LUNCH & LEARN

Effectively using video in communication

Presented by the
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CENTER FOR PUBLIC ISSUES EDUCATION

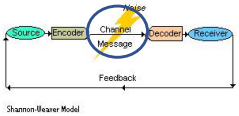
IN AGRICULTURE AND NATURAL RESOURCES

TAKE 1: Using Video as an Effective Communication Channel

Angie B. Lindsey, Ph.D.

What is a Communication Channel?

- The **RIGHT** message, at the **RIGHT** time, to the **RIGHT** audience, using the **RIGHT** channel.



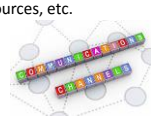
Shannon-Weaver Model

- **Communication Channel:** The medium through which a message is transmitted to its intended audience

What are some Examples?

Communication Channels

- Vehicle for delivering the message
- Strategic decision based on message, audience, resources, etc.
- Effective communication
- More options than ever
- More creative use of communication channels



- *The choice of communication channel can often send its own message and impact an organization's reputation (Yang et.al., 2008)*

Video as a Communication Channel

- Video has become part of our daily lives
- We may not even be aware of all that we learn from video
- Used **WITHIN** other communication channels
  - TV shows (Whole shows dedicated to video clips)
  - Social Media
  - Internet
- Has moved beyond entertainment
  - Business
  - Politics
  - Social Media
  - Marketing
  - etc.

The Power of Video

- Messaging is concise & easy to understand
- Reaches all demographics

Research on Video as an Effective Channel

The Effects of Media Channels on Consumers' Intention To Buy Locally Grown Food –

Jessica Holt, Ph.D.
University of Georgia

Examine the relationship between the media channel used to deliver information to individuals about local food

Methods

- Focus Groups to generate ideas
- State Survey with experiment to test different media channels including print, video and web

Key Findings

- Although not statistically significant, video message was rated higher for perception and attitude than print and web
- Use of web media channel with video effective
- Consumers indicated that they want
  - A connection to farmers
  - Personalized information
  - To be able to decided what information they receive
  - Want to control consumer engagement

CENTER FOR PUBLIC ISSUES EDUCATION
IN AGRICULTURE AND NATURAL RESOURCES

What we've learned: Selecting the right frame in video communication

Joy Rumble, PhD

Why we examine framing

- The frame used may impact
  - Interpretation/meaning of the video
  - Influence of video on attitude
  - Influence of video on behavior

"Public opinion often depends on how elites choose to frame issues" – Chung & Druckman, 2007

Research: Frames used in video

Local Food
- National Study
- 1,024 responses
- 18 or older
- Determine if attitude toward local food is influenced by frame

Landscape Practices
- Florida Study
- 2,100 responses
- 18 or older
- Have a lawn/landscape and use irrigation
- Determine if intent to use good fertilizer and irrigation practices is influenced by frame

Local Food

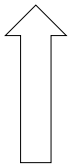
- Determine if attitude toward local food is influenced by frame
  - Food quality
  - Local economy
  - Social connections



Local Food

Food Quality

Local Economy



Attitude toward Local Food

Local Food

Social Connections

Attitude toward Local Food

Landscape Practices

- Determine if intent to use good fertilizer and good irrigation practices is influenced by frame
- Overall frame of Environmental Values
  - Fertilizer loss
  - Fertilizer gain
  - Irrigation loss
  - Irrigation gain

Landscape Practices

- Both irrigation videos resulted in intent to use good irrigation practices
- Both fertilizer videos resulted in intent to use good fertilizer practices
- May need to consider a different overarching frame, perhaps one more closely related to personal values
  - Maybe having a nice lawn and landscape?

Future Research

- Different frames
- Different issues
- Different audiences
- Long-term impacts or longitudinal measures

Research

Is Perception Reality? Improving Agricultural Messages by Discovering How Consumers Perceive Messages

Joy N. Goodwin, Christy Chiarelli and Tracy Irani

Abstract

This study assessed how consumers interpret agricultural messages typically found on commodity organizations' websites in Florida. Four focus groups were held in the fall of 2010. Results indicate that the participants found most of the messages to be unfavorable, rather than favorable. Additionally, the conclusions made by the participants were explained as being influenced by previous experience, corporate influence, history, the creation of mental images, lack of supporting information, and media influence. Participants provided researchers with suggestions to improve the messages and create a more favorable response from consumers. Further research should be done in this area to continue to improve the effectiveness of agricultural messages. In addition, this research should be replicated in other geographic locations. The implications of this study provide valuable information for agricultural communicators, commodity organizations, industry professionals, and those wanting to tell the story of agriculture.

Keywords

agricultural communication, framing, social cognitive theory, messages, commodity organization

Introduction

American agriculture has transformed drastically throughout the last century. Where there once were multitudes of farms, now there are few (Dimitri, Effland, & Conklin, 2005). Technology has driven advances in agricultural production to its current state, which has allowed agriculture to continue to support our growing population. However, technology has also allowed many individuals to leave the farm for alternative occupations. Today, less than 2% of the working U.S. population is employed in an agricultural field. Additionally, well under 5% of the U.S. population now lives on a farm, while around only 20% of the population lives in a rural area (Dimitri et al., 2005).

The widening gap between those who produce and consume agricultural products has sometimes led to differing views between those who have an agricultural background and those who do not. For example, differing perspectives currently exist between producers and consumers on the issue of sustaining agriculture while being cognizant of natural resources and the environment, as well as other issues (The Center for Public Issues Education in Agriculture and Natural Resources [PIE Center], 2010). This phenomenon of differing views between consumers and producers has been character-

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ized as the "green divide," a "farm-to-plate knowledge gap," and a lack of "agricultural literacy" (National Research Council, 1988; PIE Center, 2010; Smart, 2009).

In 1988, the National Research Council found that "Most Americans know very little about agriculture, its social and economic significance in the United States, and particularly, its links to human health and environmental quality" (p. 9), suggesting that agricultural literacy among the members of the general public is minimal. Several additional studies have supported and expanded upon this finding (Duncan & Broyles, 2006; Frick, Birkenholz, & Machtmes, 1995; Frick, Birkenholz, Gardner, & Machtmes, 1995; Mayer & Mayer, 1974; Terry, Herring, & Larke, 1992; Wright, Stewart, & Birkenholz, 1994). Duncan and Broyles (2006) suggest knowledge and perception of agriculture, especially among young adults, is influenced by factors in their life such as media, acquaintances, involvement in organizations, and family.

Recently there has been a movement among agricultural commodity organizations and those involved in agriculture to try and develop greater awareness and understanding between producers and consumers. The movement is urging those involved in agriculture to become advocates for the industry and to tell their side of the story (Advocates for Agriculture, 2007; American Farm Bureau, 2003; Radke, 2009). As a result of this movement, many of those involved in agriculture are working toward developing more effective ways to communicate with the general public, especially via the Web. Creating an effective web presence allows the agricultural industry to extend their advocacy, build a community, and build relationships (Ohio Farm Bureau, 2009). However, it is important to assess the effectiveness of the messages the agricultural industry is sending to consumers. This is important because the intended meaning of a message may be perceived differently by consumers (Stevenson, 1997).

In agriculture, as well as in any business, it is essential to successfully promote a product or service (Moffitt, 2004). Through this promotion, information is given to the consumers and persuasion is often used (Kolter & Armstrong, 2006). A successful promotion will attract consumers and maintain or even increase profits. Often, strategic messages are designed to set the product or service apart from competitors (Moffitt, 2004). Understanding the perceptions of audiences and the way in which they interpret messages is crucial to developing effective communications strategies, if the goal is to favorably influence attitudes toward agricultural products, practices, and production industries.

Theoretical Framework

Much of consumers' interpretation of messages may be explained through framing and social cognitive theory. Thus, these two theories guided this study.

Framing is described as a function of messages that influences how an audience perceives the messages (Scheufele & Tewksbury, 2007). Entman's definition of framing provides further explanation:

> To frame is to select some aspects of a perceived reality and make them more salient in a communicating test, in such a way as to promote a particular problem, definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described. (1993, p. 52)

Additionally, framing is used to provide simplification to complex issues or concepts. Framing can exist on two levels. These levels have been identified as the media level and the individual level,

also known as the macro-level and micro-level (Scheufele, 1999; Scheufele & Tewksbury, 2007). The media or macro-level describes how communicators or the media decide how to present information (Scheufele & Tewksbury, 2007; Shoemaker & Reese, 1996). At the individual or micro-level, framing is used by individuals to create their feeling or position in regards to the information presented to them (Scheufele & Tewksbury, 2007).

Framing can exist in four locations, including in the communicator, text, receiver, and culture (Entman, 1993). When deciding what information to include in a message, communicators select information that fits their schema, thus framing the message to fit their purpose or the purpose of the organization they are representing. The words that are used in a message can also include frames. The presence or absence of certain words, the inclusion of an image, the organization of the message and other components can influence the message to be interpreted in a certain way. Additionally, the receiver will possess pre-existing frames, influenced by previous social cues, which will direct their thinking, attitude, and behavior in response to the message (Carrier, 2004; Entman, 1993). The existing culture is composed of existing frames that describe the common social structure in the culture. Entman (1993) suggests that framing information with easily identified cultural symbols can increase the influence that the message has on an audience.

Consumers receive most of their information about agriculture from news organizations and the mass media (Terry, Dunsford, & Lacewell, 1996). Thus, several researchers have studied framing on agricultural topics (Ashlock, Cartmell & Kelemen, 2006; Ward, Donaldson, & Lowe, 2004; Whitaker & Dyer, 2000). A study of news coverage following a food safety crisis found that over half of the news articles analyzed regarding the issue framed agriculture negatively (Ashlock et al., 2006). An additional study compared the framing of agricultural articles in regular news sources and agricultural news sources (i.e. *Progressive Farmer*) (Whitaker & Dyer, 2000). That study found that agricultural news sources tended to frame their information with agricultural sources, while the regular news sources framed their stories with activist based sources. Additionally, the study found that news organizations framed their stories with images more regularly than did agricultural news organizations. Policy framing was discussed in a study by Ward et al. (2004) in reference to the United Kingdom's foot and mouth disease crisis. During this crisis policy framing of the issue was closed to those outside of the industry and was specific and restrictive. These studies looked at how the media framed agricultural messages, and also how agricultural organizations framed these messages.

As mentioned above, a receiver of a message will possess pre-existing frames, influenced by previous social cues, which will direct their thinking, attitude, and behavior in response to the message (Carrier, 2004; Entman, 1993). Social cognitive theory further explains the influence of previous social cues on the frames that one perceives in a message. The theory explains that cognitive processes are triggered by one's environment that ultimately impacts behavior (Bandura, 2009). An individual is influenced by his or her environment as a result of observational learning. For example, this may include an individual observing someone who is recycling and as a result of their observation they learn to recycle themselves. Individuals are more likely to observe and learn from items or people in their environment that they are attracted to, including media figures (Bandura, 2002; Nabi & Oliver, 2010). Through observational learning, individuals develop new and build on existing knowledge, values, attitudes, behaviors, and beliefs (Bandura, 1986; Bandura 2002).

