

Preparing to Podcast: How Undergraduate Students Meet Outcomes Through Project-Based Learning Opportunities

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Introduction

Agricultural podcasts are becoming an increasingly popular medium to share educational content, communicate with public audiences, and transform learning experiences (Xie & Gu, 2007; Bruce & Lin, 2009; Strickland et al., 2021). Podcasts can be used to explore new topics, learn something new, or for entertainment (Edison Research & Triton Digital, 2021; omitted citation). As the presence of student created podcasts continues to grow (Nie et al., 2008; Hall & Jones, 2021), it is beneficial to explore methods and best practices for introducing students to this technology. This study aimed to explore students' reactions to participating in a project-based, agricultural podcasting course project. This study aligns with AAAE research value one, "Advancing Public Knowledge of AFNR Systems," by better preparing students to create engaging informal learning digital programs for public outreach (AAAE, 2023). The study was guided by the following research questions: 1) What were students' confidence levels with podcasting equipment and skills before and after the course? 2) How did students' knowledge and perceptions of grain science change after the project-based learning course? 3) What were students' reactions to a project-based learning course?

Conceptual Framework

This study was guided by Social Cognitive Theory (SCT) and self-efficacy. Self-efficacy is defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1999, p. 3). An individual's academic self-efficacy refers to their confidence in their ability to succeed in academic or learning situations (Hodges et al., 2008). SCT is a, "learning theory which posits that both social and psychosocial or personal factors determine user behavior, it seeks to analyze how thoughts, feelings, and social interactions shape user behavior" (Ifinedo, 2017, para. 14). Cognitive styles can be used "to understand the varying ways that learners perceive and interact with instructional settings, methods, and media" (DeTure, 2004, p. 22). SCT will be applied to capture student general learning reactions and preferences to the project-based learning style, and self-efficacy will be used to frame students' confidence using the podcasting hardware and software.

Methods

This poster will review the structure of a project-based course, the hardware and software used, and share key findings from the analysis of student discussions. Approval was obtained from the [University Name] Institutional Review Board before beginning this study. Undergraduate students (n=17) enrolled in AGCOM 590 New Media Technologies at Kansas State University participated in a project-based learning course that tasked them with producing a podcast episode focused on scientists and researchers from the Grain Science Department. At the beginning of the semester, students were placed in three groups and asked to conduct self-guided discussions (approximately 25-30 minutes in length) using a provided list of questions. This included questions about their existing knowledge of podcasting and podcast equipment, existing knowledge of the scientific topic of focus, and thoughts on the course/project objectives. Students worked in groups of three to produce the podcast track, social media posts to advertise the podcast track, and an article to complement the podcast. At the conclusion of the semester,

students were again asked to return to their initial groups and revisit some of the initial topics and questions. These discussions were recorded and transcribed. The research team, comprised of the lead researcher (also the instructor of the course) and a graduate assistant (teaching assistant of the course), then used qualitative methods to inductively code the transcripts first by using structural coding to find major categories, then pattern coding to further categorize the coded data (Saldana, 2009).

Findings

Results of the discussions showed several emerging themes including: a). students were excited by and acknowledged the importance of the Grain Science Department at Kansas State University even though they had no formal experience or knowledge of grain science, b). even though students had previous experiences with audio, interviewing, and editing software, they were not confident in how these skills prepared them for podcasting and c.) students' concerns largely focused on being prepared for leading a podcast interview. Student 12 said: "I'm not familiar with [podcasting equipment] at all...I'm scared I'm going to break it." This sentiment was shared by several other students, but many followed up these statements by indicating that the ability to edit the interview alleviated some of their initial reservations (RQ1). During the post-discussions, students discussed having positive experiences working as a group and completing a multi-faceted project for the course: "I think it was a good learning opportunity... I liked having the additional [social media posts and blog posts] to go along with [the podcast]," said Student 7 (RQ3). Students also mentioned gaining increased awareness of the scientific process, and the Grain Science Program. Student 1 said, "It was cool to hear how they connected on the research project and how the whole process happens. It was really interesting to hear about the research side of it," (RQ2). Finally, and potentially most noteworthy for aspiring podcasters, were the challenges students found with the interview process, structure, scheduling, and live interview experience. One reoccurring issue was scheduling with the scientists (RQ3).

Conclusions and Recommendations

Prior to producing the podcasts, students had little to no podcasting experience, but had other skills (e.g., video editing, interviewing, etc.) that could be transferred. Practicing post-production editing alleviated some nervousness and increased student comfort (Self-Efficacy; Bandura, 1999). Results showed that students gained the technical skills necessary to produce a podcast and appreciated approaching podcast production with a more holistic view (i.e., the creation of supporting marketing materials). These findings can not only inform higher-education curricula that utilize project-based learning for multimedia creation, but will also have implications for other novice podcasters. When creating trainings for new podcasters, specific attention should be paid to interview preparation, practice, and relationship building with scientists.

References

- American Association for Agricultural Education (AAAE). (2023). AAAE Research Values.
- Almendingen, K., Torbjørnsen, A., Sparboe-Nilsen, B., Kvarme, L. G., & Benth, J. Š. (2021). Small Group Student-Produced Podcasts Were Favoured as Assignment Tool for Large-Scale Interprofessional Learning: An Exploratory Study Among Health, Social Care, and Teacher Education Program. *Frontiers in Education*, 6. <https://doi.org/10.3389/feduc.2021.622716>
- Bandura, A. (1999). Self-Efficacy: The Exercise of Control. *Journal of Cognitive Psychotherapy*, 13(2), 158–166. <https://doi.org/10.1891/0889-8391.13.2.158>
- Bruce, B., & Lin, C. (2009). Voices of youth: Podcasting as a means for inquiry-based community engagement. *E-Learning and Digital Media*, 6(2), 230-241. <https://doi.org/10.2304/elea.2009.6.2.230>
- DeTure, M. (2004). Cognitive Style and Self-Efficacy: Predicting Student Success in Online Distance Education. *American Journal of Distance Education*, 18(1), 21–38. https://doi.org/10.1207/s15389286ajde1801_3
- Edison Research and Triton Digital. (2021). The Infinite Dial. <https://www.edisonresearch.com/wp-content/uploads/2021/03/The-Infinite-Dial-2021.pdf>
- Hall, N. M., & Jones, J. M. (2021). Student-Produced Podcasts as a Teaching and Learning Tool. *American Journal of Distance Education*, 37(1), 53–65.
- Hodges, C. B., Stackpole-Hodges, C. L., & Cox, K. M. (2008). Self-Efficacy, Self-Regulation, and Cognitive Style as Predictors of Achievement with Podcast Instruction. *Journal of Educational Computing Research*, 38(2), 139–153. <https://doi.org/10.2190/ec.38.2.b>
- Ifinedo, P. (2017). Examining students' intention to continue using blogs for learning: Perspectives from technology acceptance, motivational, and social-cognitive frameworks. *Computers in Human Behavior*, 72, 189–199. <https://doi.org/10.1016/j.chb.2016.12.049>
- Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving Schools*, 19(3), 267–277. <https://doi.org/10.1177/1365480216659733>
- Saldaña, J. (2009). The coding manual for qualitative researchers. Sage Publications.
- Torres, J. (2011). The Use of Podcasts in Higher Education: Communication, Innovation, Education and Knowledge Management. *International Journal of Educational Technology in Higher Education*. <https://doi.org/10.7238/rusc.v8i2.1047>
- Xie, K. & Gu, M. (2007). Advancing cooperative extension with podcast technology. *Journal of Extension*. 45(5). <https://archives.joe.org/joe/2007october/tt2.php>