1	13.1	3.23
Periodicals	3.6	15.5	45.2	33.3	2.4	3.15
Internet	3.6	21.4	41.7	22.6	9.5	3.13
Radio	4.8	28.6	51.2	11.9	3.6	2.81
Local daily newspaper	14.3	39.3	34.5	9.5	2.4	2.46

Note. Perceptions were reported on a 5-point scale (1 = not trustworthy, 2 = slightly trustworthy, 3 = neutral, 4 = trustworthy, 5 = very trustworthy).

Table 5
Feedlot Managers' Rankings of Preferred Information Sources

Format	First choice (%)	n	Second choice (%)	n	Third choice (%)	n	Total %	Total n
Local or consulting veterinarian	66.7	56	13.1	11	4.8	4	84.5	71
University specialists	4.8	4	36.9	31	17.9	15	59.5	50
Livestock association	14.3	12	26.2	22	16.7	14	57.1	48
USDA	3.6	3	3.6	3	16.7	14	23.8	20
Area law enforcement	4.8	4	7.1	6	8.3	7	20.2	17
Agricultural Extension agent	0.0	0	4.8	4	10.7	9	14.3	12
Internet	0.0	0	1.2	1	6	5	7.1	6
Magazine	0.0	0	1.2	1	6	5	7.1	6
Periodicals	3.6	3	1.2	1	1.2	1	6	5
Local daily newspaper	0.0	0	1.2	1	1.2	1	2.4	2
Radio	0.0	0	0	0	1.2	1	1.2	1

Relationship between preferred sources of information and capacity and location of feedlots

Feedlot managers' preferred sources of information about preventive measures for agroterrorism events were compared to the capacities and locations of the feedlots they managed. For all capacities and locations of feedlots, managers indicated preferring local/consulting veterinarians as a source of information, followed by state authorities, livestock associations, and university specialists. All managers also reported the local/consulting veterinarian to be the most trusted source of informa-tion. Managers of small (1 to 2,000 cattle) and medium (2,000 to 40,000 cattle) feedlots indicated university specialists were their second-most trusted source of information, while managers of large (40,000 to 150,000 cattle) feedlots ranked livestock associations second. For the third-most trusted

source of information, managers of small and medium feedlots selected livestock associations, while managers of large feedlots selected university specialists.

Demographics of feedlot managers

Demographic characteristics of the feedlots and managers were collected, including the number of cattle represented, ownership of feedlot, location of feedlot, gender, ages, levels of education, affiliations with beef industry organizations, computer access, and Internet access.

The total number of cattle represented by the respondents was 1,554,450, with an average feedlot capacity of 18,700 and a range of 300 to 120,000. The types of ownership of the feedlots included family owned (51.2%), incorporated (40.5%), corporately owned (26.2%), and privately owned (22.6%). The most feedlots and cattle were located in southwest Kansas, followed by south-central, northwest, north-central, northeast, and southeast.

The managers were 91.7% male, with an average age of 51 years. All managers had completed high school, while 19% had completed two years of college, 46.4% held bachelor's degrees, 13.1% held master's degrees, and 3.6% were veterinarians. About 89% of the managers reported affiliations with at least one beef industry organization.

Of the managers reporting organizational affiliations, 98.6% were members of the Kansas Livestock Association or Kansas Cattlemen's Association. The one respondent who did not report involvement with one of those two organizations was a member of the American Association of Beef Practitioners. Other organizational affiliations reported included the National Cattlemen's Beef Association, Ranchers-Cattlemen's Action Legal Fund, Red Angus Association of America, Oklahoma Cattlemen's Association, Oklahoma Club Calf Association, Texas Cattle Feeders' Association, United States Cattlemen's Association, and Cattlemen's Beef Council.

All managers except one reported owning a computer. Of those managers who reported having access to the Internet at home (89.3%), 97.3% had a high-speed Internet connection and the remaining managers did not know what type of Internet connection they had. In addition, 87.8% of managers had office computers with Internet access, with the majority (83.8%) having high-speed Internet connections.

Discussion

The preference of feedlot managers for local/consulting veterinarians as sources of information is consistent with surveys of producers conducted by the Extension Disaster Education Network [EDEN] (2002) and Ashlock (2006), indicating veterinarians are vital channels for disseminating law enforcement agency information about preventive measures for agroterrorism events. The preference for veterinarians as a source of information also is consistent with behaviors associated with the persuasion stage of the innovation-decision process. In the persuasion stage, individuals form a favorable or unfavorable attitude about an innovation (Rogers, 2003, p. 169), such as preventive protocols to be used by feedlot managers and law enforcement officials. During this stage, producers actively will seek information about the protocols, determine if the information received is credible, and interpret the information, all of which require more detailed information that may be better provided by interpersonal sources than channels of mass communication (Rogers, p. 175).

Respondents in this study did not rank county Extension educators highly among their most preferred, reliable, or trusted sources, which disagrees with producers surveyed by EDEN (2002) and Utah producers (Miller et al., 2008). However, county Extension meetings were listed among the

top five information formats preferred by Kansas beef feedlot managers, which is consistent with the recommendation of Miller et al. (2008) to use educational events to address characteristics of highly transmissible diseases. Including veterinarians and other preferred sources of information in county Extension meetings and county Extension publications to provide information about preventive measures for agroterrorism events could add value to these formats for Kansas beef feedlot managers.

