Adding Tools to the Evaluation Toolbox: Exposing Undergraduate Agricultural Communications Students to Dynamic Message Evaluation Tools

Innovative Poster

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Introduction and Need for Innovation

Agricultural communicators recognize the need to use effective communication to best inform, motivate, and serve their clients (Telg, Irani, & Varvorines, 2008). However, agricultural communications research has suggested communicators often struggle to communicate with non-agricultural audiences (Ruth, Gay, Rumble, & Rodriguez, 2015) and more research is necessary to address the need to improve communication messages (Goodwin, Davis, & Telg, 2014).

In agricultural communications, researchers have relied on qualitative questioning and quantitative survey design methods to understand how audience members process, perceive, and attend to specific agricultural messages. While these research strategies have provided valuable information and insights, these tools tend to dismiss the dynamic nature of media consumption (Biocca, David, & West, 2014). Advances in multimedia technologies and the emergence of new media formats demand a need for researchers and practitioners to supplement traditional research designs with new dynamic evaluation procedures. Using research tools such as dial testing, eye tracking, and psychophysiology allow researchers to capture the dynamics of media consumption. These tools capture, in real time, various individual responses that would traditionally be self-reported after exposure to media. In addition to increasing a scholarly researcher's toolbox, undergraduate exposure to communication evaluation tools allows students to gain insight into new technologies for message evaluation. Previous research has stressed the need for giving students the opportunity to explore research and evaluation tools. This exposure to new evaluation tools allows agricultural communications and education faculty build a sufficient scientific and professional workforce that addressed the challenges of the 21st century (Doerfert, 2011).

How it Works

Undergraduate students were introduced to three message evaluation tools (eye tracking, dial testing, and psychophysiology). Students were first presented with information about dynamic communication including what the tools are, how they are used to evaluate messages, and what the data looks like. After the presentation, the undergraduate students took a tour of the Texas Tech University Center for Communications Research where they participated in three brief study demonstrations.

In the psychophysiology laboratory, a student volunteered to serve as the participant. The student's heart rate, skin conductance, and facial electromyography were collected as the student watched a short video on water conservation. The remaining students had the opportunity to observe how the participant's psychophysiology measures changed throughout the duration of the video. Similarly, in the eye tracking demonstration, the instructor calibrated and recorded the eye gaze of a student as she looked at an advertisement. The students had the opportunity to observe the process of collecting eye tracking data. Additionally, the students observed the data output in the form of a short video showing the volunteer's eye gaze, the amount of time the volunteer fixated in a particular region or look zone, and the number of fixations on the advertisements. In the third demonstration, all the students participated in a brief dial testing or continuous response study. Students were asked to continuously provide their level of agreement to the question, "I find the information to be credible" by turning a dial from 1 to 100 while

watching a video. After the data were collected, the instructor provided a brief overview of the data output. Once students were exposed to all the tools, they answered the following reflection questions: 1) prior experience with undergraduate research, 2) the best part of the experience and what they would change, 3) how the experience impacted their ideas of communications research, and 4) their opinions to attend graduate school.

Results to Date

Information was gathered on students' prior experiences with research. All of the students responded that they had not completed a research methods course or an undergraduate research project. Some of the students provided statements similar to "I'm only a sophomore, I haven't put much thought into that idea yet," while others expressed apprehension to take on a large undergraduate research project. Students reported lack of awareness was a barrier to not participating in undergraduate research. One student explained:

> I have never thought about it. Not because I am not interested, but because I just do not hear a lot about the undergraduate research opportunities that are available. If I did, I worry that I would not have enough time to conduct a research project.

When asked about their experience tour the [center], students said they enjoyed learning new ways to test messages. "Having no prior knowledge of communication research, it opened my mind to all the different things you can test and the different ways you can test them for different results," one student wrote. The majority of the students said the eye-tracking lab was their favorite because they could see how websites could be tested to improve audience reaction. The students said they would like to learn more about the data analysis, particularly in the psychophysiology laboratory.

Students said this tour helped provide a better picture of what communications research can be. "It has definitely opened my eyes and given me a better understanding of what could be done and how it actually beneficial in the real world," one said. Others said it encouraged them to consider graduate school, "Watching the research instruments in action sparked my interest even more." One student said these tools made her less apprehensive to research: "I said the word 'research' has always scared me. However, I got to see some cool things you can do with research, and it has changed my view in showing how fun and interesting it can be."

Future Plans and Advice to Others

Based on this activity, student knowledge of undergraduate research is minimal. To increase knowledge, faculty must expose students to undergraduate research opportunities and how research could be used in their future careers. Additionally, to provide more information about the evaluation tools more time should be added to go further in-depth with the data.

Cost and Resources Needed

While the [center] did not charge for using their tools for this tour of the facility, there are many costs associated with conducting this type of research.

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