

**Empowering Evaluation: A Project-Based Learning Approach in an Online Program
Evaluation Course**

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Introduction

Preparing an agricultural workforce that has strong problem-solving, critical thinking, and technical skills is essential to combat the complex and wicked challenges in agriculture, food, and natural resources (AFNR) of the 21st century (DiBenedetto & Whitwell, 2019). Leaders in higher education have promoted faculty's use of high-impact teaching practices that harness these skills in students and that are student-centered (Roberts et al., 2019). Although tremendous headway has been made to evolve postsecondary AFNR education since the National Research Council's (NRC, 2009) call for reform, new challenges have emerged that threaten high impact teaching practices. One challenge is the rise of the asynchronous, online course modality in higher education. Faculty must again re-imagine how to deliver high impact teaching practices through an asynchronous, online format. Common teaching approaches in asynchronous, online graduate level courses may include recorded lectures, readings, quizzes, exams, discussion boards, and essays. These approaches likely foster the elements of effective online student interaction, such as the necessary types of interaction faculty should foster in online teaching: student-teacher interaction, student-content interaction, and student-peer interaction (Bernard et al., 2009). However, other teaching approaches, such as those commonly used as high impact teaching practices in face-to-face courses can be effectively designed to be administered in an online course. One of these practices is Project-Based Learning or commonly known as PBL. This abstract describes a semester-long, PBL approach administered in the graduate level course, *Program Evaluation in Non-Formal Learning Environments*, delivered at the University of Tennessee-Knoxville in an online modality during the Fall 2023 and 2024 semesters.

How it Worked

The *Program Evaluation in Non-Formal Learning Environments* course is a 16-week, 3-credit, course delivered in an asynchronous, online modality. Typical students include a mixture of residential graduate students and non-residential, part-time, graduate degree seeking students. Most students are graduate students majoring in Agricultural Leadership, Education and Communications, with many part-time students being practicing Extension educators, agriculture teachers, and rising leaders of AFNR organizations. The content of this class was broken down into seven modules - Module 1: Programming in Non-Formal Learning Environments; Module 2: Conducting Needs Assessments; Module 3: Exploring the Foundations of Program Evaluation; Module 4: Forming Logic Models and Evaluation Questions; Module 5: Collecting and Analyzing Quantitative Data; Module 6: Collecting and Analyzing Qualitative Data; and Module 7: Producing Evaluative, Program Conclusions and Recommendations. Each module contained multiple lessons with short lecture recordings, related readings, and a module quiz. However, the crux of the course was a semester-long, PBL assignment that contained multiple components (project assignments) that built upon each other throughout the course. The overarching goal of the project assignments were for student to have a complete program evaluation plan from project selection through evaluation conclusions. For each of the six project assignments, students were given a recorded project overview, a project directions document, and a detailed rubric. A discussion board was also created where students discussed their project assignments with each other to get feedback and ask questions. Lastly, after each project submission, the instructor provided detailed feedback and rubric scores. A summative project submission served as the final for the class and required students to combine all project assignments, make edits from prior feedback, and submit it as a final project evaluation plan and report. Students were able to select their own program for the PBL assignments. Brief descriptions of the project assignments and point values are outlined in Table 1.

Table 1. *Project Assignment Components for the Semester-Long PBL Approach*

<i>Project Assignment Name and Brief Description (% of Course Grade)</i>
<i>1. Identifying a Program.</i> Identify a program of interest for the semester project, including program objectives, individuals and roles, audiences, mode of delivery, and context. (10%)
<i>2. Conducting a Needs Assessment.</i> Describe advisory board/council, audience for needs assessment, needs assessment plan, and data collection for needs assessment. (10%)
<i>3. Creating a Logic Model.</i> Build a program logic model that includes inputs, outputs (products, participants), outcomes/impacts (short, med., long), and assumptions. (10%)
<i>4. Quantitative Data.</i> Create a quantitative data collection plan that includes population, sampling procedures, instrumentation, reliability/validity, and data analysis procedure. (10%)
<i>5. Qualitative Data.</i> Create a qualitative data collection plan that includes description of potential participants, data collection design, trustworthiness, and analysis procedure. (10%)
<i>6. Evaluation Conclusions and Recommendations.</i> Evaluate program using real or fictitious data and create conclusions for objectives and recommendations for program. (10%)
<i>Summative Project Submission.</i> As the final exam for the course, combine and edit six prior project assignments to create a total program evaluation plan and report. (10%).

