

Student Perspectives of Agricultural Communications Undergraduate Research

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Abstract

This study examined the advantages accrued by students who have participated in undergraduate research opportunities through an agricultural communications program. The objective of this study is to understand how undergraduate students perceive these opportunities and the skills gained. In order to improve the course, meet student expectations and needs, and better improve undergraduate research experience, there needs to be an understanding of the students' perspectives. The benefits of undergraduate research experience (URE) identified in previous work are critical thinking skills, research skills, oral communication skills, and developing closer relationships with instructors (Ishiyama, 2002; Kurland & Rawicz, 2002). There was limited literature on the benefits for students in communication, education, or other humanity fields (Ishiyama, 2002). The following are the research questions:

Q1: What benefits did you receive from your undergraduate research course?

Q2: What makes undergraduate research a successful experience?

The census sample for this study consisted of students who previously completed an URE in agricultural communications at one institution (N = 28). They were asked to participate in the survey and data was collected through Qualtrics Survey Software. Participants who responded (n = 16) indicated they received many benefits including being involved in undergraduate research experiences including improved communication skills, critical thinking skills, and relationships with professors. The number one answer for making a successful research experience, is dedicating enough time to the research experience. Students have gained many skills through their own perspectives making it an invaluable experience.

Keywords: Undergraduate research experience, agricultural communications, perceptions, scholarship

Interactive Infographics' Effect on Elaboration in Agricultural Communication

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Abstract

In public health, politics, and advertising, interactive content has created increased elaboration from those audiences that would otherwise be least likely to engage with a message. This study sought to examine interactivity as an agricultural communication strategy through the lens of the Elaboration Likelihood Model. Respondents were randomly assigned a static or interactive data visualization concerning the production of peaches and blueberries in [state] then asked to list their thoughts in accordance with Petty and Cacioppo's thought-listing measure. Respondents significantly elaborated more with an interactive message than the static, extending the results of past research in other communication realms to that of agricultural communication as well. This increase in attitudes and cognition encourages agricultural communicators to pursue the use of more interactive elements in their messaging.

Keywords: interactivity, involvement, internet ability, agricultural news, online news, interactive graphics, attitudes, elaboration

Where there's smoke, there's fire: Examining agricultural and environmental frames in Associated Press coverage of U.S. wildfires

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Abstract

Following the Starbuck Fires in the western United States, which devastated many farms and ranches in 2017, the researchers wanted to investigate if and how print media focused on agricultural and environmental issues related to wildfires. Using framing theory, this study examined how news surrounding wildfires is framed and whether or not agricultural and environmental topics are discussed. Using Lexis Nexis, the researchers searched for articles published by the Associated Press between November 1, 2012, and November 1, 2017. We then examined a sample set of 5% of the 2,990 articles ($n=150$). In total, there were 243 stories within the 150 articles. We created 35 different options of frames based on work by Terracina-Hartman (2017). Content analysis resulted in 195 frames. The most common frame was a fire update (37.9%), which included a status report on the fire and fire damage. Only one story had a primary frame related to agriculture. Two stories discussed threats to wildlife (1.0%). This research is important because it shows that agricultural and environmental factors are often not covered by mainstream press during periods of tragedy, such as a wildfire, despite large losses of farmland, forests, and other natural resources.

Keywords: wildfires, framing, media, content analysis, newspapers, agricultural issues

Coauthor Network Analysis of *Journal of Applied Communications* Articles from 2008-2017

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Abstract

Coauthorship networks offer a glimpse of collaborations within a discipline. Social networks enable users to leverage more resources than they could on their own. This study used relational bibliometric data from the last 10 years of the *Journal of Applied Communications* (JAC) to create a social network analysis. The following research objectives guided this study: 1) describe authorship, category, and frequency of JAC papers, and 2) describe the coauthor network characteristics of JAC papers. Results showed that the majority of articles published in JAC were research articles and written by more than one author. Typically, authors who were well connected in the network were those who collaborated with other faculty at their own institutions, mentored graduate students, and continued to collaborate with graduate school classmates after graduation. Based on the results, recommendations to broaden connections in agricultural communications included increasing collaborations based off of research interests, as opposed to geographic proximity and past working relationships to increase connections across the agricultural communications discipline.

