

Postsecondary Students' Reactions to Agricultural Documentaries: A Qualitative Analysis

Courtney Meyers, Erica Irlbeck, and Kelsey Fletcher

Abstract

Prior studies have found that television and movie portrayals of science and agriculture can influence attitudes and opinions toward the featured topic or issue. The prevalence of media in modern society emphasizes the need to better understand the possible impact representations of agriculture in entertainment media have on audience members' attitudes. The purpose of this study was to explore the influence two agricultural documentaries (*Food, Inc.* and *King Corn*) had on students' perceptions of agriculture. Students enrolled in two agricultural communications classes at a southwest university watched one documentary per class, and through reflective journaling, recorded their thoughts about the documentaries. These journals were then analyzed to determine dominant themes and key quotes. Overall, students stated they were upset and offended by the messages presented and sources used in each documentary. Although some students found both documentaries to contain interesting information, for the most part, they found the films to be one-sided and did not portray an accurate depiction of modern agricultural practices. The use of reflective journaling was effective because it allowed all students to provide their viewpoints in response to the films. It also allowed the students to practice writing response statements as some will work in public relations and may be expected to defend their industry should other negative documentaries about agriculture be produced in the future. Additional research should further examine the effectiveness of reflective journaling and gather student perceptions to other films or television shows that feature agriculture.

Keywords

agricultural documentaries, entertainment media, cultivation theory, reflective journaling, source credibility

Introduction/Literature Review

Agricultural science is a complex subject involving biology, chemistry, business, and politics. Combining those subjects creates a business that is difficult for many to understand, especially if one was not raised in or worked around agriculture. Because of these complexities and the separation of most Americans from production agriculture, many individuals' understanding of agriculture comes from information gleaned from the media—television, newspapers, magazines, Internet, movies and even documentary films (Retzinger, 2002). Previous research on agriculture in entertainment media

This research study was presented at the 2011 Association for Communications Excellence Conference held in Englewood, Colorado.

found that agriculture was negatively portrayed (Ruth, Park & Lundy, 2005). However, Nisbet and Scheufele (2009) argued that media can help create a society that is more literate in the sciences, and communication about science should have diverse mediums—and this could include documentaries.

In recent years, two documentaries have received a great deal of attention for their representation of modern agriculture. Released in 2008, *Food, Inc.* is a documentary that presents a critical perspective on modern production agriculture in America. The film provides an in-depth examination of how today's production agriculture has changed in recent decades and how those changes affect consumers with a particular emphasis on the role of corporations in agricultural production (Kenner & Pearlstein, 2008). The documentary is divided into segments that describe different points in the food production chain such as poultry operations, processing plants, and grocery stores. The film features interviews with farmers, contract growers, food safety advocates, consumers, a labor union representative and organic producers. A reviewer for *The New York Times* described the film as “an informative, often infuriating activist documentary about the big business of feeding or, more to the political point, force-feeding, Americans all the junk that multinational corporate money can buy” (Dargin, 2009, para. 1). When *Food, Inc.* was nominated for an Oscar for best documentary, several farm organizations vocally opposed the film's recognition due to the critical way in which agriculture was represented (Clare, 2010).

Another agricultural documentary, *King Corn*, released in 2007, showcases the adventure of two eco-activists – Ian Cheney and Curt Ellis – as they move to a rural area in Iowa to grow an acre of corn, apply for government subsidies, select seed and herbicides, and follow their crop all the way to the marketplace (Woolf, 2007). During the movie, the filmmakers discuss the history of corn production in America and modern corn production practices. Through interviews with scientists, industry representatives, nutritionists, professors, and even the former Secretary of Agriculture, Earl Butz, the two filmmakers examine the prevalence of corn in the public's diet. Many controversial topics are discussed in the film including the use of high fructose corn syrup and the dependence of farmers on government subsidies.

In a review of *King Corn* for the *Minneapolis-St. Paul Star Tribune*, the reviewer said, “Nothing can scare me away from my beloved popcorn, but *King Corn* comes close” (Covert, 2007, para. 4). This film also encouraged strong reactions from those in the agricultural community. Nolz (2009) said, “The documentary craftily twisted and turned to make farmers and ranchers seem like ignorant, greedy barbarians” (para. 2). Gorrell (2008) commented: “I do fear that we, as producers, and small town residents, keep ignoring attacks and untruths, that movies like *King Corn* and people's perceptions of it, could be the ‘ruination’ of modern agriculture and rural America” (para. 34).

This research was conducted through the scope of cultivation theory, which states that people generally accept the worldview that is portrayed on television as truth (Gerbner, 1987). The theory claims that individuals will adapt their understanding of information based on what is seen on television, and as an individual watches more television, his or her ideas will align with the “television view” (McQuail, 2005, p. 552).