Bandura describes the social cognitive process as involving the personal, environmental, and behavioral components of one's life (2009). His model suggests that these three things are related bi-directionally to one another. Individuals learn new things from their environment, cognitively

process them, retain them, and then use them at a later point it time. However, one's existing personal components and behaviors can influence how a new component from the environment is stored or used (Bandura, 2009). Ultimately, new information builds on previously learned information and the resulting behaviors are determined through cognitive processing. Due to the complexity and difficult testing of this theory many researchers use it as a reference and as a way to support their findings (Nabi & Oliver, 2010).

Purpose

The purpose of this study was to understand how consumers interpret agricultural messages by assessing the conclusions, feelings, opinions, and views consumers place on messages found on commodity organizations' websites in Florida. The following objectives guided this study:

1. To determine which messages produce favorable and unfavorable responses from Florida consumers.
2. To understand what factors led consumers to view messages as favorable or un-favorable.
3. To understand what messages Florida consumers would prefer to hear regarding Florida agriculture.

Methods

Focus group methodology was used to fulfill the purpose and objectives of this study. Focus group methodology is often used when little is known about the topic being researched (Ary, Jacobs, Razavieh, & Sorenson, 2006). Additionally, focus groups allow researchers to assess group interaction and the opinions of individuals (Krueger, 1994). This methodology "can improve the planning and design of new programs, provide means of evaluating existing programs, and produce insights for developing marketing strategies" (Krueger, 1994, p. 3). Focus group methodology was appropriate for this study because individuals' attitudes, perceptions, and opinions are often influenced by interaction with others, thus focus groups are useful in evaluating these tendencies.

Four focus groups were conducted within a two-week period. This timeframe allowed the researchers to reduce the threat of the history effect (Ary et al., 2006). The focus groups were conducted in two different geographic locations of Florida with two focus groups held at each location. A total of 36 participants participated in the focus groups with 7 to 10 participants participating in each group. Ary et al. (2006) recommend that the size of focus groups should be between 6 and 12 participants. An external market research firm was hired and used telephone random digit dialing (RDD) sampling to qualify potential participants. Probability samples were generated using a predetermined sampling frame based on demographic variables for both focus groups. A protocol was developed to guide both focus groups using the procedures set forth by Krueger (1998b). The protocol procedure consisted of showing the focus group participants a series of ten messages commonly used to educate and inform consumers about agriculture. The messages used in the study's protocol were first identified and determined by reviewing Florida commodity organization websites. Secondly, a pilot test was administered to graduate students in the Agricultural Education and Communication Department at the University of Florida. The pilot test consisted of an online survey hosted by Qualtrics. Qualtrics is an online survey software which has become a leader in market research and enterprise feedback management (Qualtrics, 2010). The survey included numerous messages and was administered to ensure that the messages were understood, as well as to identify the best

messages to include in the focus groups. Krueger (1998a) indicates that pilot testing the focus group material for understanding increases the validity of the methodology. Once the messages were collected from commodity organizations websites and pilot tested, the final protocol was reviewed by a panel of researchers and industry professionals for face and content validity.

Each focus group lasted approximately one and a half hours. The focus groups were all conducted by the same experienced and trained moderator. The moderator was accompanied by an assistant moderator as well as two individuals who took field notes. Each focus group was both audio and video recorded for transcription purposes. The focus groups followed a protocol to ensure that a consistent questioning route was followed, participant observation and clarification occurred, and that participants verified a summary of each focus group before concluding. This process in combination with the pilot test creates trustworthy and valid results (Krueger, 1998a). Following the completion of the focus groups, data were transcribed by an external marketing firm. After transcription, data were uploaded into Weft-QDA for qualitative analysis. The constant comparative method was used to identify common categories within the data (Glaser, 1965). Categories were analyzed across all four groups and findings are based on agreements across all four groups or three of the four groups.

Results

Of those participating in the focus groups, 18 participants were males and 18 were females. The ages of the participants ranged from 18-80. Participants reported living in an urban or suburban area. The most common household income among the participants was reported as $60,000-$80,000. Additionally, 12 participants had a bachelor's degree and 31 identified with the Caucasian ethnicity. A diversity of professions was represented among the participants, some of which included stay-at-home moms, teachers, health professionals, manufacturing personnel, and administrative personnel.

The participants were asked about their perceptions of the10 messages selected from commodity organizations' websites that showed positive results in the pilot test and were approved by a panel of researchers and industry professionals. Messages were shown to participants in three sets in order to minimize the length of the focus groups as well as participant fatigue. The messages were grouped according to similarities. The first set of messages included "Best management practices," "Preservation of natural resources," "Wide open green pastures," and "Sustainable growth." Following these messages "Safe, fresh, and nutritious product," "Committed to producing the best quality product," and "Quality food begins with quality care" were included in the second set of messages. Lastly, "Farmers were the first environmentalists," "Stewards of the land," and "Scientifically proven, socially responsible, and economically sound" were included in the last set of messages.

Objective 1: *To determine which messages produce favorable and unfavorable responses from Florida consumers.*

To determine which messages consumers found to be favorable and unfavorable, the participants were asked to indicate whether they had positive or negative feelings about each message. All four focus groups indicated that they found "Stewards of the land" and "Preservation of natural resources" to be favorable. In addition, three of the four groups found "Wide open green pastures" and "Sustainable growth" to be positive.

Messages that created unfavorable feelings or negativity among the participants included: "Best management practices;" "Safe, fresh, and nutritious product;" "Committed to producing the best quality product;" "Quality food begins with quality care;" and "Scientifically proven, socially respon-

sible, and economically sound." Additionally, three of the four groups found "Farmers were the first environmentalists" to be unfavorable.

Favorable Messages

When discussing "Preservation of natural resources," many participants expressed that natural resources were important and essential. One participant indicated favorability toward this message by saying, "Preservation and natural resources and of course that's wonderful." The message "Stewards of the land" was also discussed favorably with many participants referencing the responsibility that the message demonstrated. An example of a participant's positive feelings toward this message is expressed in the following quote: "And I do like 'Stewards of the land.' They do have to have the land, even if they only have livestock; they still have to have the land to do whatever they need to do." "Wide open green pastures" also drew favorable responses from participants, as they were able to express the mental aesthetics that the message created. A participant indicated favorability toward the message by saying, "I guess it's better than little tiny cages. But, I feel better about green pastures." Lastly, several participants favored "Sustainable growth" because it was a message that allowed them to look toward the future in a positive manner. One participant expressed positive feelings toward the message by saying, "This is sustainable growth, and I'm like him on the growth thing. Life goes on, we sustain, we keep going."

Unfavorable Messages

When discussing "Best management practices," many people associated failure or distrust with this message. One participant said, "I'm really biased about best management practices. I guess I've been around best management practices for so long that I've come to totally distrust them. If it comes from that high up in the tower, it probably doesn't work." The group of messages that included "Safe, fresh, and nutritious product," "Committed to producing the best quality product," and "Quality food begins with quality care" caused skepticism and distrust among the participants. An example of the observed skepticism and distrust is demonstrated in the following quotes "I'm the cynic so I say prove it. You know I wouldn't take any of that at face value." "Yeah and that's like, we've been lied to so much, it's hard to believe any of them." "I feel a zero response for that. In expressing a word, they mean nothing to me. They sound like something that anyone can put on a product."

When participants discussed the message, "Scientifically proven, socially responsible, and economically sound," they discussed feeling unfavorable toward the message because it was lengthy and had a questionable meaning. One participant said, "'Scientifically proven, socially responsible.' That's a lot of bias and diversity in that statement. What aspect are you looking at, what's your belief in science and social responsibility and economics?" Additionally, "Farmers were the first environmentalists" was not favored because the participants felt that the statement was not accurate. An example of a participant's feelings toward this message is exhibited in the following quote:

> I can understand their imperative but to fling that out there is a bold statement. Hunter-gatherers really were the first environmentalists because they never taxed their environment beyond its carrying capacity. Because when they saw it wasn't going well, they moved on.

Objective 2: *To understand what factors led consumers to view messages as favorable or unfavorable.*

In order to understand why participants viewed these messages as favorable or unfavorable, par-

ticipants were asked to further elaborate about their negative and positive associations with each message. In all four of the focus groups, themes emerged referencing previous experiences, business sounding terms, and examples of specific corporations as reasons behind the positive and negative connotations. Additionally, three of the four focus groups referenced history, the creation of mental images, lack of supporting information, and media or advertisements as leading them to their conclusions about whether the messages they viewed were favorable or unfavorable.

Previous Experience

When participants referenced previous experiences they often referenced knowledge they had, something they had heard from a friend, or something that they learned from an organization. One participant said:

> I think our oil situation is going to be solved very shortly. There's a huge basin of oil that was discovered in North Dakota and it takes about half the state and it goes all the way into Montana and there's enough oil to keep the United States going full-blast for the next 150 years. And this guy that's a friend of mine in Virginia was telling me about it, who is an oil driller and it's been kept a secret. But it's going to come out shortly. So maybe that'll end all this misery in the Gulf and Alaska and everywhere else, I hope.

Another said, "More positive, like my father had the grange, which the farmers belonged to. And they were also 4-H leaders for 10 years. So there are a lot of good farmers that obtained those."

Corporate/Business Involvement

Participants tended to be skeptical of business sounding terms and often referenced this as being a reason why they found messages to be unfavorable. A participant made the following statement:

> Because we have so many business people out there, they're going to use it just so they can make money. They're not really concerned you know out of 100% of the food that they're selling, probably 50% may contain that, but the other 50% is because they are going to make money off that 50%. It could be you know, cats' eyes, whatever, you don't ever know. To me, I don't trust it.

Another example of a participant's response is, "I think there's a difference between having a farm and growing food for your family and having that sort of thing going on and having a big industry farm, where you're there to make money and it's your business."

Similarly, participants referenced specific corporations that they knew had done something that they viewed as being unfavorable. They related to these unfavorable corporations when drawing conclusions about the agricultural messages. One participant said:

> And we used to have buzzwords before, best management practices, we could go off and we'd study GE or we'd study whatever. And guess what, it wasn't in the best management practices; it was in the management that needed the best management practices. And Ford didn't have that kind of management so we could study the best management practices until we all died or retired, whatever came first. And it wasn't going to change anything because we still

had the layer of clay that was the management. So it's another distraction, another bad thing to me.

History

A few of the messages prompted participants to think about events in history and, as a result, they drew their conclusions about a message based on history. The two historical events that came up in three of the four groups were the Dust Bowl and a discussion of the first settlers in America. One participant said:

> You start looking back at history where we fail to follow best management practices at the expense of our natural resources. You know like what was the Dust Bowl back in the days, you know all the topsoil got blown away.

Another said, "It's a very strong point you just made. Hunters and gathers were ahead of farmers in terms of environmentalists. Weren't they, the hunters and gathers? They were really the first environmentalists."