Keywords: social network analysis, *Journal of Applied Communications*, authorship, social capital

Communication Channel Preferences: An Audience Segmentation Analysis

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Abstract

For over 70 years the use of opinion leaders in a two-step communication process has been employed and validated. However, despite the accepted importance of communicating with opinion leaders as a means to cascade information to opinion leaders' networks of influence there have been few empirical studies specifically examining agricultural and natural resource opinion leader communication channel preferences, particularly from an audience segmentation perspective. The results reported in the study capitalize on previous research data examined from a unique perspective. Specifically, communication channel preferences were analyzed according to opinion leader self-reported demographic categories serving as audience segments. Associations between sex, age, level of employment, level of education and geographical region and communication channel preference were analyzed. The results of the study are descriptive and foundational in nature. Overall, the results indicate a dedicated web page or blog is the most preferred communication channel across all audience segments and conference calls are the least preferred communication channel across the majority of audience segments. The Facebook group communication channel had the most variability between audience segments and the LinkedIn group communicational channel had the largest observed effect sizes among audience segments.

Keywords: Opinion Leader, Audience Segmentation, Communication Channel Preference

A Qualitative Case Study of Agricultural and Natural Resources Scientists' Twitter Usage for Engaging Public Audiences

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Abstract

Scientists frequently asked to broadly share their expertise and research with a variety of audiences, beyond typical academic circles in their home disciplines. That could include developing community engagement programs, school outreach, leveraging online social networks, and other activities. The purpose of this study was to examine agricultural and natural research scientists' typical science communication channels, their experiences utilizing Twitter for sharing their knowledge, engaging in public science discussion, and conceptually map participants' Twitter usage for public science engagement to the Diffusion of Innovation curve. Researchers used a qualitative case study design. Data collection included ANR scientist interviews (n=8) and application of Internet-based research methods for observing scientists' Twitter activities. Five themes emerged from the data: 1) Scientists' traditional and typical science communication channels, 2) The importance and challenges of engaging public audiences in science topics, 3) Scientists' descriptions of Twitter practices, 4) ANR scientist Twitter diffusion and adoption, and 5) Scientists' identified barriers to public engagement via Twitter. Conceptually mapping scientists' Twitter usage to the Diffusion of Innovation curve showed most participants were innovators, early adopters, and the early majority. While, some scientists did not use Twitter and questioned the quality and impact of Twitter discussions and science dissemination. Recommendations include continual development and implementation of science communication training for scientists targeting best Twitter practices, using visuals for online engagement, and how to effectively navigate heated online discussions.

Keywords: science communication, public science engagement, Twitter, diffusion of innovation, Internet-based research, qualitative

Exploring the challenges and motivations of interdisciplinary agricultural center directors when communicating about science

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Abstract

As interdisciplinary agricultural centers are being developed to address problems that impact society, it should be determined what challenges and motivations exist for the leaders of interdisciplinary agricultural centers when communicating about science and research to the public. The purpose of this study was to explore the motivations and challenges of interdisciplinary agricultural research center directors at land-grant universities when communicating about science. Using a theoretical model based on the Excellence Theory, a qualitative design was used to explore the opinions and perceptions of interdisciplinary agricultural research center directors at top research land-grant institutions. Results from this study suggested that directors are motivated to communicate with the public through incentives, such as financial support or job promotion. Center directors also discussed challenges when communicating with the public, including a lack of time and a lack of resources. It is recommended that future research examine the effectiveness of messages communicated by interdisciplinary agricultural centers and explore factors that may motivate other agricultural scientists to communicate about science.

Keywords: science communication, motivations, challenges, Excellence Theory, interdisciplinary centers, land-grant faculty, qualitative

Describing Coastal Prairie Place Attachments for Improved Conservation Messaging

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Abstract

The field of communication can assist conservationists in the development of messages to better engage audiences in supporting conservation efforts. Recent studies have pointed to the emotional bond between person and place as an effective way to frame conservation messages. This basic qualitative study explored the use of messaging efforts meant to embody a tripartite framework of place attachment. A total of 31 individuals were segmented into two audiences based on their perceived value toward the coastal prairie. Then, each individual participated in a semi-structured interview in which they were asked to describe their feelings of attachment toward the prairie. The research identified unique themes of place attachment which can aid in the development of coastal prairie conservation messaging. The results from this study showed the audiences' described attachment to the coastal prairie was multidimensional rather than a consistent pattern of physical, social, or experience based connections. Based on these results, a proposed model of overlapping multidimensional place attachment determinants is also suggested. This research concluded coastal prairie conservation organizations such as the Coastal Prairie Partnership, who wish to embody messages which invoke feelings of place attachment, should do so through a multi-dimensional approach.