Television is a highly influential medium due to its drama combined with images and messages (Gerbner, Gross, Morgan & Signorielli, 1994; Williams, 2006). Gerbner et al. (1994) ventured to argue that television is, for most individuals, a primary source of daily information, indicating that television is a medium that should be used to communicate scientific and agricultural information. Gerbner (1987) said limited evidence exists that shows “exposure to science and technology through television entertainment appears to cultivate a generally less favorable orientation toward science . .

.” (p. 112). Prior studies of how science is portrayed in movies have found the depictions are often false, exaggerated, and not credible. In a review of 33 movies about human cloning, Cormick (2006) found the portrayal of this type of biotechnology was accurate only about 25% of the time. Cloning was primarily presented in a negative way that focused on rogue and evil scientists or corporations. The study did not provide a correlation between the films and public attitudes about cloning, but public opinion polls in Australia (where the study took place) showed that the public does have strong negative opinions toward human cloning.

In a critical analysis of several films that feature agricultural plotlines, Retzinger (2002) found that the films did not help bridge “the gap between urban and rural citizens...these films construct a different gap, one that lies between an agrarian and pastoral myth and the commercialized, corporate forms of agriculture practiced in the United States” (p. 57). Retzinger did note that film may be an effective way to bridge this gap because it draws viewers who are willing to watch and learn.

Ruth, et al. (2005) studied the influence reality television programming (*The Simple Life*) had on undergraduate students' perceptions of agriculture. The study found viewers who had more agricultural knowledge were more critical of how agriculture was portrayed, while those with less knowledge or experience in agriculture were not as sensitive to the representation of agriculture (Ruth et al.). These same researchers further explored this phenomenon using a fictionalized representation of agriculture (from the movie *Napoleon Dynamite*) to determine what impact the example had on opinions, attitudes, or perceptions of the industry (Lundy, Ruth, & Park, 2007). This follow-up study supported the findings from the Ruth, et. al study, particularly that the portrayal of agriculture through negative stereotypes is influential in shaping attitudes and perceptions for those who have little or no direct experience with the industry (Lundy, et al.).

The perception of sources used in communication efforts is an important concept in communication research because the source of messages can affect how message recipients perceive that message content and create meaning from the information provided (Stone, Singletary, & Richmond, 1999). “Source credibility is the amount of credibility (believability) attributed to a source of information (either a medium or an individual) by the receivers” (Bracken, 2006, p. 274). Communication researchers have explored credibility in both interpersonal communication (Hovland & Weiss, 1951-1952) and mass communication (Hovland, Janis, & Kelley, 1953). These studies and others (McCroskey, 1966; O'Keefe, 2002) defined credibility as the perception of “trustworthiness” and “expertise” message recipients have in a source. McCroskey identified two factors within the construct of source credibility: authoritativeness and character. The authoritativeness factor describes the message recipient's perception of how knowledgeable a source is for the message content area. This includes perceptions of how reliable, informed, and qualified the source is. The character factor describes the message recipient's perception of how trustworthy or honest the source is for the message content area (McCroskey).

Source credibility is especially relevant in persuasive communication because message recipients are “more likely to accept the message recommendations of sources that we perceive to be highly credible” (Baldwin, Perry, & Moffitt, 2004, p. 141). If message recipients have more positive perceptions of the source, then they are more likely to listen and respond to that message content. However, if message recipients have more negative perceptions of the source, they are less likely to listen and that information will be ignored (Stone, et al., 1999).

Purpose/Research Objectives

The purpose of this study was to explore postsecondary students' reactions to documentaries

that discuss various topics in agriculture. The following research objectives were developed to help achieve this purpose.

1. Describe the demographic characteristics of the participating students.
2. Describe students' opinions about how agricultural practices were portrayed in the agricultural documentaries.
3. Describe students' opinions of the sources used in the agricultural documentaries.
4. Describe students' reactions to the agricultural documentaries.

Methods/Procedures

The population for this study included 54 students (all over 18 years old) enrolled in two courses at Texas Tech University. One course (ACOM 3300 Communicating Agriculture to the Public) had 35 students enrolled while the other course (ACOM 3301 Video Production in Agriculture) had 19 students enrolled. In order to improve participation, the instructors offered 10 extra credit points for students' participation in completing the survey portion of the study. The journaling portion was a required class component; however, five students elected not to have their journals used in subsequent data analysis, which resulted in a total of 49 complete journals available for this study.

Food, Inc. and *King Corn* were the two movies selected to show in the classes because they are directly related to the topics discussed in both courses. Students in ACOM 3300 watched *Food, Inc.*, and explored how the film portrayed current topics and issues in agriculture. Students in ACOM 3301 watched *King Corn*, and discussed the depicted agricultural issues in addition to video techniques, shot angles, editing, interviewing, and interview source selection.

