

**Exploring the Impact of Podcast Pedagogy on Agricultural Leadership Education through
Quantitative Analysis**

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Introduction

Pedagogical strategies in higher education are constantly evolving to help students better understand the material being studied, especially in this age of technological advancement (Moore, 2022). Research has shown an increased use of podcasts in higher education as they offer meaningful ways to deliver content (Araújo & Rodrigues, 2019). In 2021, an estimated 222 million people over the age of 12 said they were familiar with podcasting in the U.S. (Edison Research and Triton Digital, 2021). In higher education, podcasts have been used as learning management resources for lectures, collaborative learning activities, independent studying, and increasing student interest in research (Goundar & Kumar, 2022). Podcasts are described as digitalized audio or video files that can be downloaded for playback over a desktop or portable media player device (McGarr, 2009). Podcasts cover topics across the agricultural industry, including agricultural leadership (Headrick, 2023). This study's purpose was to better understand the use of podcasts and their impact on pedagogy in undergraduate students enrolled in Agricultural Leadership courses.

Theoretical Framework

The framework used to guide this study is based on a modernized Constructivist Learning Theory. Constructivism originated with theorists including Piaget and Vygotsky, creating an approach that emphasizes learning as the byproduct of mental construction (Bada & Olusegun, 2015). Zajda stated that “students, when confronted with new learning tasks, are actively engaged in the meaning-making process, by deciphering and constructing their own interpretation and knowledge of the world,” (2021, p. 38). There are three guiding principles of constructivist learning: learners are active participants, learners are self-regulated, and social interactions are essential (Zajda, 2021).

Methods

A quantitative-based approach was used to guide this study. A convenience sample of 20 undergraduate students in an Agricultural Leadership course at Texas Tech University participated in a group collaboration project where they were asked to create a podcast over the content topic presented in the classroom. Identifying variables including names, age, gender, and race were not collected. Upon completion of the assignment, students were administered a 24 question Qualtrics-structured survey consisting of four-point Likert-type scale questions (strongly disagree to strongly agree) to measure attitudes on podcasting as a pedagogical strategy in the classroom. The survey was a subject-constructed, researcher-developed instrument. Data collection occurred in Spring 2022.

Results

The first 15 questions were about the podcast activity as shown in Table 1. The statements with the highest means were “Students enjoyed the assignment,” “The assignment helped them understand more about diversity and culture,” and “Meetings with their professor

were beneficial to their podcast success” ($M = 3.70$, $SD = 0.46$). The statement with the lowest mean was “Learning podcast terms and technology is impactful for agricultural careers” ($M = 3.45$, $SD = 0.59$). The overall mean was 3.59 and the standard deviation was 0.55.

Table 1

Podcast Pedagogy Student Responses (N = 20)

Statement	<i>M</i>	<i>SD</i>
I enjoyed the podcast assignment	3.70	0.46
The assignment helped me understand more about diversity and culture	3.70	0.46
The team meeting with my instructor were beneficial to our podcast success	3.70	0.46
The assignment helped me learn and develop new skills	3.65	0.48
The assignment helped me make practical connections to class content	3.65	0.48
The assignment helped me improve my performance in class	3.65	0.48
The provided resources, rubric, and instructions were beneficial	3.65	0.48
The assignment was easy to understand	3.60	0.49
Other agricultural classes could benefit from a podcast activity	3.60	0.49
The assignment challenged me to work outside of my personal comfort zone	3.55	0.67
The assignment helped me learn how to work with a team on a specific project	3.55	0.74
The assignment helped me understand more about inclusion	3.53	0.50
The podcast assignment helped me understand more about equity	3.50	0.59
The podcast assignment helped me understand more about agriculture	3.50	0.67
Learning podcast terms and technology is important for agricultural careers	3.45	0.59

Discussion

None of the respondents disagreed with the statement, "The podcast assignment helped me improve my performance in the class." Moreover, 100% of respondents agreed or strongly agreed that they learned and developed new skills through this assignment. Encouraging students to apply, analyze, and evaluate content in creating podcasts provides outcomes consistent with Moore’s research (2022), developing skills relevant inside and outside of the classroom. These results align with the three principles of the Constructivist Learning Theory (Zajda, 2021). Students were actively involved in the podcast project, teams were self-regulating in the podcast content and group dynamics, and social interaction was a key component throughout the project timeline.

Recommendations

Faculty should continue to use innovative ways of incorporating new instructional strategies and forms of pedagogy into their classroom. As demonstrated in the podcast pedagogy study, students respond well to assignments that challenge them to apply knowledge in creative, meaningful ways. The opportunity to explore different learning styles and preferences of students is an inclusive practice to create a challenging classroom space, but also a space where students can develop new skills and try new things. Podcasts are a timely and relevant way to bring in outside voices and empower students to make use of their own knowledge.

References

- Araújo, P., & Rodrigues, F. (2019). Podcast learning effectiveness in higher education in europe: A Systematic Review. *European Proceedings of Social and Behavioral Sciences*.
- Bada, S. O., & Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *Journal of Research & Method in Education*, 5(6), 66-70.
- Edison Research and Triton Digital. (2021). The Infinite Dial.
<https://www.edisonresearch.com/wp-content/uploads/2021/03/The-Infinite-Dial-2021.pdf>
- Goundar, M. S., & Kumar, B. A. (2022). The use of mobile learning applications in higher education institutes. *Education and Information Technologies*, 1-24.
- Headrick, J. (2023, May 15-18). Experiential learning through podcasting: Creating opportunity for advanced pedagogy. AAAE National Conference. Raleigh, North Carolina.
<https://www.agedweb.org/aaae/Proceedings.asp?EventID=92>
- McGarr, O. (2009). A review of podcasting in higher education: Its influence on the traditional lecture. *Australasian journal of educational technology*, 25(3).
- Moore, T. (2022). Pedagogy, Podcasts, and Politics: What Role Does Podcasting Have in Planning Education?. *Journal of Planning Education and Research*, 0739456X221106327.
- Zajda, J. (2021). Constructivist learning theory and creating effective learning environments. *Globalisation and education reforms: Creating effective learning environments*, 35-50.