Additionally, the preventive protocols at the center of this study fit within Rogers' (2003) definition of preventive innovations: "a new idea that an individual adopts in order to avoid the possible occurrence of some unwanted event in the future" (p. 176). As the desired consequences of preventive innovations are uncertain, a slower rate of adoption may be expected than for nonpreventive innovations (Rogers, p. 176). Oskam (1992) pointed out that the implications of potential tragedies in agriculture may be disregarded by producers, creating a need that may be filled by cues-to-action from an agency (Rogers, p. 176), such as educational programs about preventive protocols. Such programs may be particularly needed in southwest Kansas, where the highest concentration of beef feedlots is located.

Recommendations

To better provide agroterrorism information to feedlot managers, law enforcement agencies and other agencies providing educational information should focus on meeting feedlot managers' preferences for information sources and formats. Specifically, law enforcement officials should use managers' preferred interpersonal sources, such as local/consulting veterinarians, to disseminate agroterrorism information to feedlot managers. In addition, law enforcement officials should use peer sources, such as the Kansas Livestock Association and the Kansas Cattlemen's Association to disseminate information about policies and procedures. Information dissemination also could be improved through the use of managers' preferred sources of information in conjunction with their preferred formats of information.

To expand this study, an assessment should be conducted to determine veterinarians' sources of agroterrorism information and preferred formats for receiving agroterrorism information. In addition, a replication of this study with a larger base of producers to determine preferred source of agroterrorism information should be completed, with consideration for the effects of seasonal demands on managers' availabilities to respond.

Implications

Educating managers of feedlots about protection from agroterrorism could result in evolution of those managers to change agents in the community regarding adoption of preventive measures for agroterrorism. However, veterinarians, as the primary sources of information for feedlot managers and other producers, must be informed about agroterrorism issues. In addition, industry organizations should be cognizant of their roles in disseminating information and educating producers about agroterrorism, particularly best practices and policies for preventing agroterrorism events.

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Research

Communication Preferences of Florida Farm Bureau Young Farmers & Ranchers

Ricky Telg and Carly Barnes

Abstract

The purposes of this study were to determine the Internet-based communication technologies and social media platforms Florida Farm Bureau Young Farmers & Ranchers use, as well as to evaluate their attitudes toward incorporating those communication methods within and from the Florida Farm Bureau Federation. Two focus groups were conducted with Florida Farm Bureau Young Farmers & Ranchers members. The organization consists of Farm Bureau members, ages 18 to 35 years. Results indicate that the focus group participants felt that social media and Internet-based communication should be utilized by the Florida Farm Bureau Federation and that by not doing so the organization could miss the opportunity to reach large audiences both within its own membership and in the general public. Respondents also expressed a desire for the organization to prepare its members to be proactive and share their story by providing online resources. Although the respondents expressed a need for the Florida Farm Bureau Federation to become more involved with utilizing social media and Internet-based communication, the respondents varied in levels of competency and comfort with those communication methods. The findings suggest that social media used by the organization should supplement existing communication channels, and satisfy younger members' need for the organization to employ a stronger Web presence and make information readily accessible online both for internal and external audiences.

Keywords

Farm Bureau, social media, communication technology, young farmers

Introduction

For almost 70 years, the Florida Farm Bureau Federation has served as a voice for Florida's agriculture industry (Florida Farm Bureau, 2010). A state where agriculture is second only to tourism in terms of economic importance, Florida hosts 47,500 commercial farms producing more than 250 commodities, from citrus and nurseries in central and southern Florida to timber and row crops in the Panhandle (Florida Department of Agriculture and Consumer Services, 2010). The Florida Farm Bureau's membership is comprised of 140,000 member-families that represent the state's diverse agriculture industry. The organization is headquartered in Gainesville, Florida, but there are

local offices in 60 of the 67 counties in the state. Florida Farm Bureau's mission is "to increase the net income of farmers and ranchers, and to improve the quality of rural life" (Florida Farm Bureau, 2010). The net income of farmers and ranchers is closely tied to public policy and their accompanying regulations that make public opinion so important (Kaufman, Israel, & Irani, 2008). Because the Florida Farm Bureau Federation's policies come directly from its membership – those directly involved in agriculture – having the ability to effectively communicate to its membership is vital to the success of the organization and its achievement of its stated mission.

The Florida Farm Bureau Federation carries out its mission through a variety of program areas targeted at specific groups within the organization's membership. The Young Farmers & Ranchers program involves active Farm Bureau members ages 18 to 35 (Florida Farm Bureau, 2010). This is a unique age group within the agriculture community because of its relation to the average age of producers. The average American farmer or rancher age was 57.1 in 2007, and the number of farm operators 75 years or older increased by 20 percent from 2002, while the number of farm operators less than 25 years of age decreased by 30 percent (United States Department of Agriculture, 2007).