Development of mental images

"Wide open green pastures" was a message that led participants to be able to develop a mental image. They developed favorable images in their mind and therefore the participants felt favorable about the message. Some of the responses included, "I might buy into wide, open green pastures just because of that pretty image," and "I just think of wide, open, green pastures with windmills or something and I kind of have a picture."

Lack of supporting information

Several participants indicated that the messages sounded great, but they had no supporting information, thus causing them to feel skeptical of the message. Some of these responses included, "It's just a statement," and "Yeah, I think the last one is meaningless. It all sounds wonderful but scientifically proven, what is proved?"

Media/Advertisement influence

Participants referenced some of the messages as being something they had heard or seen in the media. Additionally, some participants thought that they had seen some of the messages on labels or in advertisements. When participants recognized a media or advertisement relationship within a message, they generally viewed it negatively and with skepticism. Some of the responses in this category included, "I think I heard some of them in the last presidential election. I think the preservation of natural resources was one," "I'm thinking of all of these in the context of something you see advertised in the grocery store," and "Commercials."

Objective 3: *To understand what messages Florida consumers would prefer to hear regarding Florida agriculture.*

Throughout the course of the discussion, three of the four groups made suggestions about how the messages could be made stronger or what messages they would like to hear. Some of the participants suggested changing some of the words in a message, including more local and farmer-

related terms, providing examples and explanations along with the messages, and using more messages that create visual images.

Alternative words

Participants indicated that using alternative words could be beneficial because some of the words were not consumer friendly and created negative connotations. Once specific suggestion included, "There's not any such thing as best management practice, maybe better management practice, or good management practices."

Local and Farmer

When the participants were given the chance to express what kinds of messages they would prefer to hear many indicated that they favored terms with a local or farmer connotation. One participant said:

> Yeah, I would like to be able to see the local farmers, who's doing it, the area, you know, what they're using, how they're even making it, what type of pesticides or if it's a natural thing, composting, things like that.

Examples and explanations

Due to the skepticism that many of the messages created for the participants, they suggested that including examples and explanations in conjunction with the messages would make the messages more favorable.

> I would expect them to follow through. I would expect some explanation behind these words. They couldn't just say best management practices. Like, ok, these are catch terms but of course there's got to be some kind of info to back these up. You can't just stamp it on something and have me go, "Oh, great."

Create visual images

The participants suggested that part of the reason they favored "Wide open green pastures" was because it was something they could visualize. They discussed that they really liked being able to visualize what a message was referring to and thus provided incorporating more messages that create visual images as a recommendation. The following quote is one example of this recommendation: "The fact that none of them really send a real visual message with the exception of wide, open, green pastures. If you can just get the other ones to just draw something and maybe they'd be better."

Discussion/Conclusions

The findings of this study indicate that six of the messages tested were found to be un-favorable, while four of the messages were found to be favorable. Participants indicated that previous experience, business or corporate involvement, history, mental images, lack of support, and media or advertising language as leading them toward their favorable or un-favorable feelings about each message. To improve the messages, participants suggested incorporating more local and farmer-type terms, including examples and explanations, and using messages that create more visual images.

These results provide valuable information for agricultural communicators, commodity organi-

zations, industry professionals, and those wanting to tell the story of agriculture. Much can be gained from understanding messages that consumers find favorable and unfavorable, what factors lead them to these conclusions, and what they would like to hear and see in messages. Understanding these message elements will allow agricultural messages to be framed in a way that is potentially more likely to be perceived as favorable in the public eye.

Favorable and Unfavorable Messages

The findings of this study show that out of ten messages that were intended to positively promote the agriculture industry, only four were doing so in the minds of the participants. The six messages identified as unfavorable by the participants provide evidence that consumers do not always perceive an agriculturally themed message the way in which it was intended to be perceived. This finding supports Stevenson's claim that occasionally the intended meaning of a message is perceived differently by consumers (1997). Thus, it is important for communicators to recognize areas of differing perceptions in order to promote the agricultural industry (Moffitt, 2004).

Underlying factors of favorable or unfavorable feelings

The results of the study show that participants drew on previous experiences and elements they had observed in media or advertisements when determining if messages were favorable or unfavorable. This demonstrates implications of social cognitive theory, as individuals learn from their social acquaintances and media figures (Bandura, 2002; Nabi & Oliver, 2010). Additionally, it was evident, based on their responses, that these previous experiences were influencing the participants' attitudes, behaviors, values, and beliefs (Bandura, 1986; Bandura, 2002). These findings suggest that the participants' perceptions of agriculture are influenced by factors in their life (Duncan & Broyles, 2006)

Participant preferences

The way in which the messages were framed by their creators and how they were framed by the participants were not the always the same, suggesting that framing at the media level does not consistently correspond with framing at the individual level (Scheufele, 1999; Scheufele & Tewksbury, 2007). As suggested by the participants, including explanations and/or examples with messages may enhance the credibility of the messages with consumers. Providing more supporting information to the messages will also decrease the distrust, skepticism, and questions observed in the participants discussion.

Recommendations

It is recommended that to increase the occurrence of more favorable messages, agricultural communicators should focus on things that are important and essential in the eyes of the consumer, as well as words that relay responsibility, mental images, and a positive outlook for the future. Agricultural communicators should attempt to think like an average consumer who does not have an extensive agriculture background when creating messages. Being aware of both positive and negative media advertising trends will also aid agricultural communicators in using these trends to their advantage. Additionally, based on the frequent recall of previous media-related experiences or observations by participants, it is suggested that the agricultural industry work toward increasing their presence and the presence of accurate agricultural information in the media.

In addition, to decrease the occurrence of unfavorable messages, it is recommended that agri-

cultural communicators avoid messages that cause failure, distrust, skepticism, and inaccuracy in the eyes of the consumer. To ensure that the correct components are being included in a message, it is recommended that all messages are pilot tested with a group of consumers to ensure that they are being perceived in the manner intended by the individual or organization that created the message.

Additionally, the participants indicated that business- or corporate-sounding messages created unfavorable responses. In order to improve consumers' perceptions of the messages released by the agriculture industry, it is recommended that messages designed for lay audiences be framed in personal terms rather than corporate terms. Additionally, it is recommended that an alternative message be developed in place of "best management practices." This message was the most un-favored by all of the groups. In addition, this message caused participants to think of corporate organizations who had claimed to have "best management practices." In an effort to minimize comparisons to other industries as well as prevent skepticism, this message should be used with caution or not at all.

The recommendations provided by the participants suggest that in order to correct the imbalance of individual- and media-level framing, message creators should work toward framing their messages to include more local and farmer-based terms as well as words that create mental images. It is recommended that messages be framed to include examples and supporting information. Additionally, communicators should frame messages to fit the current social structure in the culture, possibly through easily identifiable cultural symbols (Entman, 1993). Some of these cultural symbols may include stereotypic images of small farms and farmers.

Researchers should continue to conduct studies to determine how consumers perceive agricultural messages. It is recommended that this study be replicated in other geographic locations to determine if the results are similar in other areas. In addition, it is recommended that a study be conducted to determine how consumers perceive the original messages in comparison with revised messages framed according to the recommendations above. The results of this study and continuing research on agricultural messages have the potential to improve consumers' perceptions about agriculture and make strides toward bridging perceptual gaps between agricultural producers and consumers.

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References

Advocates for Agriculture. (2007). *Promoting ag one story at a time*, Retrieved from http://advocatesforag.com/index.php?option=com_frontpage&Itemid=1

American Farm Bureau. (2003, January). *PAL leadership program develops "Advocates for agriculture*," Retrieved from http://www.fb.org/index.php?fuseaction=newsroom.newsfocus&year=2003&file=nr0118.html

Ary. D, Jacobs L. C., Razavieh, A., & Sorensen C. (2006). *Introduction to research in education* (7th ed.). Belmont, CA: Thomson Wadsworth.

Ashlock, M. A., Cartmell, D. D., II., & Kelemen, D. B. (2006). The cow that stole Christmas: Framing the first U.S. mad cow crisis. *Journal of Applied Communications*, *90*(2), 29-46. Retrieved from http://journalofappliedcommunications.org/

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology: An International Review,* 51(2), 269-290. doi: 10.1111/1464-0597.00092

Bandura, A. (2009). Social cognitive theory of mass communication. In J. Bryant and M.B. Oliver (Eds.), *Media effects advances in theory and research* (3rd ed). (pp. 94-124). New York, NY: Routledge.

Carrier, R. (2004). History of mass communication. In J. R. Baldwin, S. D. Perry, & M. A. Moffitt (Eds.), *Communication theories for everyday life* (pp. 307-328). Boston, MA: Pearson Education, Inc.

Dimitri, C., Effland, A., & Conklin, N. (2005). *The 20th century transformation of U.S. agriculture and farm policy*. Economic Information Bulletin No. 3. U.S. Department of Agriculture Economic Research Service. Retrieved from http://www.ers.usda.gov/publications/EIB3/eib3.pdf

Duncan, D. W. & Broyles, T. W. (2006). A comparison of student knowledge and perceptions toward agriculture before and after attending a governor's school for agriculture. *NACTA Journal, 50*(1), 16-21. Retrieved from http://www.nactateachers.org/journal.html

Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, *43*(4), 51-58. doi: 10.1111/j.1460-2466.1993.tb01304.x

Frick, M. J., Birkenholz, R. J., & Machtmes, K. (1995). Rural and urban adult knowledge and perceptions of agriculture. *Journal of Agriculture Education, 36*(2), 44-53. doi: 10.5032/jae.1995.02044

Frick, M. J. Birkenholz, R. J., Gardner, H. & Machtmes, K. (1995). Rural and urban inner-city high school student knowledge and perception of agriculture. *Journal of Agriculture Education, 36*(4), 1-9. doi: 10.5032/jae.1995.04001

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems, 12*(4), 436-445. Retrieved from http://www.sssp1.org/.

Kolter, P. & Armstrong, G. (2006). *Principles of marketing* (11th ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Krueger, R. A. (1994). *Focus groups: A practical guide for applied research* (2nd ed.). Thousand Oaks, CA: Sage Publications Inc.

Krueger, R. A. (1998a). *Analyzing & reporting focus group results.*Thousand Oaks, CA; Sage Publications, Inc.

Krueger, R. A. (1998b). *Developing questions for focus groups.* Thousand Oaks, CA: Sage Publications, Inc.

Mayer, A. & Mayer, J. (1974). Agriculture, the island empire. *Daedalus*, 103(3), 83-95. Retrieved from http://www.amacad.org

Moffitt, M. A. (2004). Introduction and history of public relations. In J. R. Baldwin, S. D. Perry, & M. A. Moffitt (Eds.), *Communication theories for everyday life* (pp. 307-328). Boston, MA: Pearson Education, Inc.

Nabi, R., & Oliver, M. B. (2010). Media effects. In C. R. Berger, M. E. Roloff, & D. Roskos-Ewoldsen, *Handbook of communication science* (2nd edition) (pp. 255-272). Thousand Oaks, CA: Sage Publications Inc.

