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In the Field: Increasing Undergraduate Students' Awareness of Extension Through a Blended Project-Based Multimedia Production Course

Abstract

Undergraduate students at land-grant institutions across the country are often unaware of the depth and breadth of Extension services and careers. Agricultural communication students collaborated with an Extension programmatic team in a blended and project-based course at Purdue University to develop online videos about small farm agricultural topics. Student journaling and post-interviews showed working within a real-world context increased their awareness of Extension, the roles and potential careers in Extension, and video production skill development. The authors present details of the course design, student perceptions, and the implementation benefits and challenges of blended project-based learning within an Extension context.

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Introduction

Many people are unaware of the land-grant institution's three missions of learning, engagement, and discovery. According to research conducted by the Copernicus Marketing Consulting and Research (2009), less than 38% of a national sample of respondents had heard of their state Extension programs. Younger respondents were even less likely to have heard of Extension, with only 28% of respondents between the ages of 18-35 reporting they had heard of their state Extension and only 5% reporting they had used Extension. Even our undergraduate students at land-grant universities are frequently unaware of the breadth of expertise and programming available through Extension (Grotta & McGrath, 2013).

In our land-grant universities there is also a disconnect between academic courses and real-world application. The Kellogg Commission (1997) called for hands-on, holistic opportunities for students to

gain real-life exposure to land-grant initiatives. In response, universities across the country have worked to develop student-centered learning opportunities to engage students in Extension (Apel, Mostafa, Brandau, & Garfin, 2013; Grotta & McGrath, 2013; Parr, Trexler, Khanna, & Battisti, 2007). This article describes the design, implementation, and preliminary findings of students' experiences within a project-based learning course at Purdue University aimed at engaging students in an Extension context.

Course Context

The landscape of agriculture in Indiana is rapidly changing. In the past decade, the number of farm operations with fewer than 50 acres increased by over 84% (USDA, 2008). Purdue University has increased its efforts to serve this growing audience by creating the Purdue Extension Small Farm and Sustainable Agriculture Team. The team has developed a diversity of programs focused on topics such as beginning farmer programming, high tunnels, organic pest management, marketing local foods, and more. Yet a lot of this information does not reach its intended audience.

As Rader (2011) noted, the Internet has become one of the most preferred methods for acquiring information, but Extension still struggles to effectively use this tool. This challenge then provided real-world instruction and application for developing an agricultural communication course. The purpose of the study reported here was to develop, implement, and evaluate an undergraduate agricultural communication course with the objectives of students engaging with Extension professionals and content to develop real-world online educational videos covering small farms topics for public audiences.

Course Design

YDAE 491: Multimedia in Agricultural Communication was piloted as a project-based, blended-learning course for undergraduates. Project-based learning (PjBL) includes students designing, developing, and deploying a project set in a real-life context (Barron et al., 1998). A PjBL course has few instructor-led lectures, with more of a focus on laboratory time for students to create and revise their projects with instructor assistance and insights as needed. The PjBL process includes showing the completed work to a public audience, which in the study included Extension educators and specialists, small farmers, and online video viewers. The students in the multimedia course researched topics related to small scale agriculture, developed professional video production plans, set up and conducted interviews with Extension professionals, shot and edited videos, and held a public screening of their completed work.

Another design approach was that of a blended-learning format. Blended-learning is a growing trend in higher education making use of Internet-based learning technologies (Garrison & Kanuka, 2003). It is the combination of face-to-face and distance learning. Class time is used for engaging in activities, while online time is used for recorded lectures, reading relevant literature, and asynchronous discussion. The blended-learning design of the study was structured as follows: the two instructors and six students met face-to-face only one time a week in a computer lab for brief discussions about video production and communication theories. Class time was mostly used for hands-on learning with video cameras and editing software as students worked on their final projects. Students spent time outside of class reading the textbook, engaging in online discussions, conducting video interviews, and

finalizing videos.

Methods

Methods calling on traditions from qualitative case study research were used in the study. Case study research focuses on a phenomenon within a specific, bounded instance (Yin, 2011). The phenomenon in the study was the lived experience of developing an online video based in an agricultural Extension context. The defined case was the multimedia agricultural communication course. Tying it all together, students' descriptions and perceptions of lived experiences within the bounded case of the class were examined.

Four of the six undergraduate students (juniors and seniors), all female, voluntarily consented to participating in the study. Pseudonyms are used to protect their identity. Student participation or lack thereof had no influence on students' final grades. The researchers served as co-designers and co-instructors for the course. Students participated in online reflection journals throughout the class. Prompts such as "What did you know about Extension prior to this course?" were used to gain insight into their perceptions of Extension. Data sources included student online journal entries and discussions, assignments, final video projects, instructor observations, and video-recorded post-interviews with students. Examples of semi-structured post-interview questions regarding the video production experience and Extension environment included: "What did you learn about Extension in taking this course?" and "Why did you choose the video topic that you did?" Interviews were transcribed and open-coded to allow for themes to emerge from the data.