Internet access on farms within the United States has increased from 50 percent in 2002 to 57 percent in 2007, with 58 percent of farms with Internet access in 2007 having access to high-speed Internet (United States Department of Agriculture, 2007). Previous research indicates that Young Farmers & Ranchers nationally have increasingly adopted Internet-based communication tools. In 2004, 92.4 percent of the American Farm Bureau's Young Farmers & Ranchers had access to computers at home or on their agricultural operations, with 88.3 percent reporting Internet access, up from 52.2 percent in 1999. Cell phones were used by 89.7 percent of Young Farmers & Ranchers. In 2004, Young Farmers & Ranchers accessed the Internet for a variety of reasons – 69.9 percent for accessing general and agricultural news, 60.8 percent for entertainment, 49.1 percent for family education, 41.5 percent for record keeping, 39.5 percent for purchasing equipment and supplies, and 32.5 percent for political activity. The use of the Internet for e-mail increased 5 percent from the previous year to 87.4 percent in 2004. Personal handheld computer devices were used by 23.4 percent of Young Farmers & Ranchers in 2004 (American Farm Bureau, 2004).

As a grassroots agricultural advocacy organization, the Florida Farm Bureau Federation implements programs to engage policy makers with agricultural issues in Florida. The Florida Farm Bureau Federation's Farm Bureau's Agricultural Contact Team program (FBACT) serves to establish a communication channel between the organization and its membership, and also the membership and policy makers concerning agricultural issues. FBACT members subscribe to e-mail alerts containing legislative updates and a link to a Web page that would allow members to contact their legislators (Florida Farm Bureau, 2007). Previous research that indicates congressional aides seek agriculture-related information from interpersonal contacts within the agriculture and natural resources communities only after consulting government and internal sources, not agricultural media or land-grant institutions (Boone et al., 2002).

A 2005 study examined the technological capability and motivation of Florida Farm Bureau leaders to take part in an online lobbying program, part of which was to identify participants' communication preferences and attitude toward using the Internet as a communications tool (Telg, Basford, & Irani, 2005). Research results were similar to the 2004 results of the national Young Farmers & Ranchers group. Most of the Florida Farm Bureau leadership (85.8 percent) had a computer, with the most popular reasons for use being Internet access at 86.5 percent and e-mail at 83 percent. Out of the total participant group, 81.9 percent had access to the Internet and 65.9 percent had been

using the Internet for more than three years. Participants accessed the Internet for e-mail, research, market information, and weather reports, and primarily accessed the Internet at their home or home office. Only 45.9 percent of Florida Farm Bureau leadership had visited the Florida Farm Bureau website in the past six months of when the 2005 study was conducted. The results indicated that Florida Farm Bureau leaders were split between their preferences for e-mail as their "most" and "least preferred" method of communication. Although respondents frequently utilized communication technologies and were comfortable with their level of competence in using the technologies, many expressed a preference for personal communication when contacting legislators (Telg, Basford, & Irani, 2005). No further research has been conducted on Florida Farm Bureau members' communication technology use until the study presented here.

Internet-based communication has drastically changed since 2005. Facebook's 5.5 million active users in 2005 increased to 500 million by 2010 (Facebook, 2011). Twitter hosted 95 million tweets per day in 2010 (Twitter, 2011). These statistics show that social media platforms are being utilized as a popular communication method. Social media, or social networking sites, are "web-based services that allow individuals to (1) construct a public or semi-public profile, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd & Ellision, 2007). Social media capitalizes on connections, therefore building a network of individuals who share something in common. The use of Web 2.0 technologies, including not only social media sites but also podcasts, blogs, and wikis, has impacted businesses and organizations because they are easy to use, often free, and offer networking and marketing potential (Allen et al., 2010).

The unique feature of social media and Web 2.0 technologies is that it allows users to generate their own content. The 500 million Facebook users each create on average 90 pieces of content each month, and half of the users log in at least every day. In addition, more than 150 million users access Facebook on mobile devices, and those who access Facebook from their phone are twice as more active on Facebook than non-mobile users (Facebook, 2011). Twitter claims about 75 million users (Gaudin, 2010), and "twitter" was ranked as the most used word in 2009 according to the Global Language Monitor (The Global Language Monitor, 2010). When considered along with the impact of other websites with a similar user-generated framework, such as YouTube, blog sites, Flickr, and Slideshare, Web 2.0 and social networking sites have potential to offer benefit to activist groups in terms of reaching the masses.

Agricultural activist groups are using social media and Internet-based communication to share their messages. The AgChat Foundation uses social media to communicate about agriculture. This foundation was created from the success of the #AgChat community on Twitter, where searching the hashtag "#AgChat" allows the user to follow a conversation about agriculture issues (AgChat Foundation, 2010). According to the AgChat Foundation website, "Social media allows farmers to create meaningful connections, share information and have constructive dialogue" (2010). Through the use of social media and #AgChat on Twitter, farmers successfully influenced Yellow Tail and Pilot to stop supporting the Humane Society of the United States in February 2010, answered consumer questions with 3.1 million unique impressions in three hours, and implemented the "Thankafarmer" social media campaign with 6.7 million unique impressions on the day before Thanksgiving in 2009 (AgChat Foundation, 2010). These numbers indicate that consumers are interested in agriculture and in hearing from those directly involved in the industry.

In addition to farmers using social media, state Farm Bureaus are utilizing social media. The Ohio Farm Bureau Federation developed a guide to social media for Farm Bureau members, which

includes a description of RSS (Really Simple Syndication) feeds, the newly redesigned OFBF website, Facebook, Twitter, and YouTube (Ohio Farm Bureau Federation, 2010). This guide walks the reader through the process of developing an account on these three social network sites.

Purpose of the Study

With dramatic growth in social media and Internet-based communication platforms over the past six years, more research was needed regarding Florida Farm Bureau Federation members' communication preferences. The purposes of this study were to determine the Internet-based communication technologies and social media platforms Florida Farm Bureau Young Farmers & Ranchers were using, as well as evaluate their attitudes toward incorporating those communication methods within and from the Florida Farm Bureau Federation.