National Research Council, Committee on Agricultural Education in Secondary Schools (1988). *Understanding agriculture: New directions for education*. Washington DC: National Academy Press.

Ohio Farm Bureau. (2009, July). Social media in agriculture. *Speak Out*, Retrieved from http://ofbf.org/media-and-publications/

Qualtrics. (2010). *About Qualtrics*. Retrieved from, http://www.qualtrics.com/about-qualtrics/

Radke, A. (2009, January). Everyday opportunities. *BEEF*, Retrieved from http://blog.beefmagazine.com/beef_daily/2009/01/22/everyday-opportunities/

Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication, 49*(1), 103-122. doi: 10.1111/j.1460-2466.1999.tb02784.x

Scheufele, D. A. & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of the three media effects models. *Journal of Communication, 57*(1), 9-20. doi:10.1111/j.1460-2466.2006.00326.x

Shoemaker, P. J. & Reese, S. D. (1996). *Mediating the message: Theories of influence on mass media content* (2nd ed.). White Plains, NY: Longman.

Smart, R. (2009, June 29). Closing the farm to plate knowledge gap. *The Huffington Post.* Retrieved from http://www.huffingtonpost.com/rob-smart/closing-the-farm-to-plate_b_222486.html

Stevenson, N. (1997). Critical perspectives within audience research. In T. O'Sullivan & Y. Jewkes (Eds.), *The media studies reader* (pp.231-248). New York, NY: St. Martin's.

Terry, R., Jr., Herring, D. R., & Larke, A., Jr. (1992). Assistance needed for elementary teachers in Texas to implement programs of agricultural literacy. *Journal of Agriculture Education, 33*(2), p. 51-60. doi: 10.5032/jae.1992.02051

Terry, R., Jr., Dunsford, D., & Lacewell, T. B. (1996). Evaluation of information sources about agriculture: National news publications. *Proceedings of the National Agricultural Education Research Meeting*, 23, 215-266.

The Center for Public Issues Education in Agriculture and Natural Resources, University of Florida Institute of Food and Agricultural Sciences (2010). *Florida's green jobs, sound science and policy.*

Ward, N., Donaldson, A., & Lowe, P. (2004). Policy framing and learning the lessons from the UK's foot and mouth disease crisis. *Environment and Planning C: Government and Policy,* 22, 291-306, doi. 10.1068/c0209s

Whitaker, B. K. & Dyer, J. E. (2000). Identifying sources of bias in agricultural news reporting. *Journal of Agricultural Education, 41*(4), 125-133. doi: 10.5032/jae.2000.04125

Wright, D., Stewart, B. R., & Birkenholz, R. J. (1994). Agriculture awareness of eleventh grade students in rural schools. *Journal of Agricultural Education, 35*(4), 55-60. doi: 10.5032/jae.1994.04055

A Picture is Worth a Thousand Words: Consumer Perceptions of Agricultural Images

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Individuals interpret agricultural images differently according to the direct or cultural meanings they associate with the image, as well as the perspective through which they view the image. In addition, perceptions of agricultural images are commonly influenced by stereotypes. As agricultural communicators, it is important to understand the perceptions consumers have about agricultural images. Understanding these perceptions can allow communicators to use images in their communication that will promote favorable perceptions of the industry. To better understand consumers' perceptions of agricultural images, this study asked consumers about their perceptions using focus group methodology. Four focus groups were completed with a total of 36 participants. The results indicated that elements of semiotics and perception theory were evident in the participants' discussion. Thus, these theories combined with the results provide valuable information in regard to selecting images for communication that will create favorable responses among consumers.

Keywords: semiotics, perception theory, focus groups, qualitative research, images

Introduction

The 1930 painting, *American Gothic*, featuring a man and woman dressed in farming apparel and holding a pitchfork, could be how many Americans envision agriculture, more than 80 years after the painting's completion. While this painting may have some resemblance to the agriculture sector in the early part of the 20th century, it is now an outdated portrait that does not accurately reflect the innovative, technologically advanced industry. In fact, the American agriculture industry has seen rapid advancement from small, diversified, labor-intensive farms of the early 1900s to more innovative and specialized operations of the 21st century (Dimitri, Effland, & Conklin, 2005). However, in spite of the agriculture industry's technological advances, "the public's image of agriculture is a kaleidoscope of leftover attitudes and images of what agriculture was in the '40's, '50's and early '60's" (Coon & Cantrell, 1985, p. 22).

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The incongruence between public perception of agriculture and the reality of agricultural practices can be attributed to American society being several generations removed from the farm (American Farm Bureau Foundation for Agriculture, 2011; Coon & Cantrell, 1985; Terry & Lawver, 1995). In addition, the information communicated to the public about agriculture often includes stereotypical portrayals of the industry (Rhoades & Irani, 2008). This communication is commonly mediated in nature, including both text and visuals (Page, 2004; Rhoades & Irani, 2008). Due to a lack of consumer connection to agriculture, many organizations and researchers have examined the concept of agricultural literacy (Center for Public Issues Education in Agriculture and Natural Resources, 2012; Duncan & Broyles, 2006; Frick, Birkenholz, Gardner, & Machtmes, 1995). Agricultural literacy has been defined as an individual's knowledge and perception of agriculture (Wright, Steward, & Birkenholz, 1994). Moreover, Richard (2009) indicates that consumers can attain agricultural literacy by being educated at a minimum or basic level, and one does not need a complete understanding of the subject matter to be considered agriculturally literate. However, to make informed decisions about agriculture, consumers need to understand agricultural topics.

Understanding public perceptions of agriculture and working to create an agriculturally literate society is vital to the long-term sustainability of the industry. One of the greatest challenges agriculture faces is the residual perception of yesteryear (Richard, 2009). If the public fails to recognize accurate portrayals of agriculture within communication images, cognitive dissonance may occur, leading to consumer confusion and dissatisfaction. Elster (1983) noted that in order to decrease dissonance between what an individual thinks ought to be, and what is, they will often criticize the item that fails to meet their established expectations. There is cause for concern if consumers continue to visualize the family farming operations in the early 19th century as the ideal for current agricultural practices. Therefore, to explore this issue further, the purpose of this study was to understand the perceptions and feelings that consumers draw from agricultural images. The following objectives guided this study:

1. To determine participants' perceptions of selected agricultural images and if these perceptions are influenced by connotation or denotation.
2. To identify elements of perception theory are present in participants' discussion of selected agricultural images.

Theoretical Framework

Since the invention of words and images, communicators have not been limited to choosing one communication medium over another, but rather are able to combine media easily. In current society, one cannot escape being bombarded with visual communication messages, forcing individuals to become more visually literate (Lester, 2006).

Perception Theory

Perception theory "acknowledges the primacy of emotions in processing all communication, and particularly targets visual communication…" (Barry, 2005, p. 45). This theory argues that emotions play an important role in the perception of images, and researchers should not assume that an individual's reaction to an image would be a logical or conscious response (Barry, 2005). Individuals are able to process and respond to visual images more quickly than they are able to process and respond to words. Perception theory posits an individual's perception can be swayed by the emotional influences in one's life (Barry, 2005). These influential elements may include family interactions, formal education, and media exposure. Through these life experiences, "emotional learning occurs that pre-frames attitudes, thinking, and behavior" (Barry, 2005, p. 60). Future perceptions are then influenced by the learned emotions. Therefore, it can be surmised that how an individual "sees" is a result of their emotional and perceptual experiences (Barry, 2005). Frewer, Howard, and Aaron (1998) suggest that oftentimes research and scientific evidence are not able to change an individual's decisions that are based upon their preconceived perceptions.

Moreover, Lester (2006) indicated six perspectives that shape an individual's response to an image – personal, historical, technical, ethical, cultural, and critical. The personal perspective includes an individuals' immediate response to an image based upon subjective opinions (Lester, 2006). An individual who examines an image with a historical perspective typically judges the image's importance by when it was created. A technical perspective examines the composition of the work, considering factors such as light, and the work's overall presentation (Lester, 2006). Looking at the image through an ethical lens causes an individual to judge the moral and ethical responsibilities of the work and the work's producer. The cultural perspective causes an individual to examine the specific cultural symbols found within the work. Last, the critical perspective examines the larger issues surrounding the image (Lester, 2006). The researcher claims that these six perspectives allow an individual to "base conclusions about images on rational rather than emotional responses" (Lester, 2006, p. 2).

Additionally, Lester (2006) argues that visual communication creators must keep in mind two important principles when developing visual images. First, the message creator must understand the intended audience's culture, and second, the intended audience must easily understand images used in visual communication. Otherwise, Lester (2006) warns any visual communication that does not follow these important tenets will not be analyzed by receivers and will be easily forgotten. "Meaningless pictures entertain a viewer only for a brief moment and do not have the capacity to educate. But an analyzed image can affect a viewer for a lifetime" (Lester, 2006, p. 2).

Semiotics

The study of semiotics "…helps unlock the complexities of visual interpretation" (Moriarty, 2002, p. 26). Semiotics involves the communication aspects of signs (Moriarty, 2002), whereas a sign is defined as something that stands for an object or concept other than itself (Eco, 1986). The theory then aids researchers in the study of how images construct messages (Rose, 2001), as well as interpretations. Visual signs help individuals interpret messages, while codes aid in understanding the meaning behind the message (Moriarty, 2005). Saussaure and Pierce are credited with defining and developing the field of semiotics. Saussaure contended "that a person lives in a world shaped by decoded signs found in images, actions, words, and more that he or she has encountered" (Norwood-Tolbert & Rutherford, 2006, p. 7).

Connotation and denotation are important when studying the influences of visual images in advertising and communication (Moriarty, 2005). Barthes (1977) argued that images communicate not only a denotative meaning, but also a secondary connotative meaning (Barr, 2007). Connotation refers to the meaning 'established' by the object. Connotative meanings drawn from signs are derived from history and context of the given culture and situation (Barr, 2007). Denotation is the "direct, specific, or literal meaning we get from a sign" (Moriarty, 2005, p. 231). Therefore, the meaning of a sign "results from a fusion between the cultural codes and the viewer's personal experience" (Barr, 2007, p. 2).

Methods

As defined by Denzin and Lincoln (2005), "Qualitative research is a field of inquiry" (p. 2). In addition, qualitative research has been labeled as the most effective research method to gather information on consumer understanding (Abrams, Meyers, & Irani, 2010). As this study sought to inquire about consumers' perceptions of agricultural images, qualitative methodology was appropriate. The qualitative method selected for this study was focus groups.

Focus groups consist of "a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, nonthreatening environment" (Krueger, 1994, p. 6). Researchers can gain an understanding of opinion and why opinions are held through a group discussion (Greenbaum, 2000; Krueger, 1994).