The researchers obtained the university's Institutional Review Board approval before collecting data for the study. All research occurred within the normal class time and did not require any additional time outside of the class period. First, students completed a survey instrument that measured critical thinking, attitudes toward agricultural topics, and demographics. Only the demographics portion of this instrument is reported in this paper. Each instrument had an identification number printed on it that corresponded to each student's ID number on the reflective journal that was used each class period. Second, students completed a reflective journaling exercise before, during, and after each of the movies. Table 1 provides the thought-provoking questions the instructor in each course asked to encourage student reflection and journaling before showing the movie, at several points during the movie, and once the movie had concluded. The reflective journal was passed out at the beginning of each class and collected at the end.

The use of a journal allowed students, in a non-intimidating environment, to record their reactions to the movies as they were being shown. Reflective journaling is useful for capturing a student's perspectives at a certain point in time. It is also a learning experience that may have an impact on the student long after the actual lesson ends (Boden, Cook, Lasker-Scott, Moore, & Shelton, 2007). Using reflective journaling in the classroom can be an extremely useful tool, but instructors must provide clear guidance for the students when journaling or the exercise could be viewed as busywork instead of aiding personal growth and professional development. The instructor should discuss expected length of the journal entries, encourage students to link experiences to journaling content, and introduce the topics to be addressed in the entries (Hubbs & Brand, 2010). In this study, students were asked to respond to several question prompts before, during, and after the movies to encourage additional reflection.

Table 1

Reflection Questions Asked Before, During, and After Viewing Agricultural Documentaries

Timing	Questions Asked
Before showing the movie	• What are the issues facing the agriculture industry today? • What is your opinion about how agriculture is portrayed in the media (news, movies, etc.)?
At several points during the movie	• What do you think about what was just shown/discussed in the video? • How does it make you feel? • What questions or concerns does it bring to mind? • What are your opinions of the sources being interviewed?
At the conclusion of the movie	• What is your reaction to the movie? • What questions do you still have regarding the documentary? • Did any of the topics in the movie create an emotional (angry, supportive, frustrated, happy, etc.) response from you? Explain. • What topics were not included that you think should have been? • What would you ask the film makers if you had a chance?

The reflective journals were transcribed in their entirety and each journal was saved as a separate Word document. Students were given unique pseudonyms to protect their identities when analyzing and reporting the results. Data were analyzed using open and axial coding. Using NVivo 8.0, a qualitative data analysis software, the researchers first made a wide inquiry, or open coding procedure, to categorize data (Berg, 2009). Following the open coding, the researchers axially coded the data, intensive coding around one category or open code.

Results/Findings

Objective 1: Describe the demographic characteristics of the participating students.

Forty-three students completed the demographic questionnaire prior to viewing the documentaries (five students were in both classes; one student did not complete the demographic questionnaire). Students were between 20 and 25 years old ($M = 21.47$, $SD = 1.351$) with a mode of 21 years old. The majority of students were female ($n = 28$, 65.1%) and agricultural communications majors ($n = 34$, 79.1%). All classifications were represented with one freshman (2.3%), eight sophomores (18.6%), 19 juniors (44.2%), and 15 seniors (34.9%). The majority of respondents reported that their families own agricultural property ($n = 30$, 69.8%) and that they lived on a ranch or farm ($n = 25$, 58.1%). Only one student (2.3%) had seen *King Corn* prior to it being shown in class, while four students (9.3%) had seen *Food, Inc.*

Objective 2: Describe students' opinions about how agricultural practices were portrayed in the agricultural documentaries.

The agricultural documentaries discussed a number of agricultural practices including concentrated animal feeding operations (CAFOs), processing plants, the use of pesticides and fertilizers,

agricultural policies, and many more. The documentaries often presented the practices used in large-scale modern farming then provided information to cast these practices in a negative light. Many students questioned how the documentaries made modern agricultural production seem as if it was wrong. These students emphasized that in order to meet demand, production practices had to change from what was done 50 years ago. Terri said, “Society demands the food, but then criticizes how they got it. They have created this over the years with the idea of bigger, better, and faster.”

Food, Inc. reported on the use of immigrant labor in meat processing plants. Students had very strong reactions to the use of immigrant workers, mostly from Mexico, in these factories. Some students voiced that these jobs should go to American citizens and not illegal immigrants. Linda explained, “There do not need to be illegals in the U.S. period. Those companies should give jobs to poor people in the U.S.” Another student shared her strong opinion on this topic: “There’s not an anti-immigrant movement. There’s an anti-illegal immigrant movement! Why would you want them here? They’re using our resources yet not paying taxes to this country!” Other students supported the use of immigrant labor. Chris said, “I am all for allowing immigrants to do these jobs. They are willing to do these jobs and start a new life here, we should let them.”

