

**Podcasting as an Approach for Preparing Preservice Agriculture Teachers to Teach  
Controversial Topics**

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## **Podcasting as an Approach for Preparing Preservice Agriculture Teachers to Teach Controversial Topics**

### **Introduction / Need for Innovation**

Controversial topics in agriculture encompass a wide range of issues that elicit diverse perspectives and debates. Examples of controversy in agriculture include pricing and allocation of water resources for agricultural use (Fernández et al., 2019) and farming styles, such as conventional versus organic methods, the use of antibiotics, and practices like dehorning cattle (Meijboom & Stafleu, 2015), among others. Teaching secondary agriculture students about controversial issues is important for cultivating critical thinking, fostering a deeper understanding of complex agricultural challenges, and preparing them to navigate diverse perspectives (Yacek, 2018). Further, exposure to controversial issues in agriculture provides students with the opportunity to explore the ethical dimensions of agriculture, understand the societal impact of agricultural policies, and develop a sense of social responsibility within the agriculture industry (Levinson, 2006). While exploring controversial topics in agriculture can enhance students' research and analytical skills (Crawley, 2007), teachers may feel they lack the skills to teach controversial topics effectively, leading to avoidance of such issues in the classroom (Kuş & Öztürk, 2019). Teachers may struggle to find appropriate approaches to address controversial topics (Meral et al., 2022), as the dynamic nature of teaching controversial issues, which involves understanding scientific concepts, social ramifications, and developing skills for evaluating evidence, can pose challenges for educators (Cross & Price, 1996) such as concerns about conflicts that may arise in the classroom (Hung, 2019), particularly topics with predetermined and solid student perceptions (Papadimas et al., 2022), as can be the case in agriculture. While guided group discussion is a viable technique for teaching about controversial agricultural topics (Mosley et al., 2021), podcasting is another approach that can enhance students' motivation and interest in learning, as it offers a dynamic and alternative approach to traditional teaching methods (Salmerón et al., 2020). Creating podcasts can promote active listening and comprehension of diverse viewpoints, contributing to students' ability to critically evaluate and integrate multiple perspectives on controversial topics (Salmerón et al., 2020) while empowering students to take ownership of their learning and contribute to the educational process (Alastuey & Nemeth, 2020). Therefore, preservice agriculture teachers created a podcast series about controversial agriculture issues. This assignment aimed to ensure undergraduate agricultural education students were better prepared to teach controversial topics.

### **How It Works / Methodology**

Students identified a controversial topic in agriculture for the purpose of creating a podcast. A dichotomous key, created by the instructor, was used to help students understand characteristics of controversy and determine if their chosen topic was actually controversial. After receiving instructor approval, students created an interview protocol and identified one guest to speak on each side of the controversial topic (2 total guests); students had to establish the credibility of each guest. Each episode was required to have a teaching guide. The teaching guide provided learning objectives, open-ended questions as a formative assessment before listening, prompts (i.e. multiple choice, fill in the blank, or short answer questions) to be completed while listening, and an open ended-question and scoring rubric for each learning objective as a summative assessment. The final podcast incorporated sound effects to help engage the listener. Students maintained a balance of supporting and opposing perspectives, where no side of the controversy

received more than 3 minutes of attention than the other. As the podcast host, students remained neutral on the topic throughout the episode. *Spotify for Podcasters* was the platform chosen for production because it offered an all-in-one approach where individuals can create and distribute their podcast from an app or website at no cost. The goal was to have students consume and produce information on a controversial topic while addressing opposing viewpoints such that listeners could form their own opinions on the topic rather than be coerced.

### Results to Date / Implications

This assignment began in the fall of 2020 in an undergraduate course required for agricultural education students and has continued each fall semester since. To date, four seasons of the podcast have been produced with a combined total of 37 podcasts, each addressing a different controversial topic. The total number of all-time plays (the number of times an episode was streamed for at least 60 seconds or downloaded) is 1,550. There are 46 individual followers of the podcast, each episode has been played, on average, 10 times, across eight countries, with 83% of plays occurring in the United States. The podcast streams across six platforms; Apple Podcasts is the most popular (38.8% of plays). Most listeners are female (57.7%) aged 18-22 (34.9%). The most popular podcast topic is Livestock Showing, which has been played 189 times and the least popular topic is Foie Gras, which has been played 8 times; however, it should be noted that earlier podcasts have been on the platform longer and received more exposure.

### Future Plans / Advice to Others

Each year, the quality of podcasts produced improves as a result of refining expectations and level of student support provided. Future plans include: (1) explicitly aligning the project with Kolb's experiential learning theory by adding a reflective component to the assignment to reinforce the application of a learning theory; (2) offering professional development to in-service teachers who would like to incorporate the strategy in their classrooms; and (3) conducting a research project to identify aspects of the project valued by students and how, if any, the project enhances learning and facilitates conceptual change. Three pieces of advice for others are: (1) protect instructional time by creating a "need to know" for students by not teaching them how to use the platform but providing resources, such as links to YouTube videos, so they can teach themselves; (2) have students listen to a high quality podcast and a low quality podcast, in terms of content and production, to help them operationalize expectations; and (3) generate a list of topics that are not allowed and a list of topics to choose from in order to discourage selecting a topic that is easy and already well understood (e.g. rodeos or spaying and neutering) and help stretch their understanding of agriculture with topics about which they are not aware.

### Costs / Resources Needed

Funding was initially provided through a National FFA Alumni and Supports grant to the Collegiate FFA Chapter. Resources included: (a) a podcast studio (\$1,600); (b) a laptop dedicated to storing podcast data files (\$1,200), and (c) a subscription to a podcast music/sound effects platform (\$796) for a total of \$3,596. However, after discovering the *Spotify for Podcasters* platform, there is no longer a need for a podcast studio, computer, and music/sound effects subscription. This makes incorporating this idea into a course more accessible at both the undergraduate and secondary levels as long computer and internet access is available.

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