To recruit focus group participants, an external marketing firm was hired. The marketing firm used computer-assisted telephone interviewing (CATI) and telephone random digit dialing (RDD) to sample and qualify potential participants. Probability samples were generated using a predetermined sampling frame based on demographic variables for all focus groups. To obtain the recommended 6 to 12 participants per focus group (Ary, Jacobs, Razavieh, & Sorenson, 2006), the marketing firm was asked to recruit 10 to 12 participants per focus group.

To guide the focus groups and ensure a consistent questioning route throughout all of the focus groups, a protocol was developed according to the procedures recommended by Krueger (1998b). Included in the protocol was a series of seven agricultural images that were shown to participants. Participants were asked to reflect on their feelings and thoughts toward each image, as well as discuss the accuracy of the image and if they had seen a similar image previously.

The images used in the study's protocol were selected by a panel of researchers and validated by a pilot test. The pilot test was administered to graduate students in the Agricultural Education and Communication Department at a land grant university. The pilot test consisted of an online survey that included numerous agricultural images. Participants were asked to indicate which images should be tested with consumers and to reason why images should or should not be included. This process allowed researchers to narrow down the image selection, while also checking for understanding and interpretation of the images. Krueger (1998a) indicates that pilot testing the focus group material for understanding increases rigor and trustworthiness (Lincoln & Guba, 1985) of the methodology. Once the images were pilot tested, a panel of researchers and industry professionals reviewed the final protocol.

Additional rigor and trustworthiness were gained by the incorporation of three strategies (Golafshani, 2003; Lincoln & Guba, 1985). The strategies used in this study included triangulation, peer debriefing, and the identification of researcher bias (Creswell, 2007). By conducting four focus groups in two different locations, a variety of individuals were encountered, and environmental triangulation was achieved (Creswell, 2007; Guion, Diehl, & McDonald, 2009). Peer debriefing was used to confirm the lead researcher's analysis interpretations. This process involved a co-researcher who assumed the role of "devil's advocate" and questioned the lead researcher's interpretations (Creswell, 2007; Darbyshire, MacDougall, & Schiller, 2005; Harder, Lamm, & Strong, 2009; Lincoln & Guba, 1985). Identifying researcher bias provides depth to the analysis and indicates possible researcher-influence on the analysis interpretations (Creswell, 2007; Harder et al., 2009; Merriam, 1988). The primary researcher was a graduate student with a background in animal science and agricultural communication. The co-researcher, who served as the peer debriefer, was a professor with a background in public relations and agricultural communications.

Four focus groups were conducted within a two-week period to reduce the potential influence of historical events (Ary et al., 2006). The focus groups were conducted in two different geographic locations of Florida, with two focus groups held at each location. A total of 36 participants participated in the focus groups. The first focus group included seven participants, while the second and fourth focus group included ten participants each, and the third focus group included nine participants. Each focus group lasted approximately one and a half hours. The same experienced and trained moderator conducted all of the focus groups. An assistant moderator and two individuals who took field notes accompanied the moderator. Each focus

group was both audio and video recorded for transcription purposes. The focus groups included participant observation and clarification, as well as a summary verification by participants before the conclusion of each focus group. This process, in combination with the pilot test and structured protocol, increases the trustworthiness of the results (Krueger, 1998a). Following the completion of the focus groups, an external researcher transcribed data. After transcription, data were uploaded to Weft-QDA for qualitative data analysis. The constant comparative method was used to identify common themes within the data for each image (Glaser, 1965). Numerous themes were originally identified; however, after further examination, themes were collapsed together and other themes were dismissed due to lack of prevalence. Following this process, the co-researcher analyzed the interpretations and findings made by the primary researcher (Creswell, 2007; Darbyshire et al., 2005; Harder et al., 2009; Lincoln & Guba, 1985). After the identification of themes, the researcher analyzed the themes for denotation and connotation interpretations, as well as the six elements of perception theory.

In addition to the qualitative data collected, a brief demographic survey was given to participants at the end of each focus group discussion. The demographic data were analyzed using basic descriptive statistics.

Results

The participants in the research included stay-at-home moms, educators, health professionals, manufacturing personnel, administrative personnel, and business professionals. Of the 36 participants, 18 were female and 18 were male. Most participants reported an annual household income of $60,000 - $80,000. Primarily Caucasian and African American ethnicities were represented, and one-third of the participants had a Bachelor's degree.

Participants were shown seven images and asked to reflect on their feelings and thoughts toward each image, as well as discuss the accuracy of the image, and if they had seen a similar image previously. The first image showed two different pictures of cattle in a grazing environment, while the rest of the images only contained one picture. The following images were shown to participants.

Image 1. **Cows in a grazing environment**

Image 2. **Greenhouse**

Image 3. **Dairy cows in a milking parlor**

Image 4. **Tractor spraying a field**

Image 5. **Farm family**

Image 6. **Irrigation**

Image 7. **Tomatoes in a greenhouse**

Objective 1: To determine participants' perceptions of selected agricultural images and if these perceptions are influenced by connotation or denotation.

Several themes emerged in Objective 1 as each image was analyzed individually. With the exception of *Image 5*, each image had themes that represented both denotative and connotative interpretations. The theme that emerged from *Image 5* included only connotative interpretations. Denotative themes commonly identified the actions or events that could be directly identified from the image, such as cleanliness, mass production, and modernization. Connotative themes included reference to cultural or media influenced meanings or uncertainty, such as uncertainty regarding proper animal care, production practices, chemical application, and water use.

Cows in a Grazing Environment, *Image 1*

The themes that emerged in the discussion of *Image 1* included grazing environment, animal welfare, and uncertainty. When participants were shown *Image 1*, the discussion focused on comparing the two grazing environments. Participants suggested that the two grazing environments represented in *Image 1* were from different states or from different seasons. A participant who discussed the possibility of the two grazing environments being from two different states said:

> *North Georgia, I could go take a picture of that and bring you a picture. That's normal looking. I'd more or less say that the one over here is more like maybe Florida [general agreement]. You got a lot of bad, hot weather here.*

Another participant who discussed the seasons said, "*It just might be that the one on the right, winter has begun and we're seeing some white snow. So maybe the different seasons, maybe that's all that's involved here.*" This discussion showed direct meaning that participants were drawing from the images, and thus, was interpreted at the denotative level.

The participants favored the picture of cows standing and grazing over the picture of the cows lying down. These interpretations were more connotative, as they incorporated influences from society and culture. Participants discussed that the picture of the cows standing up showed "*healthy*," "*natural*," and "*free*" cows. A participant who discussed these components said, "*The first one seems very, very healthy. Very fresh, very green, organic like*." Another participant discussed the natural setting and added that, "*It seems fresh air, it seems back to nature*." A participant discussed the freedom of the cows and said, "*Yeah, you don't see any fences or pens*." Despite favoring the picture of the cows standing up, participants indicated that they felt the cows they ate were not raised in this type of environment. "*Well, if I was eating my hamburger at McDonald's I'd be pretty sure that the cows probably didn't come from there*," said a participant.

The participants perceived the picture of the cows lying down as exhibiting poor animal care. While discussing poor animal care, a participant said, "*Right, well they do seem sick and unhealthy and like they want food and water. And also, there's a fence that I see, they're fenced in*." In addition to concerns of poor animal care, the participants also discussed confusion surrounding the cows' actions. A participant said, "*I'm kind of wondering what are they doing? I really don't understand what's going on*."

Greenhouse, *Image 2*

The themes that emerged in *Image 2* included cleanliness, unnatural, industrialization, and uncertainty. Participants discussed the greenhouse image at the denotative level as being a clean environment, unnatural, and a form of industrialization/mass production. Discussion of *Image 2* began with a focus on the industrialization and mass production. A participant stated, "*It's industrial scale, it looks like vegetable farming, it looks clean, it looks [pause] I don't have a problem with it*." Another participant added, "*Produced for the masses, and live with the classes*." The participants also discussed the clean and sterile look of the environment. "*It looks very clean and neat. Something that is well cared for*," said a participant. Despite the participants' perceptions of a clean environment, as well as some participants speaking favorably toward mass production, the participants discussed that they felt the greenhouse was in an unnatural or artificial state. A participant said, "*It has that very intense and artificial feel to it*."

After the initial discussion of the greenhouse, the discussion shifted to uncertainty, likely due to cultural connotations. The participants questioned the crops that were being grown in the greenhouse, the structure and functionality of the greenhouse, and whether the crops could be organic or not. Adding input to the discussion, one participant said, "*What I was saying is it could be organic, healthy, wonderful tasting stuff that comes from organically grown food process, or it could be also poison coming out of this*."

Dairy Cows in a Milking Parlor, *Image 3*

The participants discussed several topics when shown the image of dairy cows in a milking parlor. The themes included modernization, mass production, cleanliness of the environment, animal welfare, and uncertainty. Many of the topics prompted debate within the discussion, as opposing viewpoints were prominent among the participants. Modernization, a denotative interpretation, was one of the first items discussed. Participants immediately recognized that the cows were not being milked by hand, as they would have been many years ago. One participant stated, "*There you go—modernized. Not [makes the sound and motions of hand milking]*." Additionally, the participants discussed that the image showed mass production. During the discussion, a participant said:

> *It reminds me of industrialized farming. The farming is mass-produced for the people and they're not concerned with the animals or the freedom of the animals. You know, being able to roam around where they can on the farm, they just shove them in this building and just say knock yourselves out.*

When discussing the cleanliness of the environment, some participants indicated that the image showed a clean and sanitary environment, while others disagreed. "*It's clean, but it's sanitary and you've got to get milk to the shelves*," said one participant. A participant with an opposing viewpoint added:

> *I said unclean. I just think it's too many, too close quarters. I can see it's clean, you know, from the surface, but I'm thinking those animals are in too close of quarters. To where, if they had like, if their poop would be in too close of quarters to the other cows, that type of thing.*

Animal welfare was discussed at a connotative level for this image. It was observed from the conversation that some of the participants might have had different cultural and societal influences in regard to animal welfare. A participant said:

> *To me it's inhumane and there's something to be said for milking a cow by hand as opposed to mechanically in that we have the human touch. And if it were me, I wouldn't want to drink the milk from a cow that was mechanically milked.*

Another participant added, "*And I think that [Name] had made the statement that they are in pain because they're being artificially set up to produce milk. It's a sad state of our farming industry*."