Theoretical Framework

The Technology Acceptance Model indicates that people accept or reject technology based on the technology's perceived usefulness and ease of use (Davis, 1989). If a technology, such as social media or Internet-based communication methods, is perceived to be useful and easy to use, it is likely to be adopted, according to this model. For this study, questions were designed to address attitudes and perceptions of social media and Internet-based communication methods.

The Diffusion of Innovations Model outlines the process new ideas or products must go through to reach adoption and implementation. Diffusion is a special type of communication because it deals with new ideas, and is defined as "the process in which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 2003, p. 5). According to this model, the four main elements of diffusion are innovation, communication channels, time, and the social system (11). With the Internet and social media communication technologies as an innovation to be adopted or rejected by Florida Farm Bureau Federation members as a social organization, questions used in this study were designed to address potential variables determining the rate of adoption of the innovation. Potential variables according to this model are perceived attributes of innovations, type of innovation-decision, communication channels, and the nature of the social system (221). This model is valuable to this study because of the emphasis placed on the communication that must occur in a series of steps through the social system or organization, as well as the emphasis placed on perceived attributes of the innovation.

Both the Technology Acceptance Model and the Diffusion of Innovations Model were used in this study because of the organizational structure of the Florida Farm Bureau Federation as a grassroots, member-based organization. Adoption of the Internet and social media as communication technologies should be considered on the individual and organizational level due to this structure.

Methodology

A review of previous research indicates that Florida Farm Bureau leaders have a variety of communication preferences, some of which are conflicting within the group (Telg, Basford, & Irani, 2005). The purposes of this study were to determine the social media and Internet-based communication methods used by Florida Farm Bureau Young Farmers & Ranchers in terms of personal, professional, and organizational use, and to evaluate YF&R members' attitudes toward incorporating these communication technologies in the Florida Farm Bureau Federation. This study was qualitative in nature, using a set of two focus groups to examine the communication preferences of Florida

Farm Bureau Young Farmers & Ranchers. A qualitative research design was chosen to explore the complex issues facing communication within and from a large and diverse membership like the Florida Farm Bureau Federation from the perspective of Young Farmers & Ranchers. Focus groups allow for flexibility and in-depth investigation (Morgan, 1997). A moderator's guide was developed and reviewed by a panel of experts from the University of Florida's Department of Agricultural Education and Communication.

The moderator's guide was designed to address topics concerning communication technologies preferred or not preferred by the focus group participants. First, the participants were asked about their preferences for specific communication technologies, specifically the Internet and social media, as well as reasons for personal and professional use of those technologies. The guide also included questions to evaluate the participants' perception of communication technologies used by the Florida Farm Bureau Federation, other agricultural organizations, and advocacy groups. The final topic the guide addressed was whether or not the Florida Farm Bureau Federation should be communicating through those technologies, and if the participants expressed that the organization should be communicating via the Internet and social media, how to effectively do so to meet the preferences of the organization's members. The questions listed in the moderator's guide are:

- How often, if ever, do you use the Internet for gathering information about agriculture?
- How often, if ever, do you use the Internet for communicating? What sites do you use?
- How, if ever, do you use social media for personal use, and on which sites?
- How, if ever, do you use social media for professional use, and on which sites?
- Where, if ever, do you access social media from? (computer, phone, etc.)
- How comfortable are you using social media?
- How do you incorporate social media into your lifestyle, or do you consider social media part of your lifestyle?
- As a Young Farmers & Ranchers member, to what extent, if any, would you like to see Florida Farm Bureau use social media as a means to communicate information to its members? Which sites do you think would be most effective and why?
- What are the advantages of Florida Farm Bureau using the Internet and social media to communicate? What are the disadvantages?
- How do you feel Florida Farm Bureau can impact public perceptions about agriculture using the Internet and social media?
- Do you feel that Florida Farm Bureau is building relationships with the public and other stakeholders in agriculture?
- Have you seen any examples of other agricultural groups using the Internet and social media in an effective way? What are some of their characteristics?
- Have you seen any anti-agriculture groups effectively use the Internet and social media? How often to you monitor them? How do you combat them?
- Based on your generation, is Florida Farm Bureau reaching out to its members and responding to their needs and wants?
- How can Florida Farm Bureau better provide resources?
- How can members become involved?
- As a YF&R member, what do you think Florida Farm Bureau needs to be doing in terms of Internet communication and social media?

- If you use the Farm Bureau's Agricultural Contact Team (FBACT) program, how effective is it? Are there any suggestions to improve it?

Focus groups were scheduled in conjunction with the Florida Farm Bureau Young Farmers & Ranchers State Leadership Conference. Two hour-long focus groups met on Saturday, July 10, 2010, in Jacksonville, Florida. Participants were recruited by announcement to all the conference participants during each session prior to the focus groups. Participants voluntarily agreed to participate in the focus groups during a conference break. There were a total of 11 participants (six in one session and five in the other) in the focus group sessions. Participants were all from the Young Farmers & Ranchers (YF&R) age group of 18 to 35 years of age. There were five males and six females. All participants were Florida Farm Bureau Young Farmers & Ranchers members and directly involved in production agriculture. There was a significant difference in age between the two groups. The first focus group was comprised of participants on the older end of the 18- to 35-age range, specifically 25 to 35. Four of the five participants in the second focus group were under the age of 25. Pseudonyms have been given to identify the participants while maintaining their anonymity.