Several students said the treatment of workers in the featured processing plants was wrong while others disagreed. Mindy commented that this segment made her angry:

They are all up in arms because the illegal immigrants are being jailed. The point is, these workers are illegal, and deserve to be deported. They don’t pay taxes and they use our resources. They have no right to be treated fairly and to be in our country. It is not a bad thing to deport them.

King Corn focused on the specific changes made in corn production including the use of fertilizers, pesticides, and new crop varieties. Shauna said, “I think they are saying that corn is a huge industry that has evolved to produce the maximum yield. I don’t think it’s bad.” Another student commented, “The tone is almost depressing. They make it seem like the increase in production is a bad thing.”

Another area of emphasis in *King Corn* was the use of government subsidies for agricultural production. Many students said they did not know much about subsidies, but Gabrielle said: “Without these subsidies, growers would quit the business and ultimately, America’s food source would collapse. Food prices would skyrocket and the economy would plummet.” Students were supportive of government subsidies to sustain American agriculture. Margie said, “I think government payments are necessary. Some farms are producing food and fibers that help our country and sometimes farmers can’t make enough to stay in business.”

Several students noted that the documentaries emphasized CAFOs as detrimental to cattle and human health by linking the feedlot conditions to higher instances of *E. coli*. Marcie said, “I don’t like the way they showed the feedlot. Not all cattle go to feedlots like that and not all have *E. coli*.” Kelly noted that “meat must be produced rapidly because of the population’s high demand, but that does not mean it shouldn’t be made without care or concern for the people consuming it.”

Overall, students commented that the documentaries were biased against modern agriculture. Several students noted that in order to meet the demands of a growing population, changes are necessary to improve the efficiency of modern agriculture. When watching *Food, Inc.*, James said, “I feel like they are against how farming is done today. It kind of frustrates me because the announcer probably has no idea what he is talking about.” While viewing *King Corn*, Melissa commented:

I think the growth in production is killing the small family farm and there is a grudge for that, so they are in turn trying to blame all the growth on corn, and it was a smart idea, but the growth is needed for the U.S. to survive.

Objective 3: Describe students' opinions of the sources used in the agricultural documentaries.

At several points during the documentaries, students were prompted to provide their opinions of the sources interviewed or cited in the films. Overall, students were skeptical of the sources used in both films and said they were one-sided or biased. However, some students did not agree and said certain sources in both films were trustworthy. Students who watched *Food, Inc.* had strong reactions to several of the sources interviewed including a natural/organic farmer, a low-income Hispanic family, a food safety advocate, and poultry farmers.

The natural/organic farmer, Joel Salatin, received the strongest comments from students who scoffed at his criticism of modern agricultural practices. Several students described him as “gross,” “backwoods redneck,” and “idiot.” Students reacted particularly strongly to this segment because it showed him slaughtering chickens in an outdoor facility, which many students called “unsanitary.” Beth said, “I laughed at this section because it shows a left field farmer and his incorrect procedures and expects other farmers to do the same.” Chris explained:

This source came off as being very bitter toward big farmer production and corporations in the beginning, then as the segment developed, he just came off as being very uneducated. He talked about being sanitary while handling a chicken carcass with no gloves or anything. He also made the claim that his operation is just as efficient as a large production plant. As someone who has been to a poultry production plant, there is no way that his claim is true.

The natural /organic farmer spoke about his production practices that emphasized how grass-fed livestock and more hands-on care will produce food that is healthier than other production practices. Craig said, “His plan might allow someone to feel better, but it is not efficient for the amount of food that is needed.” Several other students agreed that his method of farming would not meet the public’s food demands. However, some students did trust what this farmer had to say. James said:

The source is very down to earth and believes in older methods of doing things which I believe is the right way to do things. They also do the chickens a old way which is good, but most people complain and say it is unsanitary. I think they should leave the man alone and let him do his thing.

To discuss the impacts of modern agriculture on the public’s health (such as diabetes and obesity), *Food, Inc.* featured a low-income Hispanic family who chose to eat fast food because it was less expensive than buying vegetables from the grocery store. The father in the family was suffering from diabetes. Students said profiling this one family is not enough to explain the obesity epidemic or increase in diabetes among minority populations or youth. Vickie said, “the video was only about one family, and the way they eat. Not every family in America eats out all of the time, and not every family eats unhealthy.” Other students commented that the family was unhealthy due to their food choices, not the agricultural industry. Kelly said:

The video obviously makes us feel sorry for the family, but they are not being smart about their food choices. They are making an excuse for obese people, blaming it on the industry, but it is a personal choice to consume those foods.