Despite the poor animal welfare discussed by some participants, other participants did not feel the cows in the picture were being mistreated. One participant stated:

> *It looks like a pretty efficient way to deal with it. It doesn't look dirty. If you think at the end of the day, what you get from cows, I imagine it could be a lot less efficient and a lot worse for them.*

Another participant exhibited comfort with the welfare of the cows by telling a story of a personal experience on a dairy farm. The participant reminisced and said:

> *I saw this kind of thing right here in Florida in a farm tour. It's the round table. It's a dairy, I think it's the last dairy in Sarasota County. My friends are appalled, but I*

> *thought the cows looked fine to me. They're eating and being fed while they're being milked and they go around and it didn't bother me. I was really interested in it.*

In addition to some disagreement on viewpoints, the participants also asked many questions about the dairy cow picture. Most of the questions focused on the milking process, the equipment, and how long the cows stay in the parlor. "*Do they stay there 24 hours a day or do they go outside when they get through milking?*" asked one participant. While another asked, "*How many more of them [cows] are there? How big is that circle?*"

Tractor Spraying a Field, *Image 4*

The themes that emerged from the discussion of *Image 4* included chemical application, modernization, and uncertainty. The participants discussed the image of the tractor spraying a field as the application of pesticides or chemicals and also as a practice of modern reality. A participant simply stated, "*Putting more chemicals in our food*." A concerned participant said, "*Like it's pesticides or something, it's going to kill us*." Many of the participants discussed that the image gave them a glimpse of modern reality. "*A modern, modern farm*," said one participant, while another said, "*Unfortunately, if we want to have an abundance of food and we want quality then we have to do this*." The participants' discussion about the application of chemicals included elements of connotation, while the discussion of modern reality included elements of denotation.

After initial discussion about the tractor spraying the field, the discussion turned toward uncertainty. The participants indicated that they were unsure of what crops were growing and what liquid was being sprayed on the crops. Depending on the answers to these questions, the participants suggested that their perceptions might change. A participant said, "*That's part of the problem, we don't know. It could be fertilizer, it could be something else.*" Another participant added to the discussion, "*That looks more like grass. That doesn't look like nothing you're going to eat. It looks like sod or something*."

Farm Family, *Image 5*

They only theme to emerge from the discussion of *Image 5* was the theme of family farm. The farm family image was favored by the participants and was primarily interpreted at the connotative level. The participants indicated that the image was of a nice and happy farm family. "*That's your typical American family there with a dog*," said one participant. Another participant added, "*I agree, it looks like a family, a farm family*." Other participants indicated that image was "*happy*" and "*warm and fuzzy*."

Irrigation, *Image 6*

The themes that emerged from the discussion of *Image 6* included aesthetically pleasing, water conservation, and neutrality. When viewing the irrigation image, the participants perceived the image as positive and aesthetically pleasing. The topic of water conservation was also included in the participants' discussion of *Image 6*. When discussing the positive nature of the image, one participant said, "*I think it's good and in some places it's needed. And probably that would be a different picture if you didn't have irrigation, probably kind of like the cows without grass [referring to Image 1]*." Other participants discussed the beauty of the image at the denotative level and indicated that, "*It's a beautiful picture in many ways*" and "*It's a pretty picture you know and it's green*."

Water conservation was also included in the discussion of this image. Many participants voiced concern over depleting water as a natural resource, the time of day the watering was taking place, and the impact of the watering on the water table and aquifers. This part of the discussion highlighted connotations that participants drew from the image. One participant's input summarized this discussion well:

> *The water table is so low throughout the whole country from 15,000 years ago to now it has dropped two foot. That's a lot of water and I think a lot of people use up a lot and I agree with him about farmers who take advantage of these exemptions. In this past winter proved a lot of that. It hurt a lot of other families because their wells went dry because they [farmers] sucked all the water out of the aquifer to save the berries. Now, I like the picture, but the watering part throws me off a bit.*

As demonstrated in the quotes above, the beauty of the image and concerns of water conservation left many participants with a feeling of neutrality. Several participants, who could not decide if the image was positive or negative, demonstrated neutrality. One participant said, "*I think it's positive and negative. It's more or less, yes, it's not negative and there's no positive in it, so I don't know*."

Tomatoes in a Greenhouse, *Image 7*

The themes that emerged from the discussion of *Image 7* included appetite, uncertainty, and skepticism. The last image that the participants were shown prompted a denotative discussion of appetite, as well as a connotative discussion of uncertainty. Appetite was discussed in both a positive and negative manner. One participant said, "*I like the green and the red. Just seeing something tasty right there*." From the opposing viewpoint, another participant stated, "*Well, the first thing I think about hydroponic tomatoes is that they taste terrible*."

The focus group participants were uncertain about many aspects of this image, including if the tomatoes could really grow as pictured, the structure of the greenhouse, and if the image was real. When discussing if the tomatoes could really grow as shown in the image some participants questioned the growing method. One participant said, "*I've never seen tomatoes grow like that*." Other participants questioned the growing method because they had tried to grow tomatoes upside down and had failed. One participant who told of the failure said:

> *So, obviously I did something wrong, although I followed the directions I was given. So when I look at that, therefore that's why I would, in my warped mind, say that can't be. It's impossible to have tomatoes like that.*

Other participants questioned the structure of the greenhouse and were particularly confused with the "train track" going in between the rows of tomatoes. "*Is that a railroad track in the middle?*" agreed one participant. Another participant added, "*This is a railroad tracks going down there. This is a factory*."

Last, the participants discussed that this was the most unbelievable image of all the ones they had been shown during the focus group. A participant stated, "*It looks unreal [general agreement]*." Another participant added:

> *So, my initial reaction is this is some weird Photoshop picture, but I also know that if you think about, just to put tomatoes on all the hamburgers that are sold in America every day, you've got to have some super high efficient system to grow them and to make them easy to harvest.*

Objective 2: To identify elements of perception theory are present in participants' discussion of selected agricultural images.

The six perspectives of perception theory discussed by Lester (2006) were evident in the discussion of the seven images presented in these focus groups. The personal perspective, subjective opinions present in initial responses (Lester, 2006), was observed in the discussion of all seven images. The historical perspective was present in *Image 3* and *Image 4* as participants discussed the modernization of the practices displayed in these images. Participants were aware of the timeline represented in these pictures and recognized that they were more modern than previous agricultural practices. For example, the historical perspective was apparent in the response "*There you go—modernized. Not [makes the sound and motions of hand milking]*." *Image 7* was discussed from a technical perspective, which includes the composition and presentation of the image (Lester, 2006). Some participants questioned the possibility of the image being altered in Photoshop. The ethical perspective was evident in the discussion of *Image 3*, as many participants discussed the ethical and moral nature of mass production.

Several of the images included some cultural perspective, yet it was very evident in the discussion of *Image 5*. The participants drew on their cultural ideas about what a farm family should look like. Examining the larger issue surrounding the image, or the critical perspective was observed in *Image 2, Image 4,* and *Image 6.* In the discussion of *Image 2*, participants indicated that perhaps the larger issue surrounding their perceptions of the image was that they did not know what was being grown in the field or what was being sprayed on the field. The issue of uncertainty was also brought up in the discussion of *Image 4*, when the participants indicated that they did not know what was being grown in the greenhouse. In addition, when looking at *Image 4*, the participants discussed that the issue of food abundance may have been more important than what they thought about the image. In the discussion of *Image 6*, the participants recognized that water conservation was the larger issue at hand rather than the beauty of the image.

Discussion and Conclusions

All of the images presented to the participants were perceived at the connotative and denotative level, with the exception of *Image 5,* which was only perceived at the connotative level. In addition, the six elements of perception theory did appear throughout the discussion of the images. Some images prompted a bipolar discussion among the participants, while other images caused uncertainty, skepticism, or favorability.

The discussion of each of image commonly began with direct interpretations at the denotative level (Moriarty, 2005). However, as the discussion of each image progressed, more connotative, or culturally based, interpretations were incorporated into the discussion (Barr, 2007). This finding is important for communicators to consider, because the length of exposure to an image could impact an individual's overall perceptions. As the length of exposure increases, it may be assumed that more connotative influences will shape perceptions.

As Elster (1983) indicated, individuals will criticize what does not meet their expectations. Participants provided criticism when their expectations were not met in the discussion of *Image 1, Image 3, and Image 7.* The criticisms of *Image* 1 and *Image* 3 were made in regard to animal care, while the criticism of *Image 7* was due to the believability of the image. Being aware of common criticisms of agricultural images can help agricultural communicators select images that will be viewed favorably by consumers.

Throughout the focus groups, the participants displayed several emotions while looking at and discussing the images. This finding is consistent with perception theory, which indicates that emotions play an important role in the perception of images (Barry, 2005). For example, *Image 3* of the dairy cows and dairy parlor caused some participants to display emotions of empathy and sorrow, while *Image 4* of the tractor spraying the field initially provoked emotions of fear or

concern. In addition to emotion, the six elements of perception theory are helpful in understanding why consumers develop certain responses to images (Lester, 2006). Gaining this understanding can lead to the development and use of images that evoke favorable responses.

As explained by Lester (2006), images that are not easily understood are easily forgotten. Making conclusions about whether participants remember the images that they were confused by or had questions about (*Image 3* for example) is outside the scope of this research. However, further research should explore how long consumers remember or recall images that are easily understood compared to images that are more difficult to understand.

By understanding how consumers perceive images, agricultural communicators and educators can work toward improving agricultural literacy and create a more modern perception of agriculture. Because of the confusion and lack of understanding in regard to some of the images, it is recommended that communicators use images with easily recognizable actions when communicating with the public. An image should capture a complete story and not leave consumers asking, "How many more cows are outside the barn?" for example. In addition, it is recommended that agricultural communicators consider selecting images that incorporate people and have aesthetic elements. The participants in these focus groups had more favorable perceptions toward the image of the farm family and the images that were pretty, such as *Image 6.* Further research should examine consumer perceptions of agricultural images. This research should include quantitative methodology, testing with different populations, as well as testing with different assortments of images. The transparency of images and the effect of transparency on perceptions should also be explored. The findings of this research are limited by the images shown to the participants, as well as the interpretation of participant discussion by the researchers, both of which are common limitations in qualitative research (Pauly, 1991).

References

Abrams, K. M., Meyers, C. A., & Irani, T. A. (2010). Naturally confused: Consumers' perceptions of all-natural and organic pork products. *Agriculture and Human Values, 27*(3), 365–374. doi:10.1007/s10460-009-9234-5

American Farm Bureau Foundation for Agriculture. (2011). *Securing our future.* Retrieved from http://www.agfoundation.org/aboutus/docs/afbfaBrochure.pdf

Ary, D., Jacobs, L. C., Razavieh, A., & Sorensen, C. (2006). *Introduction to research in education* (7th ed.). Belmont, CA: Thomson Wadsworth.

Barr, A. (2007). *Semiotics images in the fields of journalism and politics: An ethical paradox*. Paper for Comm 3210: Human Communication Theory at the University of Colorado at Boulder.

Barry, A. M. (2005). Perception theory. In K. Smith, S. Moriarty, G. Barbatsis, & K. Kenney (Eds.), *Handbook of visual communication theory, methods, and media* (pp. 45–62). Mahwah, NJ: Erlbaum.

Barthes, R. (1977). The photographic message (S. Heath, Trans.). In S. Heath (Ed.), *Image, music, text* (pp. 15–31). New York, NY: Hill and Wang.

Center for Public Issues Education in Agriculture and Natural Resources. (2012). *About.* Retrieved from http://www.centerpie.com/about-2/

Coon, T. K., & Cantrell, M. J. (1985). Agriculture in black and white. *The Agriculture Education Magazine, 58*(4), 22–23.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Darbyshire, P., MacDougall, C., & Schiller, W. (2005). Multiple methods in qualitative research with children: More insight or just more? *Qualitative Research, 5*(4), 417–436. doi:10.1177/1468794105056921

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitative research. In N. K. Dezin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 1–33). Thousand Oaks, CA: Sage Publications.