Pseudonyms: Focus Group 1
- FGP1: Male from south-central Florida, member of state YF&R leadership team
- FGP2: wife of FGP1, also from south-central Florida and a member of the state YF&R leadership team
- FGP3: Male from a neighboring county of FGP1 and FGP2 and a member of the state YF&R leadership team
- FGP4: wife of FGP3 and member of the state YF&R leadership team
- FGP5: Female from central Florida, not a member of the state YF&R leadership team
- FGP6: Female from north Florida, youngest of the group, member of the state YF&R leadership team

Pseudonyms: Focus Group 2
- FGP7: Female from a metropolitan area in northeast Florida, member of the state YF&R leadership team
- FGP8: Female from north Florida, works with social media at her job, not a member of the state YF&R leadership team
- FGP9: Male from extreme south Florida, recently graduated from high school, not a member of the state YF&R leadership team
- FGP10: Male from northwest Florida, recently graduated from high school. His father is involved with Farm Bureau at the local and state level, but the participant is not a member of the state YF&R leadership team
- FGP11: Male from extreme northwest Florida, recently graduated from high school, not a member of the state YF&R leadership team

Focus Group Process
Each session began with an explanation of the purpose of the study, focus group format, and brief instructions. The participants were then encouraged to give a short introduction to become more comfortable with interacting with the group. The moderator led both groups through a series

of questions posed to the group as a whole. Participants were encouraged to answer each question and converse with one another. The moderator encouraged more reserved members of the group to speak to keep the conversation from being dominated by a small part of the group.

After all of the questions were asked, the moderator summarized the main points of the discussion and asked if the summary was an accurate representation of the discussion, paying close attention to both verbal and nonverbal responses. Focus group feedback was elicited to confirm the accuracy of the main points and summary of the discussion.

The focus group sessions were recorded with audio, video, and field notes. During the discussion, the moderator took brief notes. After the discussions, the moderator reviewed the video and audio for more complete field notes of the sessions. Video and audio notes helped to clarify a few unclear quotes and offered a closer look at body language during the sessions. After the sessions were completed, the field notes and transcriptions were analyzed for common themes and differences between the two groups.

Findings

This section presents the findings of the two focus groups sessions, divided into major discussion themes.

Internet and Social Media Use and Communication Technology Platforms

Participants in both groups reported frequently using the Internet, but for a variety of reasons, ranging from basic Internet searches to visiting agriculture-related, commodity group, and weather-related websites. Participants in the first session used the Internet for e-mail communication, but several also mentioned preferring cell phones to communicate. Participants in the second session reported using the Internet to communicate frequently via e-mail and Facebook. As FGP8 mentioned, "I use Facebook, Twitter, blog readers, e-mail . . . it's my primary means of communication."

Participants in the first group did not prefer to use Facebook as much and showed dissatisfaction toward the network. Many in the first group had Facebook pages, but infrequently checked then. As FGP5 said, "I have a Facebook and all, but I never check it. I get tired of people putting stupid stuff on there about brushing their teeth." However, Google and Facebook were the most commonly accessed websites in both groups.

Three out of the eleven participants reported using social media as a means to promote agriculture, whether with their own agricultural operation or through their job. "Professionally, I maintain three Facebook fan pages, a gardening blog, a YouTube feed, a Twitter feed, and there's at least one more" (FGP8). Participants in the first session were less active on social networking sites, but second session participants more readily utilized social networking sites for professional and personal uses. As FGP8 noted, "Personally, I use Facebook mostly to communicate with my friends and sisters. I have a personal blog and that's more for my parents and family friends who don't have Facebook or can't remember how to get on there." There was a trend for the male participants directly involved in production agriculture as a main source of income and time commitment to not use social networking sites or Internet-based communication methods for professional use. As one male respondent (FGP10) said, "Yeah, we haven't really expanded out that far yet. We don't have a website or really use e-mail. (Communication is) all done face to face."

All participants had access to a computer, and five participants reported accessing the Internet regularly with a smart phone. None of the participants reported accessing the Internet in the field

on their agricultural operation. Participants in the first focus group recognized a need for social media use within the Florida Farm Bureau Federation, but did not express a level of comfort with using social media themselves. Social media was not incorporated into their lifestyle or daily routine. Representative comments related to first group members' use of social media include the following:

- "I think it's a good idea. I mean, they have the e-mails and the magazine . . . but this way it's like they're seeking you out to give you information. I think it's a positive thing they do and I'm sure they're going to pursue" (FGP2).
- "You got e-mail, text Blackberry Messenger, Twitter. When do you stop looking at your phone and actually do something?" (FGP3).
- "You become too available. It's just to keep up with people" (FGP4).

Participants in the second session were much more comfortable with social media, especially Facebook. Social media was incorporated into their daily ritual or routine. "I definitely consider it part of my daily ritual. You know, I get done with work, go home sit on the couch, wind down, open the laptop, and get on Facebook" (FGP10). "I use it for personal use in the morning when I get up or in the evening after work" (FGP8).

Participants in the first session considered FBACT a useful program, especially for older members who have adopted Internet and e-mail practices and for younger members.