Results

Raising Extension Awareness

The students' awareness of Extension prior to the course varied greatly. Katie indicated an awareness of the purpose of Extension before taking the course, but as this quote from her journal indicates, she did not perceive it to be directly connected with the land-grant institution: "I knew Extension deals with education a lot and they work with Purdue frequently." Lori described a different perspective of Extension before taking the course: "All I really know is that [Extension is] about research."

Several of the students mentioned their primary involvement with Extension had only been through the 4-H program. As Sara wrote:

Prior to this course, I thought of Extension as mainly 4-H. I knew there was more to it than that, but since that was the main experience I had with it, I thought that was the main purpose. It didn't really occur to me that experts and people doing research were Extension, too.

Tammy also talked about her increased awareness in her journal entry:

Prior to this course, I was familiar with Extension but didn't know just how elaborate it really is. I knew that you could call and ask questions and that there is an office for every county, but just how much informational material they produce was something that I was totally clueless about.

All four of the student journals indicated student interactions with Extension professionals and development of the final video projects increased their awareness of the depth and breadth of Extension's research and public education mission. As Sara explained:

I knew that there's an Extension office in my county. I knew that Extension facilitated 4-H and beyond that, wasn't really sure how much information and how much they could be of help to a small farmer and even, um, I mean anyone really. So, learning about the Extension specialist and what they do, and the research they're putting into it, and realizing how big Extension is was great.

Engagement with Extension Professionals

By identifying, contacting, and conducting video interviews with Extension professionals, the students also gained greater insights into what it means to work in the field. During the post-interview, Tammy said:

I kinda knew that there were Extension specialists, but I didn't really know that there are specific Extension specialists who like they specialize in certain things. So, if you call like an Extension office they will set you up with someone who's an expert in whatever you want to know. So, I just kind of thought that they all kinda knew a lot about everything.

Katie discussed the real-world constraint of trying to schedule an interview with the Extension educator for her video, "I guess I was more aware from this project as to how busy they are. It seems like they always have a conference or someone they're meeting with so, um, I definitely learned that they're busy people."

Discovery of Real-World Subject Matter

The real-world context of the course engaged students in small farms' topics and issues. They each selected and researched topics of importance to the audiences that access the Purdue Extension Small Farms and Sustainable Agriculture Team for informational materials. Three of the four participating students came from an agricultural background, yet they still expressed an increase in knowledge about specific small farms issues. Laurie was able to describe specific content she learned developing a video on the importance of soil health, "The use of tile drainage is important as well as a few misunderstood concepts people may have about the health of soil." Tammy developed a video on meat processing,

I've learned a lot about the process and the challenges that face farmers and small processors and the options that are available to choose from. I learned about differences in techniques and machinery on the small and large-scale sides of the industry.

Sara illustrated how the project expanded her prior experience and knowledge of high tunnel systems,

I knew a lot about High Tunnels before this. We use them on our farm and I've learned from my parents. Since starting the project, I've learned more about the research, more about different types, and more about the other crops that can be grown other than tomatoes.

Blended PjBL for Skill Development

Overall, the students spoke favorably of the PjBL and blended-learning course design. However, they did note that with only six students in the class, online discussions were only surface-level and did not delve deep enough into the topics. They recommended having more than six students for more active discussion threads. The study participants each mentioned the structure of face-to-face and online allowed them to develop their own project management strategies. Sara said, "I felt that, um, it allowed me to manage my time the way I needed to. I wasn't stuck in a classroom and told, 'you have to be here, you know, X amount of time every single day.'" Laurie described developing her video production skills,

...and this was like the first time I feel that I really learned how to edit a video. Because when I watch other videos online like YouTube, I'm always curious as to how on earth do they edit, do they edit these videos and digital video cameras and all that?

Tammy mentioned the importance of skill development in the real-world context,

I liked that it ended up being for the small farms team because this is something that like Extension educators are gonna use and it's actually going to get utilized, as opposed to something we would have just picked to do just for the means of like creating a video to learn how to use it. So, it was nice that what we created is gonna be utilized.

Limitations, Conclusion, and Recommendation

Limitations of the pilot study included a small, non-random sample of participants and the course instructors serving as researchers. The study has demonstrated blended PjBL is a viable instructional format for introducing undergraduate students to the depth and breadth of Extension. We conclude the benefits of this type of course design include:

- Student engagement in the land-grant mission,
- Increased Extension awareness,
- Introduction to Extension careers,
- Valuable hands-on skill development, and
- New means of content development for Extension programs

There are also implementation challenges that should be considered in deploying a blended PjBL course within Extension:

- Scheduling with Extension professionals.
- Student travel logistics and funding. and

- Video equipment needs and usage.

Extension offices traditionally engage youth through 4-H programs. However, engagement with youth appears to lessen or even stop altogether by the time they enter college. This course is an example of one of several ways we can involve undergraduate students in Extension, and we recommend land-grant institutions across the country pursue the integration of project-based courses focused on real-world agricultural contexts to re-engage undergraduate students with Extension's mission, programs, and careers.

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