Barbara Kowalczyk was another source interviewed in *Food, Inc.* who encouraged a great deal of student feedback. She is a food safety advocate trying to pass Kevin's Law, which is named after her son who died from eating meat contaminated with *E. coli*. Students said interviewing her as a source on this topic was very effective and they had very intense comments after viewing her segment. Mindy said, "What was shown was very emotional. I think anyone watching the mother speak about her son's death would be affected." Other students conceded that while her story was upsetting, food-borne illnesses are a reality in our food system. Douglas explained:

This segment was pretty sad. The lady was upset and determined for a reason. She lost her son to a mistake by a meat producer. But, everything can't be perfect, people die every day from mistakes made by others that are out of their control. It would be nice to have 100% safe meat, but that will never happen.

Near the beginning of *Food, Inc.*, the documentary featured two poultry farmers who worked for large corporations (Tyson and Perdue). Overall, students said these sources seemed disgruntled and were not very reliable. Larry commented that "...the lady had a grudge against the company that she worked for and clearly wanted to hurt the company because the company hurt her." Students suggested the documentary should have interviewed poultry producers who do not work for these large corporations or those who were not angry with the corporations for which they worked. Shelby said:

I don't know about the farmers they have showed. The Kentucky guy sounded fake. The female says she is allergic from the meds because of what's fed to the chickens. Sounds fishy, she acts like it's oh-so-bad, then why does she do it? I feel that they still don't see the whole picture, not saying I know more, but they don't.

Food, Inc. provided information or sources who spoke against several large agribusinesses including Tyson, Perdue, Monsanto, and Smithfield. None of these companies appeared on camera to refute the accusations made against them. Several students noted that the companies should be more transparent with their practices. Pam said:

The fact Monsanto declined to be interviewed just really makes me think even more that they are in the wrong. It's almost as if they are too cowardly to speak about their business – yet they aren't too cowardly to ruin farmers' lives?

Some students commented that they wanted to know the companies' responses to the allegations made in the film, but acknowledged that whatever they said could be used against them. Other students wanted to hear from farmers who supported Monsanto, Tyson, and the other companies mentioned. Craig said, "I do wonder though if there were any people that were not mad at Monsanto that they could of interviewed."

Students who watched *King Corn* made comments about several sources interviewed includ-

ing a corn farmer, a woman in a bar, the “corn-fed” guy, a rancher, a cab driver, and several doctors. The corn farmer students most commented about provided the acre of land for the filmmakers (Ian Cheney and Curt Ellis) to farm. He was viewed as helpful, knowledgeable, unbiased, and willing to teach. Kirsten said, “He knows more than the guys, so he now seems like the reliable good ‘ol guy.’ Showing his home and talking about generations make you see he values family and hard work.” Margie said: “The farmer they chose, Chuck, has been interesting. He has done a good job explaining why they are going to do and making their project realistic.”

Another source used in *King Corn* was someone students labeled as “lady in the bar.” Sitting in a bar in the city where the documentary was shot, she provided her perspective on modern corn production practices and the impact on rural towns. Students had polar reactions to this source. Some students said she seemed uneducated and biased. Katelyn said: “The woman in the bar wasn’t a very credible source. We had no idea how she related to the industry or how her feelings were formed.” Denise said: “The woman didn’t seem like the most likely source. She could’ve been influenced by her alcohol for all I know so the setting didn’t seem appropriate; however what she said made sense.” Other students said she was a good source because she had observed the farming practices she was commenting on. Laura said:

I do believe that what the lady said is partially true. I have seen many small farmers quit farming just because they weren’t making any money and had to get a job to make more money to support their family.

The source used in *King Corn* who had the most negative response was someone the students called “corn-fed” guy, an individual who drove a car with a license plate that said “corn fed.” This person was portrayed as a credible source, yet he was interviewed while he was sitting in his vehicle, and the documentary never explained his qualifications. Students commented frequently that this source had no credibility and was missing facts about the use of feedlots. Frances said: “I think corn-fed is a terrible source. He was ignorant on the actual facts of a feed yard and just threw in information or just opinion that he had heard somewhere.” Another student said: “He is probably one of the worst sources to use! He looks like he hasn’t showered in a month and probably has little education on the topic.”

Another source used was Sue Jarrett, a cow/calf rancher in Colorado who discussed the use of feedlots and their reliance on corn as a feed source. Students said she was credible and good source because she talked about her experiences raising cattle. Valerie said, “I think that she was much more reliable source in that she raises and understands cattle and how they work.” Other students acknowledged that she presented just one viewpoint and sometimes her opinions made feedlots sound negative. Kirsten said she was “a little confused; she’s a rancher that sells her cattle to feedlots, but then acts like she is against them – pretty inconsistent source.”