I think it's good. I think it's probably working better for the younger generation. I know my dad is in Farm Bureau, and he's really good about calling congressmen, but he doesn't always get the FBACT stuff because he only checks his e-mail once a week, maybe once every two weeks (FGP2).

However, members in the second session found FBACT less effective and were less aware of the program, as evidenced by these comments:

- "I don't even know about it" (FGP11).
- "I don't think it's effective" (FGP8).
- "I think my dad gets those e-mails" (FGP10).
- "When it first started, I looked at it, and I even clipped and pasted and put a picture of us and the whole deal. I can't tell you why because they're doing everything right, so I don't know how to make it better, but I kind of lost interest and didn't do it" (FGP7).

Social Media Opportunities for Florida Farm Bureau

Participants in the first session viewed social media and Internet-based communication as positive and beneficial to the organization because posting material to the Web and using social media would help spread messages benefiting Farm Bureau views more quickly, give the general public access to information, and reach a larger audience than traditional mailings. FGP2 noted, "I think it gets the word out there faster. For example, if Farm Bureau needs everyone to call their congressmen and senators tonight because they need to pass a bill tomorrow, it can get done that way without having to send something through the mail and it taking a week to get there." Others also saw the advantages of Internet-based communication and social media for the organization: "I think the advantage would be that you're reaching out to the younger generation and you're able to spread the

word really easily and making it really accessible" (FGP10). "It can connect new people, too, because your friends can suggest you join. It's a great way to connect new people to the organization" (FGP7). "I think they can educate a larger public. I think in the past they may have done mail-outs to their members, but not by using social media or their website, much more of the general public can come and access that now" (FGP6).

However, participants also voiced concerns that Internet accessibility is still an issue for some Florida Farm Bureau members, older members may not be receptive, and social media is not incorporated into the lifestyle of every member:

- "You may miss an older generation. Some of the older generation haven't actually adapted to the Internet or e-mail, and some of them only recently adapted to the cell phone" (FGP6).
- "I guess people are just going to start to expect that things should be done instantaneous nowadays. I just don't think everyone is up to that full pace" (FGP1).
- "I'd say the same for those of us who spend every day in the pasture. We're not going to go on Facebook every day or check their e-mail every day. They're just going to get the information when they get it" (FGP4).

Participants stressed the opportunity social media provides to tell the farmer's story, as FGP1 described:

I think they can tell the story of the farmer. The farmer does great things already. He knows what he's doing is right, but the general public does not, and I think it (Internet-based communication and social media) would be a great tool to help educate the public on all the good things the farmer does. Right now you've got all this information coming out that people get drawn to and it's all negative things, but we need someone telling the positive side to the general public which I think is good (FGP1).

Participants in the second, younger, more social media-friendly group thought that Florida Farm Bureau should be using social media much more extensively to share information with members and the general public. "Most people are connected through Facebook, but social media would have to be an extra means of communication. I'd like to see it used to connect people with cool young farmer stories and news," FGP7 said. They agreed that Facebook newsfeed updates were preferred over messages, and any Florida Farm Bureau social networking account should not update to the point of overwhelming their membership. "It's good that they're on there (the Internet), but honestly, if I get a ton of notifications, I'm not going to read them" (FGP9).

Participants in the second group considered Facebook and e-mail to be the most effective means of communication with members; however, they also suggested that postal mail indicated importance or significance:

- "If it comes in the mail, I'm going to read it" (FGP7).
- "I like mail. It's something you can take with you and read on a lunch break" (FGP11).

They thought that social media would allow Florida Farm Bureau to reach a younger, newer audience, but could come across as impersonal or excessive. Participants in the second group also pointed out the opportunity social media provides to be proactive about sharing the story of agricul-

ture, especially in regards to activist groups or members of the general public that are disconnected from the agriculture industry.

- "Most people are on social media. They may not be active users, but if we're not on there with Farm Bureau, then we're not reaching them, so we should at least have an active presence. It's a great way to bring people to your farm without physically bringing them to your farm" (FGP8).
- "I think a lot of people want to know their farmer. Even if Farm Bureau was able to do some cool, edgy videos highlighting young farmers, it would help the public know their farmer and what's happening on their farm" (FGP7).

FGP10 proposed the idea of a virtual field day for the general public, as a way to connect the public back to agriculture:

You'd be amazed at the people that have no idea what's going on. The local community college in [my hometown] had an ag field day. We had our big tractor and planter up there. People see it all the time. They're seen us drive it down the road, but they loved the opportunity to see it up close. If you could somehow make that work with Facebook through pictures or videos, it would help (FGP10).

Both groups of participants identified pro- and anti-agriculture groups that utilize social media networking sites to spread their messages. Participants in the first session identified commodity and watch dog groups as pro-agriculture groups using social media; however, they pointed out that some groups post too much in-depth information for the average reader.

They noted The Humane Society of the United States and People for the Ethical Treatment of Animals as anti-agriculture groups using social media networking sites, specifically Facebook and YouTube, and said that these anti-agriculture groups have to be combatted via the same communication channels, through the Internet and social media in order to react quickly and proactively.

HSUS is huge. I mean, they're all over YouTube and Facebook and groups and fan page and commercials. It's just so overwhelming you can't even list it all. There's also a group on Facebook that tells you what HSUS is planning and what's coming up and what you can do to help. They had an article . . . that was really helpful. It was about how when you donate to the Humane Society. It's not going to your local animal shelter. It's going to fight the agriculture that feeds you (FGP2).