Results to Date

This PBL course design and approach has been implemented for two semesters. Graduate student enrollment was high both semesters (29; 33). In general, students' project assignments were high quality, and many students implemented their program evaluation plans after the course (e.g., 4-H Extension agent, Master Gardener intern coordinator, leadership coordinator). Students (n=21) provided favorable end-of-course evaluation scores (4.7/5; 4.8/5) and qualitative feedback. One student wrote, "Having us complete course projects that encompassed everything we learned was extremely useful. We implemented what we learned." Another student described their experience by saying, "Almost my entire higher education experience has been online because of COVID-19 and because of the continuation of online education following COVID-19, I can confidently say this is the best online course I have taken." Several students mentioned that the course "was engaging, even in an online format."

Future Plans & Resources Needed

Due to the success of this PBL approach, it will continue to be a foundational component of this course in future offerings. However, several modifications to this sequenced assignment are anticipated. First, although students have engaged in project assignment discussion boards, at times, the quality and effort in peer feedback has been average. To provide more structure to the peer feedback, future courses may require a formal peer-review on each project assignment. This may allow students to engage deeper in peer review and feedback. Additionally, students have previously completed all project assignments individually. Considering a permanent, team-based approach may foster additional student-peer collaboration (Tataw, 2024). This PBL approach could easily be modified and replicated in online undergraduate or graduate courses, particularly courses with focus on program evaluation. Valuable resources to complete these specific PBL course assignments include applied research publications, such as those produced by University Extension services on program evaluation (e.g., IFAS, n.d.; University of Wisconsin-Madison, n.d.). This assignment works best with a student population who can find value in selecting a program where they will utilize their program evaluation plans in the future. Lastly, the time required by the instructor to provide detailed feedback on student projects is extensive, particularly in a large enrollment course.

References

- Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in distance education. *Review of Educational Research, 79*(3), 1243–1289. <https://doi-org.utk.idm.oclc.org/10.3102/0034654309333844>
- DiBenedetto, C. A., & Whitwell, T. (2019). Associate deans and academic leaders' perceptions for promoting teaching excellence in United States colleges of agriculture. *NACTA Journal, 6*(1), 13–19. <https://nactaarchives.org/index.php/vol-63-1-mar-2019/2824-associate-deans-and-academic-leaders>
- Institute of Food and Agricultural Sciences (n.d.). *Program evaluation*. University of Florida. https://edis.ifas.ufl.edu/topics/program_evaluation
- National Research Council. (2009). *Transforming agricultural education for a changing world*. National Academy Press.
- Roberts, T. G., Colclasure, B. C., LaRose, S. E., Turner, R. E., & Wysocki, A. F. (2019). An examination of changes in student course evaluations of CALS faculty after participating in a faculty development program. *Journal of Agricultural Education, 60*(4), 212–222. <https://doi.org/10.5032/jae.2019.04212>
- Tataw, D. B. (2024). Perceived individual team member value creation in in-class permanent teams: Analysis of evidence from individual peer reviews in a team-lecture hybrid instructional strategy. *Journal of the Scholarship of Teaching and Learning, 24*(4), 78–99. <https://doi.org/10.14434/josotl.v24i4.35831>
- University of Wisconsin-Madison (n.d.). *Program development and evaluation*. <https://fyi.extension.wisc.edu/programdevelopment/evaluating-programs/>