The final sources students commented about were a cab driver and medical doctors, who were featured in the same segment. The cab driver was suffering from diabetes while the doctors provided their expertise on the topic of diabetes and obesity. A few students were not convinced the cab driver was a reliable source and he only represented one person’s experience. However, most students found these sources credible and trustworthy. Craig said:

The people they used as sources were credible. The doctors had studied it and the cab driver

had experienced what he was talking about obesity and the amount of sugar that we consume together and has become a major problem.

Objective 4. To describe students' overall reactions to the agricultural documentaries.

Overall, students had much stronger and more critical reactions to *Food, Inc.* when compared to their comments about *King Corn*. After viewing *Food, Inc.* several students said the movie was skewed or biased. They said only one side of the arguments had been presented and important information was missing. Mindy said: "The movie overall was very misleading...The public needs to be informed, but I feel this movie was hypocritical because it put the thoughts in people's heads, instead of encouraging them to find their own facts." Denise had strong opinions about *Food, Inc.* and explained, "I thought the overall documentary was liberal, radical, negative, and destructive to the ag industry." Jenna also commented, "They had some interesting facts, but parts could have been more educational and less opinionated."

The film discussed the production of organic foods and presented them as a healthier alternative than conventionally-produced food. Students disagreed that organic foods are the best option to improve the quality of food available due to their expense and low productivity. Beth said: "Organic foods are costly, so not everyone can afford them, and organic foods cannot and will not feed the world."

Several students did enjoy *Food, Inc.* and said they learned more about agricultural issues after viewing the film. These students said the movie made them think and provided advice for people wanting to make a change. Vickie commented: "*Food, Inc.* is a great documentary. It gives the audience a look on many different types of farming. It is a great eye-opener as to where our food actually comes from and what is included in it." Other students said the film was informative and enjoyable to watch. Kirsten explained her reaction to the film: "I had different feelings throughout – defense, pity, anger, confusion, but I thought overall it was a proactive film with a good message...There are a lot of ag issues I never knew about before this movie."

Students who watched *King Corn* commented that the film provided viewers with a better understanding of what farmers do and how corn production has changed over time. Students commented that the film was informative and, overall, provided a positive depiction of modern agriculture. Dillon said, "I think the movie covered many aspects of the corn industry to give the full story." Frances explained: "I think this documentary showed how the life of a farmer is. I do think there were some parts in it that were not relevant, but in the whole, it produced the right information." Many students in the class did not have a good understanding of corn production prior to watching the documentary, but commented after watching the film that it helped them understand this type of production. Margie said:

There is a lot more to producing a crop and it going through the food system that people don't think about. If people knew what was really going on and how they could change it, I think things would be a lot different.

One specific aspect of the film students provided feedback on was the role of corporate farms and their impact on smaller, family farms. Shauna said, "It seems like accurate information, but I hate that it is becoming so industrialized." Michelle provided a longer explanation to support her viewpoint:

Corporate farms are, in reality, what is needed. I think it is very sad that so many family farms are being shut down but, in the end, I think we need to look at it as what will feed the world. Some of these small farms don't produce enough. I wish that it didn't have to be that way, but at the same time, I don't want to starve, and neither do the farmers who are getting shut down.

Discussion/Conclusions and Recommendations

Nearly 80% of the participants were agricultural communications students and were either raised on a farm (58.1%) or their families owned agricultural property (69.8%). This background likely influenced the resulting opinions and perceptions students had of the information presented in the documentaries to be more sympathetic to the agricultural industry as a whole.

For the most part, students did not approve of how modern agricultural practices were presented in either movie, which is also what Ruth et al. (2005) and Lundy et al. (2007) found in their studies of how agriculture was portrayed in entertainment media. The participants noted that the documentaries were "critical," "biased," and lacking scientific facts when presenting the different agricultural practices. Many students discussed their own experiences in agriculture and how that differed from the portrayals presented in the movies. For example, many students said their families sold cattle to feedlots and they did not agree with how that practice was presented. Students who watched *King Corn* did note that they did not have as much exposure to this aspect of agriculture and they did not know corn was used in so many products. Students who watched *Food, Inc.* commented frequently on the role large companies had on modern agricultural practices. These comments ranged from accusing the companies of wrong-doing to more supportive feedback related to the jobs these companies provide.