Dimitri, C., Effland, A., & Conklin, N. (2005). *The 20th century transformation of U.S. agriculture and farm policy.* (United States Department of Agriculture Economic Information Bulletin No. EIB-3). Retrieved from http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib3.aspx#.U5DiASggstd

Duncan, D. W., & Broyles, T. W. (2006). A comparison of student knowledge and perceptions toward agriculture before and after attending a Governor's School for Agriculture. *NACTA Journal, 50*(1), 16–21. Retrieved from http://www.nactateachers.org/vol-50-num-1-march-2006.html

Eco, U. (1986). *Semiotics and the philosophy of language.* Bloomington, IN: Indiana University Press.

Elster, J. (1983) *Sour grapes: Studies in the subversion of rationality*. New York, NY: Cambridge University Press.

Frewer, L. J., Howard, C., & Aaron, J. I. (1998). Consumer acceptance of transgenic crops. *Pesticide Science, 52,* 388–393. doi:10.1002/(SICI)1096-9063(199804)52:4<388::AID-PS740>3.0.CO;2-F

Frick, M. J., Birkenholz, R. J., Gardner, H., & Machtmes, K. (1995). Rural and urban inner-city high school student knowledge and perception of agriculture. *Journal of Agriculture Education, 36*(4), 1–9. doi:10.5032/jae.1995.04001

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems, 12*(4), 436–445. doi:10.2307/798843

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report, 8*(4), 597–607. Retrieved from http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf

Greenbaum, T. L. (2000). *Moderating focus groups: A practical guide for group facilitation.* Thousand Oaks, CA: Sage Publications.

Guion, L. A., Diehl, D. C., & McDonald, D. (2009). *Triangulation: Establishing the validity of qualitative studies*. Retrieved from http://edis.ifas.ufl.edu/fy394

Harder, A., Lamm, A., & Strong, R. (2009). An analysis of the priority needs of Cooperative Extension at the county level. *Journal of Agricultural Education, 50*(3), 11–21. doi:10.5032/jae.2009.03011

Krueger, R. A. (1994). *Focus groups: A practical guide for applied research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Krueger, R. A. (1998a). *Analyzing & reporting focus group results.*Thousand Oaks, CA: Sage Publications.

Krueger, R. A. (1998b). *Developing questions for focus groups.* Thousand Oaks, CA: Sage Publications.

Lester, P. M. (2006). *Visual communication: Images with messages.* Belmont, CA: Thomson Higher Education.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.

Merriam, S. (1988). *Case study research in education: A qualitative approach.* San Francisco, CA: Jossey-Bass.

Moriarty, S. (2002). The symbiotics of semiotics and visual communication. *Journal of Visual Literacy*, *22*(1), 19–28.

Moriarty, S. (2005). Visual semiotics theory. In K. Smith, S. Moriarty, G. Barbatsis, & K. Kenney (Eds.), *Handbook of visual communication theory, methods, and media* (pp. 227–242). Mahwah, NJ: Erlbaum.

Norwood-Tolbert, J. L., & Rutherford, T. A. (2006). A semiotics analysis of biotechnology and food safety photographs in Time, Newsweek, and U.S. News and World Report. *2006 Southern Association of Agricultural Scientists Agricultural Communications Section*. Retrieved from https://sites.google.com/a/extension.org/saasagcomm/proceedings/2006-proceedings

Page, J. T. (2004, August). A semiotic analysis of magazine advertisements. Paper presented at the meeting of the *Association for Education in Journalism in Mass Communications*, Toronto, Canada.

Pauly, J. J. (1991). A beginner's guide to doing qualitative research in mass communication. *Journalism Monographs,*125.

Rhoades, E. B., & Irani, T. (2008). "The stuff you need out here": A semiotic case study analysis of an agricultural company's advertisements. *Journal of Applied Communications, 92*(3–4), 28–42. Retrieved from http://journalofappliedcommunications.org/2008/1-volume-92-nos-3-4.html

Richard, J. B. (2009). *The agricultural industry as perceived by members of the general public of Louisiana.* (Doctoral dissertation, Louisiana State University). Retrieved from http://etd.lsu.edu/docs/available/etd-07012009-150925/unrestricted/richarddiss.pdf

Rose, G. (2001). *Visual methodologies*. Thousand Oaks, CA: Sage Publications.

Terry, R., Jr., & Lawver, D. E. (1995). University students' perceptions of issues related to agriculture. *Journal of Agricultural Education, 36*(4), 64–71. doi:10.5032/jae.1995.04064

Wright, D., Stewart, B. R., & Birkenholz, R. J. (1994). Agricultural awareness of eleventh grade students in rural schools. *Journal of Agricultural Education, 35*(4), 55–60. doi:10.5032/jae.1994.04055

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CENTER FOR PUBLIC ISSUES EDUCATION
IN AGRICULTURE AND NATURAL RESOURCES

Source Credibility

Communicating about Agricultural Water Use

Dr. Alexa Lamm

September 7, 2017

What we know

- The Florida public wants to obtain their information online
- Video will be the top way to communicate with the public on social media networks
- Who people get their messages from matter

Over the next 20 years

- Public water supply demands are projected to grow by 29%
- Agricultural irrigation demands are expected to grow by 7.5%
- Multiple users and needs have put immense pressure on Florida's greatest natural resource
- Unregulated water use will have unintended consequences on our natural habitats
- The agricultural industry engages in the use of best management practices (BMPs)
  - The public is largely unaware
  - The media attention creates distrust

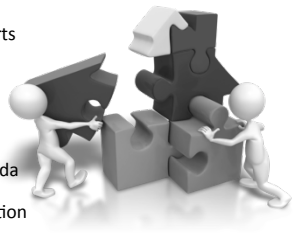
How do we Communicate?

The agricultural industry needs to think about how to communicate about agricultural water use and BMPs

What source does the public find credible?

Methods

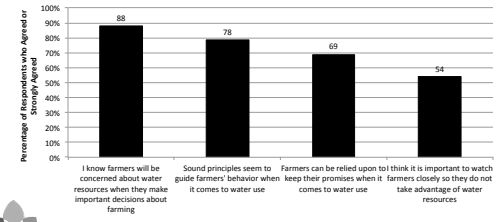
- Used an online survey based on previous research
- Reviewed by a panel of experts from:
  - University of Florida faculty
  - Florida Dairy Farmers
  - FDACS
  - Florida Farm Bureau
- Collected data from 525 Florida residents over the age of 18 representative of the population



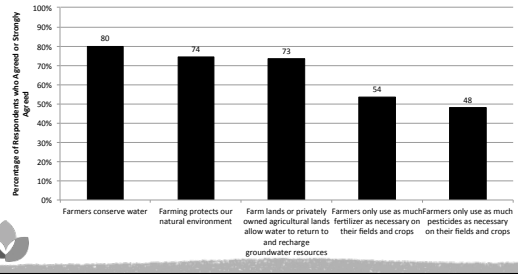
Methods

- Developed 4 videos about the use of best management practices
  - Randomly assigned to respo
  - Identical except for source:
    - UF Scientist
    - Nature Conservancy
    - Farmer
    - Water Management District

Trust in water use and protection



Impacts on the natural environment



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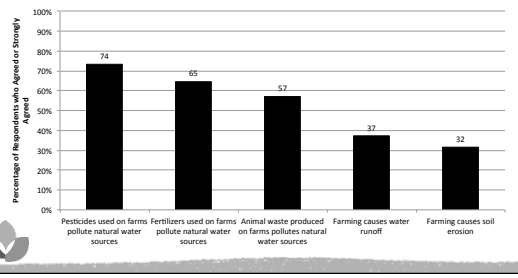
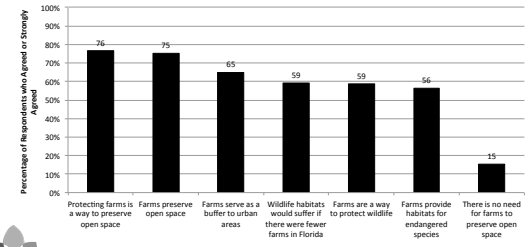


Impacts on the natural environment



Results

Statistically significant differences in:

- Agriculture's relationship with the natural environment when the items were negatively framed
- Impact of agriculture on open space and wildlife

Differences were between the Farmer and Nature Conservancy groups

- The public is more trustful of ag water use if the message comes from the farmer

What does this mean?

- Partnerships are important but the general public is more trusting if the message comes from the agricultural community
- Consider making agricultural water use stories personal
  - Show the farms and interactions with water
  - Be explicit about the use of best management practices and how farming protects natural resources

What the Public Thinks

"Public sentiment is everything. With public sentiment nothing can fail. Without it, nothing can succeed."

-Abraham Lincoln

Questions???

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Learn more at piecenter.com

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IN AGRICULTURE AND NATURAL RESOURCES

FACEBOOK LIVE

Why you should be going live and how to do it

Ashley McLeod
PIE Center Public Relations Specialist

What is Facebook Live?

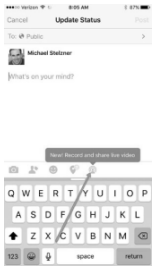
- Live video delivered through Facebook
- Record and share video with audiences in real time
- Archived to your profile

Why go live?

- Video content gets more engagement
- Live video content gets even more engagement
- Have engaging conversations with diverse audiences
- Instantly connect with people
- Tell your story in a creative way

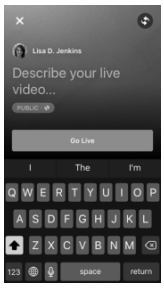
How can you go live?

- Tap to update your status
- Click the live icon



How can you go live?

- Write a description
- Point the camera at yourself or your surroundings
- Tap record
- You are now live!



Be a Facebook Live Pro!

- Announce ahead of time that you will go live
- Have a strong internet connection
- Write an exciting and engaging description

Be a Facebook Live Pro!

- Say hello to commenters and views
- Respond to questions and comments in real time
- Longer broadcasts get more engagement and reach more people
- Have a call to action

Get creative

- Question and Answer session
- Behind the Scenes
- How-To
- Breaking News

Measure your success

- Facebook analytics
- Post engagement
- Live views
- Recorded views

- 5 videos with over 4,000 views
- Engaged 3,000 people
- Reached 10,000 people (200% increase from usual)
- 70 new page views
- 19 new likes


Questions?
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Learn more at piecenter.com

Effectively Using Video in Communication

Video Storytelling and Techniques

Overview

- Telling stories
- Proper video techniques
- Practice!

Storytelling

- What STORY do you want to tell?
- What are memorable ones you've heard? What makes them memorable?
- What approaches do good stories take?