Participants agreed that Farm Bureau and the agriculture industry should be combatting misinformation about agriculture with Internet-based communication tools and social media. They emphasized the importance of being proactive instead of reactive, as FGP1 noted:

And it's tough because most of the things we end up doing are reactive. It's because somebody like HSUS has put something out and we have to react to it and you just have to get a step ahead of them and be more proactive about just telling the truth. That's basically all it is, you know, but somebody's got to tell it and put it out there for people to see (FGP1).

Members of the second and younger group noted anti-dairy groups using ambiguous, emotional commercials and misleading information about "steroid use" on the Internet. They also mentioned anti-fertilizer groups and HSUS using social media. "HSUS does a really good job putting out things against dairies. I see it a lot with water and fertilizer" (FGP8). Members of the second group want to combat this misinformation via social media, but expressed a desire to have more credible information readily available from Florida Farm Bureau in the form of issue briefs, talking points, and electronic links:

- "Maybe equipping our YF&R group ahead of time with issue briefs would help us learn how to respond to those issues. Half of the time I can't come up with something intelligent to put out there in response to what people are saying against agriculture" (FGP8).
- "Sometimes even being able to respond with a link back to other information would be helpful just to show what the other side is doing" (FGP7).
- "Being out and about and constantly pushing information on news and social media will help with getting the truth out" (FGP10).
- "If they show their side, we can show ours. We need to make our presence known" (FGP11).

Participants in the first group expressed an interest for Florida Farm Bureau to become more involved in combating misinformation on the Web by providing credible information to its membership. "You can always Google it, but it's not always something you want to read, so it would be good to have a search engine from Farm Bureau where you can go to it and know their stuff's going to be good" (FGP 2). They suggested Florida Farm Bureau is missing a large audience, and should focus on building relationships with people and organizations, engage local Farm Bureaus in social media, and provide information over a variety of communication channels to meet the needs and preferences of its members, as FGP2 mentioned:

I think Farm Bureau is still missing a huge audience of people. I guess it's more grassroots; we have to reach out to them, too. You still have to have that relationship. It can't all be through the Internet. You can't live through that little device; we're still human beings. It goes back to having that relationship (FGP2).

Participants in the second session noted the differences in outreach between counties, and suggested that Florida Farm Bureau provide a means for members to share resources and communicate more efficiently and frequently. FGP11 said the local Farm Bureau office communicates well: "My local Farm Bureau is really good about getting information out about upcoming events; they're active in the community." In contrast, FGP8 said, "I would say that at the local level they are not meeting my needs; I don't get communication. On the state level they do OK." Participants also suggested Florida Farm Bureau utilize social media to reach out to the general public and incorporate other social networking sites than just Facebook: "They should continue with the Facebook and having information, like issue briefs or an easy issue resource for us to share and give our side" (FGP7). Participants, as illustrated by FGP8, suggested resources should be made available to both internal and external audiences:

I think they need to do more external, not people in agriculture, social preaching media work. The Farm Bureau social media work I see is for an internal audience and preaching to

the choir. What are we doing to get our message out to the people who are interested and who are buying local food from the farmers' markets, but don't know anything about food? What are we doing to get to those people? So what happens? They're going to go home and Google it, and Farm Bureau needs to be the first ones that pop up (FGP8).

Young Farmers & Ranchers members in the first session frequently mentioned an organizational social media policy or information coming from the organization itself, while members from the second session focused on grassroots communication, related to policy issues, and facilitating conversation between members and the general public. First group member FGP1 said, "I think it would be good to have some oversight on it, too. Some people may get a little excited and slip up and say some things they didn't mean to. I think it'd be good to have some oversight or a mediator of some sort, like a policy." FGP8, a member of the second group, was representative of the discussion related to the importance of reaching out to the general public: "You've got to be able to answer, 'How does this apply to me [the general public]?'"

Discussion and Conclusion

Overall, participants suggested that the Florida Farm Bureau should expand its social media and Internet-based communication methods, even though those communication methods may only appeal to a small segment of Florida Farm Bureau's total membership. Concerns were expressed about Florida Farm Bureau missing the opportunity to reach a large audience of people within the membership and in the general public by not having more of a presence on social networking sites. Concerns were also expressed in regards to anti-agriculture groups using social media and the Internet to spread unfavorable messages about agriculture. However, no participant suggested that Florida Farm Bureau focus on social media as the sole communication channel. They simply noted the benefits it could provide in addition to other communication efforts. There was a recurring theme in the discussion of the need for producers to find ways to be proactive and share their story, and that Florida Farm Bureau could aid them in doing that through providing issue briefs, communication materials, or other member resources.