Students in both classes disapproved of many of the interview sources used in *Food, Inc.* and *King Corn*. Students often questioned the legitimacy of the featured sources and even suggested additional individuals who should have been interviewed. As prior research has found (Hovland, et. al, 1953; Hovland & Weiss, 1951-1952), source credibility influences the message recipient's acceptance of the information being communicated. Those receiving the information are more likely to accept the messages if the sources are perceived as more credible (Baldwin, et. al, 2004) while information from sources that are negatively perceived will likely be ignored (Stone, et al., 1999). In each documentary, students found a source particularly bothersome. In *Food, Inc.*, this was Joel Salatin, the organic/natural producer. In *King Corn*, this source was nicknamed "corn-fed" because these words were on his custom license plate shown while interviewing him in the documentary. Students were especially harsh in their judgments of what these two individuals had to say.

In both movies, sources were used to explain and describe the increase in obesity and diabetes in the United States. The source used in *Food, Inc.*, a low-income Hispanic family, received much harsher criticism than the cab driver featured in *King Corn*. This difference in perceptions could be attributed to how each of these sources described their health issues. The cab driver in *King Corn* had lost a great deal of weight by eating healthier while the family in *Food, Inc.* was shown eating at a fast food restaurant, then discussing their health issues.

Gerbner et al. (1994) argued television is highly influential because of the combination of images and messages, including interview sources. Some students were concerned that the non-agricultural audience could be influenced by the interview sources in both documentaries because these sources may not have had a complete understanding of the agricultural industry. Many students did comment that the films should have used less biased sources and more sources who represent modern

agricultural interests, including the U.S. Department of Agriculture and the agricultural companies mentioned in the film that declined to be interviewed (Monsanto, Tyson, and Smithfield).

Overall, students had very strong reactions to both documentaries. Many students expressed a tone of anger and took personal offense to some of the messages presented in the documentaries. Other students did note that they learned more about the corporate involvement in agricultural production after watching *Food, Inc.* Students who watched *King Corn* reported that they learned more about the realities of corn production – chemicals, transportation, storage, farm subsidies, and different uses of corn for humans and livestock. The documentaries exposed students to the complexities of modern agriculture and made them realize that the way of life many of them enjoyed growing up is open to criticism and censure. These films encouraged students to imagine how non-agricultural audiences might react to the information, which is good practice for future communicators as they work to provide facts or information to represent their organizations.

Several recommendations for agricultural communications practitioners can be made from this study. Individuals who work in the agricultural industry need to be receptive to watching or reading materials that may counter their own, or their organizations', viewpoints. Nolz (2009) asked, "When are we going to create an accurate documentary to tell the world the REAL agriculture story?" (para. 4). Agricultural organizations and companies should be proactive and develop high-quality communication materials to tell agriculture's story because, as Retzinger (2002) noted, many individuals' understanding of agriculture comes from information gleaned from the media. Agricultural communications practitioners need to be prepared to counter accusations or false information about their organizations and the industry as a whole. This requires strategic thinking, issues management, and futuristic thinking, which all require time and effort. Although Monsanto did not comment on camera for *Food, Inc.*, the company did develop a website to address several points raised in the film (see Monsanto, 2010).

To help students recognize the variety of opinions about the agricultural industry, college instructors should incorporate these films, and other movies that depict agricultural situations, into their agricultural communications curriculum. Integrating movies such as these in the curriculum could allow students to begin practicing how to respond to counter-arguments or negative portrayals as most people's connection (or lack thereof) to agriculture is not going to strengthen in the future. Another useful activity would be for students to collect information they said was missing or lacking from the documentaries then discuss how that information should be presented and distributed.

This study utilized reflective journaling for students to write their perceptions and opinions about the documentaries shown in each class. The journaling exercise was effective in allowing students to record their comments as they watched the films instead of trying to remember key points for later discussion. The journals allowed each student's voice to be heard, albeit in written format. Students who were hesitant or uncomfortable speaking in class were very insightful and provided a wealth of comments when writing their viewpoints in the journals. A future study could evaluate the reflective journaling process to determine what could improve the quality or thoroughness of students' comments.

Additional quantitative data were collected as a part of this study that will be analyzed for future research. This data can then be connected to the qualitative comments to provide a more in-depth explanation for students' opinions and perceptions. One question that was not asked was political affiliation, which would have been an interested characteristic for comparison. Another suggestion for future research would be to show these documentaries to non-agricultural audiences to determine

what impact the films may have on attitudes, opinions, and intentions to change behavior. This study could also be repeated with other documentaries or feature films that address agricultural topics and situations.

About the Authors

Courtney Meyers and Erica Irlbeck are both assistant professors in agricultural communications at Texas Tech University. Kelsey Fletcher is a graduate student pursuing a master's degree in agricultural communications at Texas Tech University.