The audience, message & purpose

- **Who's your audience?**
- **What's the message?**
- **What's the purpose? What's the outcome?**

Your audience

- Define the audience.
  - Knowledge level of the topic?
  - Audience characteristics?

The message

- What is the message? What do you want to say?
  - Content?
  - Actors in the video?

The purpose

- How do you want the audience to react to the message in the video?
  - Learn new skill or knowledge?
  - Take action? Call, volunteer, donate, buy
  - Modify behavior (live healthier lifestyle, grow a garden)?

Directing

- Much of video production is getting people to do what you want them to do **(directing). It's theatre!!**
- Who's the director? What is the director's "vision"?
- **Following directions**: Be willing to do the same thing over, and over, and over.

Possible video "themes"

- Instructional
- Demonstration
- Interview
- "Bringing the field to the screen"

Good instructional video "formula"

- "Tell them what you're going to tell them."
- "Tell them."
- "Tell them what you told them."
- (Similar to public speaking!!)

Demonstration video

- Step-by-step process. (gardening, cooking)
- Shooting in sequence
  - Give introduction.
    - Begin with a wide shot (establishing shot).
  - Start process with explanation.
    - Use medium shots and close-up shots.
    - Have talent freeze in position to zoom in for close-up shots, helps avoid *jump cuts.*
  - Give conclusion.

Shooting video for interviews

- Facing the camera (head-on) or semi-profile?
  - If you are **interviewing** someone, the person should **NOT** face the camera.
  - For a demonstration video or when the person is "talking to" the audience, it is perfectly acceptable for the person to **look at the camera**.

In the field

- Variety of shots
  - Long shots, medium shots, close ups
  - Different angles
  - TELL a story

Composition

- **Composition** involves the way the various elements within the frame are arranged.
- **Framing the shot**: Decide what angle to shoot from and what portion of the scene to include in the shot.

Camera movements

- **Panning**: left, right
- **Tilting**: up, down
- **Zooming:** Change in the focal length of the camera lens.

- Don't "zoom" (or pan or tilt) just to be doing it. **Must be motivated**.

Basic shots – "Long shot"

- **Long (or wide) shot (LS or WS)**
  - Shows the object of interest in its surrounding or setting. Used to establish the setting in which something will happen.

Basic shots – "Medium shot"

- **Medium shot (MS)**
  - Bridges the gap between long shot and close-up. Arouses the viewer's curiosity.

Basic shots – "Close-up"

- **Close-up (CU)**
  - Places attention on the object of interest.

Angles

- **Eye level**: flat angle shot
- **Low angle:** looking up at the object.
  - Magnifies the object
- **High angle:** above the point of interest.
  - De-emphasizes the object

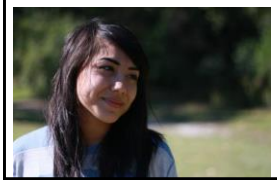
Eye level Low angle High angle

Environmental assessment

- Watch and listen!!
- Listen for distracting noises.
- Choose an appropriate background.
- Pay attention to distracting backgrounds and people.
- **Is this <u>the</u> <u>best</u> location/environment?**

On-screen room

- Headroom
  - Objects near the edge of the frame tend to seem crowded.
- Nose or lead room
  - *Looking* space



Video shooting tips

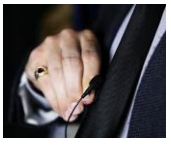
- Only use pans, zooms, and tilts when they are absolutely necessary.
- If you are not a steady shooter and you don't have a tripod, shoot **fewer** close-ups from far away.
- Better to be too tight on a person's face than too far away.
- Watch for weird backgrounds.

What to wear?

- Wear clothing that is appropriate for the interview topic and location.
  - Company logo
  - Business suit
  - Location-specific (jeans)

What to wear?

- Shirts/blouses:
  - Place for a clip-on microphone.
- Minimal jewelry.
- Avoid hats.
- Avoid sunglasses at all costs.
- Colors and patterns:
  - Avoid red, bright whites.
  - Do wear dark, solid clothing, pastels.
  - Avoid close stripes or plaids (or busy patterns). (Moire effect)



Body language

- Don't play with keys/change.
- Sit or stand straight, still.
- Don't sway.
- Beware of swivel chairs!

Shooting video on mobile devices

- **AVOID** composing video shots in a **vertical**.

NO!!!

- **ALWAYS** shoot video **horizontally**.

YES!!!

Shooting video on mobile devices

- Hold the phone with two hands.
  - We are NOT doing selfies here.
- Use your body for pans, tilts, and "body zooms."
- Notice what's on and outside your viewfinder/screen.
- Make sure you have enough recording space and battery life.
- Get helpful accessories.

Mobile device accessories

Video editing programs

- Macs
  - iMovie: FREE
  - Final Cut Pro X: $299
- PCs
  - Windows Movie Maker: FREE
  - CyberLink PowerDirector: $79.99
- Macs and PCs
  - Adobe Premiere: Bundled with Adobe Creative Cloud. Pricing varies. Monthly fee ($20-50/month).

Video editing apps

- VidTrim
- ReelDirector
- Magisto
- Highlight Cam Social
- iMovie (iPhone/iPad)
- Cinefy (iPhone/iPad)

Effective Projected Materials: Using Video

- Be sure the video is saved in the correct format for the computer you will use (PC vs. Mac).
- Check audio capability beforehand, or bring your own speakers.
- Make sure you can access online videos.
  - Have a backup plan.
  - Insert online videos.
    - Keepvid.com

Questions??

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Shooting Video for Instructional Purposes

With the ease people have to create and share video online, video's importance as an instructional medium has only increased. But just because an instructional video is posted online doesn't make it a good video. Here are some tips to improve your instructional videos:

- **Video's purpose**: Video allows you to create virtual field trips or show interviews with experts who you would not normally have access to. Use video to achieve your purpose to inform or instruct your audience.
- **Composition**: Look at everything in the camera's viewfinder. Pay attention to the background; you don't want a pole coming out of someone's head.
- **Audio**: When possible, use an external microphone if you want to record someone's voice. Microphones help minimize wind noise. Many microphones are inexpensive, such as the Azden WLX-PRO wireless microphone at less than $150.
- **Stability**: If at all possible, use a tripod or a monopod to give your shot stability. If you're using a smartphone, using a tripod may not be feasible. Instead, keep your hands as still as possible and move in closer to the object, rather than zooming in, which can make the video look shaky.
- **Shoot a lot**: If you plan to edit the video, shoot many shots at different angles, and shoot close-ups.
- **Horizontal orientation:** Because video screens are horizontal (sideways), hold your smartphone horizontally, not vertically (up and down), to record good video.
- **Editing**: Editing video allows you to use the best shots and interview clips. Video editing programs are available for computer, phone, and tablet. Many are free or inexpensive.

For more information, visit the EDIS series on Video Production: http://edis.ifas.ufl.edu/topic_video_production

If you have questions, contact Ricky Telg, rwtelg@ufl.edu.

How to turn your phone into a movie camera: battle of the Steadicams

https://www.usatoday.com/story/tech/talkingtech/2017/04/10/how-turn-your-phone-into-movie-camera/99545848/

Jefferson Graham , USA TODAY

VENICE BEACH, California.—We would all love to have smoother, more cinematic video footage like we see in the movies.

We can now get that on mobile devices, at consumer prices, with an add-on device called a steadicam. In this week's **#TalkingTech smackdown**, we look at three mobile steadicams (also known as smoothcams, stabilizers or grips), the devices that aim to turn jumpy cell-phone and camera video into sweeping views, by using motors that steady the shot.

Jefferson Graham tries out three consumer gimbals at Venice Beach: Smove, GoPro Karma and the DJI Osmo. (Photo: Robert Hanashiro, USAT)

We begin with the new kid on the block, the Smove. At $139, it's the lowest priced of the bunch. The DJI Osmo($550) started the trend, and continued it in 2016 with the lower-priced Osmo Mobile ($299), offering smooth video from the Chinese-based drone maker.

And the GoPro Karma Grip, originally intended as an accessory for the Karma drone, is now sold individually, for $299.

All three bring the motorized gimbal used on drones to the camera or phone to steady the image. How does this work? Many drones have "three-axis" gimbals — that is, three motors, to work at stabilizing the footage as it soars through the skies. Cheaper drones have two-axis gimbals, and thus, are not as steady. The same metrics apply to the land-based steadicams.

Smove

The Smove has the two-axis gimbal, compared to the three-axis for Osmo and GoPro. This means your footage will still look better on the Smove than it would without it, but not as good as the Osmo or GoPro.

The Smove just came out of crowd funding on the IndieGogo website, where it raised $1.4 million, and is shipping now. Reader alert: the getsmove.com website redirects to Indiegogo, where it appears to be still looking for backers. The company assures us this isn't the case: click the $139

option, and you'll get a unit shipped to you. The company says it will set up its own website soon.

Besides smooth video, other features include the ability to charge your phone while shooting video, which is cool, but buyer beware. The unit is no fun to set up, with instructions that are hard to follow, and little online help as well.

But if you're short on cash and have to get a stabilizer, the price is a bargain, and the unit is an improvement over your normal smartphone footage.

Osmo

I've written about the Osmo units in the past, and love both of them, although I'm partial to the $550 version, which comes with its own, super wide-angle camera.

The Osmo Mobile records footage to the iPhone or select Android models. As good as those cameras are, the Osmo camera is better, at least for getting wide-angle cinematic footage without camera shake. (It's fun to walk down the street with the Osmo, and see your walk presented as super steady, like a camera was flying by your side.)

The $550 model connects via DJI private Wi-Fi, which can be problematic when in big crowds, or bluetooth for the $299 version. Battery life is really poor with these units—the juice can peter out in as little as 45 minutes, and you're draining your smartphone battery too.

GoPro Karma Grip

Karma Grip is included with GoPro's Karma drone. $299 as an add-on (Photo: GoPro)

If you own a GoPro Hero 5 or Hero 4 camera, this is the smoothcam you want. It will dramatically improve your standard GoPro fare by solving the problem any GoPro camera owner has discovered: why is the footage so shaky? (GoPros can be placed on surfboards, motorcycle helmets, and dog collars, but guess what — tools to eliminate the shakes weren't included, until now.)

And unlike the Smove or Osmo units, you don't have to connect to Wi-Fi or Bluetooth to operate the unit. Just turn it on, and you're good to go.

To operate the Grip, place the Hero camera in the cradle, snap it tight, and power it up on the bottom of the unit. This, in turn, charges both the grip and camera. Once charged, turn on the power button on the grip, click record, and have fun.

The negative here is that you get less real estate to compose your images as with the others. With the Smove and Osmo units, the phone is your viewfinder, good for 4 to 5.5 inches, vs. the 2 inches for the Hero.

And if you have a Hero 5, you'll need to spring for a $29.99 adapter to fit the unit into the Karma grip.

Yet for the ease of not having to pair to Bluetooth or Wifi, one-click power starts, longer lasting battery and fabulous footage, the **#TalkingTech smackdown** victor goes to the Karma Grip.