A Mixed-Methods Comparison of Self-Reported and Conversational Trust in Science

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Abstract

The development of science and technology highly relies on public trust in science. However, previous studies have shown that the public trust may vary across different scientific issues. Applying new technologies to combat citrus greening was used as an example in this study. The research explored how the public trust in science varied between a general and context specific environment. A total of 73 citrus consumers from Florida, Illinois, New Jersey, and California participated. A convergent mixed-methods design was conducted. The results indicated participants' self-reported general trust in science did not change significantly between two measures. Conversationally, the general trust in science indicators were not frequently discussed. However, four major themes related to distrust were revealed: *lack of Information*, *skepticism*, *fear*, and *lack of benevolence*. Future research is recommended to further explore how trust in science evolves in conversation and among different contexts.

Keywords: Trust, attitude, science, technology, mixed-methods

How Consumers Contrast and Assimilate Information about Agricultural Biotechnology

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Abstract

A devastating disease is facing the US citrus industry. Different applications of biotechnology have been developed to treat the disease, but the success of the technology is dependent on consumers' willingness to purchase citrus produced with that technology. The purpose of this study was to understand how consumers process information about different applications of biotechnology to combat citrus greening. Social judgement theory and Elaboration Likelihood Model (ELM) were used to guide the study as prior literature has recognized a close relationship between the two theories. Focus groups were used to collect qualitative data from a sample of citrus producers from four different US states. The findings showed that the participants did not agree on any one agricultural biotechnology application. Evidence of ego involvement, peripheral cues, personal experiences, and knowledge seemed to be most indicative of assimilation, contrast, and non-commitment. The researchers recommended that communicators use metaphor/similes with personal experiences to facilitate elaboration and assimilation of biotechnology in the future. Future research should include in-depth cognitive interviews to better understand the processing of information as well as exploration of information processing associated with other agricultural biotechnologies.

Keywords: social judgement theory, elaboration likelihood model, biotechnology, citrus greening, qualitative

Tenure-Track, Land-Grant Faculty's Motivation to Engage in Science Communication

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Abstract

To address gaps and knowledge and skepticism related to science, faculty will have to effectively engage the public in science communication. This is particularly true at land-grant institutions where tenure-track faculty have appointments in teaching, research, and Extension. However, tenure-track faculty have found it difficult to balance their professional obligations and have struggled to engage the public. The purpose of this study was to determine how the Expectancy Value Theory (EVT) of Achievement Motivation can explain tenure-track, land-grant faculty's engagement in effective science communication. An online survey instrument was distributed to a census of tenure-track faculty at [University] in Fall of 2017. Respondents reported engaging in science communication about once a month and using quality engagement strategies. Additionally, respondents had positive or neutral task values associated with science communication, believed they had good ability, and would be successful at science communication in the future. Research appointment, cost belief values, and ability beliefs were all predictors of effective science communication and accounted for 64% of the variance in effective science communication. EVT was found to be a useful model in understanding faculty's motivation to engage in science communication. Tenure-track faculty has positive perceptions of science communication, which indicates intent to engage the public. However, perceptions of ability must be addressed, through formal or informal education, if faculty are expected to engage in effective science communication. The study could be replicated at other universities to understand institutional influences on science communication.

Keywords: Science Communication, Land-Grant, Faculty, Motivation, Expectancy-Value Theory

Beyond the post: Equine operators' communication processes for conservation practices

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Abstract

The equine industry is an established part of Maryland Agriculture. The most recent equine census placed 79,100 equines valued at approximately \$714 million in the state, with approximately 10% of those animals housed in one county. But, equine operators are a unique demographic in the agricultural realm. They are not managing land to produce food or fiber and often are employed in other professions unrelated to agriculture. Unlike other agricultural operators, they are often unaware of conservation terms or programs available to help implement these practices on their land. The basic objective of this study was to explore the level of understanding equine operators in Montgomery County, Maryland, have of conservation best management practices (BMPs) and methods of communication that influence them in gaining awareness of and the adoption of these practices on their properties. The study applied the tenets of the diffusion of innovation theory (DOI) and economic constraint theory gathered through semi-structured, qualitative interviews with participants, selected using purposive and snowball sampling. Glaser's constant comparative method was used to discover emerging patterns in the data. Results from these interviews aided in identifying the most effective means of educating equine operators regarding BMPs and increasing the adoption of these practices on equine properties within the county. Equine operators in the study were found to use a variety of informational sources, had a high level of adaptation of the BMPs they used, and overall, saw their role as caretakers of the land as an important aspect of their environmental actions.

Keywords: conservation, equine, diffusion of innovations, economic constraints, information sources, strategic communication