References

- Baldwin, J. R., Perry, S. D. & Moffitt, M. A. (2004). *Communication theories for everyday life*. Boston, MA: Pearson Education.
- Berg, B. L. (2009). *Qualitative research methods for the social sciences*. (7th ed.). Boston: Allyn & Bacon.
- Boden, C. J., Cook, D., Lasker-Scott, T., Moore, S., & Shelton, D. (2007). Five perspectives on reflective journaling. *Adult Education*, 17, 11-15.
- Bracken, C. C. (2006). Perceived source credibility of local television news: The impact of television form and presence. *Journal of Broadcasting & Electronic Media*, 50(4), 723-741.
- Clare, M. (2010, March 4). Corn farmers say *Food, Inc.* shouldn't win Oscar. *ABC News*. Retrieved from <http://abcnews.go.com/Entertainment/wireStory?id=10012545>
- Cormick, C. (2006). Cloning goes to the movies. *História, Ciências, Saúde-Manguinhos*, 13, 181-212. Retrieved from http://www.scielo.br/scielo.php?pid=S0104-59702006000500011&script=sci_arttext&tlng=en
- Covert, C. (2007, December 6). Movie review: *King Corn*. *Minneapolis-St. Paul Star Tribune*. Retrieved from <http://www.startribune.com/entertainment/movies/12208666.html>
- Dargin, M. (2009, June 12). Meet your new farmer: Hungry corporate giant. *The New York Times*. Retrieved from <http://movies.nytimes.com/2009/06/12/movies/12food.html>
- Gerbner, G. (1987). Science on television: How it affects public conceptions. *Issues in Science and Technology*, 3, 109-115.
- Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1994). *Growing up with television: The cultivation perspective*. In J. Bryant & D. Zillman (Eds.), *Media effects: Advances in theory and research* (pp. 17-41). Hillsdale, NJ: Erlbaum.
- Gorrell, M. (2008, April 8). Semi View/*King Corn* is propaganda – and it's personal. *The Marshall Democrat-News*. Retrieved from <http://www.marshallnews.com/story/1323817.html>
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion*. New Haven, CT: Yale University Press.
- Hovland, C. I., & Weiss, W. (1951-1952). The influence of source credibility on communication effectiveness. *Public Opinion Quarterly*, 15, 635-650.
- Hubbs, D., & Brand, C. F. (2010). Learning from the inside out: A method for analyzing reflective journals in the college classroom. *Journal of Experiential Education*, 33(1), 56-71.
- Kenner, R. (Producer & Director), & Pearlstein, E. (Producer). (2008). *Food, Inc.* [Motion picture]. United States: Magnolia Pictures, Participant Media, & River Road Entertainment.
- Lundy, L., Ruth, A., Park, T. (2007). Entertainment and agriculture: An examination of the impact of entertainment media on perceptions of agriculture. *Journal of Applied Communications*, 91(1&2), 65-79.

- McCroskey, J. C. (1966). Scales for the measurement of ethos. *Speech Monographs*, 33, 65-72.
- McQuail, D. (2005). *McQuail's Mass communication Theory*. (5th ed.). London: Sage Publications
- Monsanto. (2010). *Food, Inc.* Movie. Retrieved from <http://www.monsanto.com/food-inc/Pages/default.aspx>
- Nisbet, M.C., & Scheufele, D.A. (2009). What's next for science communication? Promising directions and lingering distractions. *American Journal of Botany*, 96, 1767-1778. doi:10.3732/ajb.0900041
- Nolz, A. (2009, April 21). *King Corn* reveals consumers' food concerns [Web log message]. Retrieved from http://blog.beefmagazine.com/beef_daily/2009/04/21/king-corn-reveals-consumers-food-concerns/
- O'Keefe, D. J. (2002). *Persuasion: Theory and research* (2nd ed.). Newbury Park, CA: Sage.
- Retzinger, J. P. (2002). Cultivating the agrarian myth in Hollywood films. In M. Meister & P. M. Japp (Eds.) *EnviroPOP: Studies in environmental rhetoric and popular culture* (pp.45-62). Westport, CT: Praeger.
- Ruth, A., Park, T., & Lundy, L. (2005). Glitz, glamour, and the farm: Portrayal of agriculture as the simple life. *Journal of Applied Communications*, 89(4), 21-37.
- Stone, G., Singletary, M., & Richmond, V. P. (1999). *Clarifying communication theories: A hands-on approach*. Ames: Iowa State University Press.
- Williams, D. (2006). Virtual cultivation: Online worlds, offline perceptions. *Journal of Communication*, 56: 69-87. doi:10.1111/j.1460-2466.2006.00004.x
- Woolf, A. (Producer & Director). (2007). *King Corn* [Motion picture]. United States: ITVS & Mosaic Films.