Even within this group of Florida Farm Bureau Young Farmers & Ranchers, there was a difference in the level of competency and comfort participants expressed with social media, which could affect their predisposition toward utilizing that communication method. The Technology Acceptance Model indicates that people accept or reject technology based on the technology's perceived usefulness and ease of use (Davis, 1989). According to a study conducted by Venkatesh and Morris (2000) using the Technology Acceptance Model, men's technology usage decisions were more greatly influenced by perceptions of usefulness, whereas women were influenced by perceptions of ease of use and subjective norm. Results from a study by Venkatesh, Morris, and Ackerman (2000), using the theory of planned behavior, also indicated men's decisions were strongly influenced by their attitude toward using a new technology versus the women in the study, who were strongly influenced by subjective norm. Although gender differences in technology adoption were not included in the research objectives of our study, the findings certainly showcased the differences between the opinions of men and women in the two focus groups. The perceived usefulness of Internet-based communication and social media was a recurring theme throughout the focus groups, with most of the men seeming hesitant to use social media because they did not perceive it as being very useful, whereas some of the women in the focus groups expressed using social media to communicate with family and friends, perhaps as a form of subjective norm. Further research should be conducted to

evaluate whether certain types of Internet-based communication and social media are more suitable for the Florida Farm Bureau Federation and similar organizations based on gender preferences. Several of the focus group participants mentioned generational differences when discussing communication preferences. Although this study focused on Florida Farm Bureau Federation members ages 18-35, further research could be conducted to assess the potential effectiveness and adoption of communication technologies based on generational or age preferences.

A review of the findings indicates variances in responses based on gender and age. The women and significantly younger men in the focus groups contributed the most to the conversation, especially with positive comments about Internet-based communications and social media. It is interesting to note this difference in responses due to the leadership structure of the Florida Farm Bureau Young Farmers & Ranchers leadership team. Most members of the team participate as married couples, where husband and wife serve on the team together. The younger men in the second focus group were not members of the leadership team. Perhaps the older men's reluctance to adopt social media as individuals, as well as for the organization as a whole, is related to gender, age, as well as leadership involvement.

Although the focus group participants as whole recognized a need and value for social media, some were hesitant to utilize the communication channel because it was not easy to access to use on the individual level. Further research should be conducted to consider the barriers to farmers and ranchers adopting social networking sites and other Internet-based communication methods in terms of technical competence and lifestyle. Also, further research should be conducted to evaluate the ability and willingness of the Florida Farm Bureau Federation to utilize social networking sites in an effective and sustainable fashion. Rogers' Diffusion of Innovations Model indicates that a series of interactions must occur for an innovation to become implemented in an organization (2003). Perhaps social media and Internet-based communication has not become widely implemented in the Florida Farm Bureau Federation because that particular innovation has not gone through the correct organizational change process. Instead of using a trial-and-error process, the Florida Farm Bureau Federation should create a social media strategy to suit the needs of the organization and its members, to ensure that the organization is using the social media channels that appeal most to its members and are the most effective in accomplishing the organization's communication goals. Once the strategy is better defined, the organization can continue to move the innovation through the organizational change process.

Rogers' Diffusion of Innovations Model also indicates the importance of variables determining the rate of adoption of innovations (2003). The focus group participants did recognize the need for social media within the Florida Farm Bureau Federation, but many did not want to adopt the innovation as individuals. The five perceived attributes of innovations included in Rogers' model include relative advantage, compatibility, complexity, trialability, and observability (222). The findings suggest that the focus group participants do not form a consensus on these five attributes and their application to the adoption Internet-based communication and social media within the Florida Farm Bureau Federation. Further research is needed to develop a more thorough understanding of this population's perceptions of Internet-based communications and social media by repeating similar studies with the Florida Farm Bureau Federation, as well as other state Farm Bureau federations and similar organizations.

The findings from the two focus group sessions indicate that Young Farmers & Ranchers group members within the Florida Farm Bureau Federation recognize the need for the organization to

utilize social media internally and externally, and that information shared through those channels should be more comprehensive and valuable to the general public and the agriculture community. However, the Florida Farm Bureau Federation should keep its membership in mind when utilizing social media. Social media is much more interactive and fast-paced than other forms of communication, and requires a level of technical competence from the users to be effective. This form of communication also raises the need for accountability because it puts the communication power in the hands of the members as they interact with the social media content posted by the organization.

According to the discussion, social media will most likely appeal to the younger members of the Florida Farm Bureau Federation. The implementation of social media should not alienate or leave a gap in communication with older members. Social media used by the organization should supplement existing communication channels, and satisfy younger members' need for the organization to employ a stronger Web presence and make information readily accessible online both for internal and external audiences. The use of social media by other agricultural and anti-agriculture groups indicates that social media is not a fad, but a communication channel that needs to be evaluated and more comprehensively utilized by the organization. Although a portion of the membership may not use social media, the Florida Farm Bureau Federation should not miss the opportunity to communication with a larger, younger audience and involve more people in communicating its messages. The organization can provide training to increase technical competence of social media use within its membership. The Florida Farm Bureau Federation should also benchmark social media use by other agricultural organizations, as well as anti-agriculture groups, to evaluate communicate methods to consider using within the organization.

The focus group discussion indicates a need for the organization to combat misinformation about agriculture using the same communication channels, which are largely social media networks, that opposing groups are using. The organization can do this by producing videos about agricultural production and its members, providing online resources for members to access to advocate their side of agricultural issues, and facilitating discussion between members on social networking sites. The Florida Farm Bureau Federation could also improve the FBACT program by making the information available on social networking sites, instead of only through e-mail. This would make the information more readily available to members who are social media users, and allow them the opportunity to share information about important issues on social networking sites. The focus of social media should move from a strictly internal audience to taking advantage of the opportunity to expand communication methods to include external social media efforts in an attempt to connect the general public with the people that produce their food and the truth behind how their food is actually produced. Florida Farm Bureau should utilize social media not only for advocacy from the organization, but also to empower its members to share the story of agriculture.

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