Food for Thought: Using Project-Based Learning to Collaborate on the Topic of Food Insecurity

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Roane State Community College
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Our College and Its Quality Enhancement Plan

About Roane State Community College

Campus Locations

Seven different campuses spread across two different time zones in East Tennessee

Student Population

- 4,961 students for Fall 2021
    - Females: 3,305 (~ 67% female population)
    - Males: 1,656
    - Ages: 0-17 years: 340; 18-20 years: 2690; 21-34 years: 1,324; 35-64 years: 588; above 64 years: 16

Current Quality Enhancement Plan (QEP) Topic

Faculty from all disciplines are actively involved in committees that emphasize active- and collaborative-learning.

Roane State's Quality Enhancement Plan (QEP)

Roane State's QEP is a five-year project to improve student learning.

Phase 1: Active- and Collaborative-Learning (ACL)

Over the past two years, many of our faculty members have received training and have attended workshops to learn about and implement these methods.

Phase 2: Project-Based Learning (PBL)

Over the last year, small groups of faculty members have been working individually or in groups to incorporate projects into their courses.

The QEP's Mission: Learning-in-Action Project

The mission of Roane State Community College's QEP is to help students achieve greater academic success through the development of stronger connections with each other and with their learning.

Following a year-long process to select a topic that would have the greatest potential to enhance student learning and success, the college has embarked upon the Learning-in-Action Project to integrate collaborative and problem/project-based learning into the classroom.

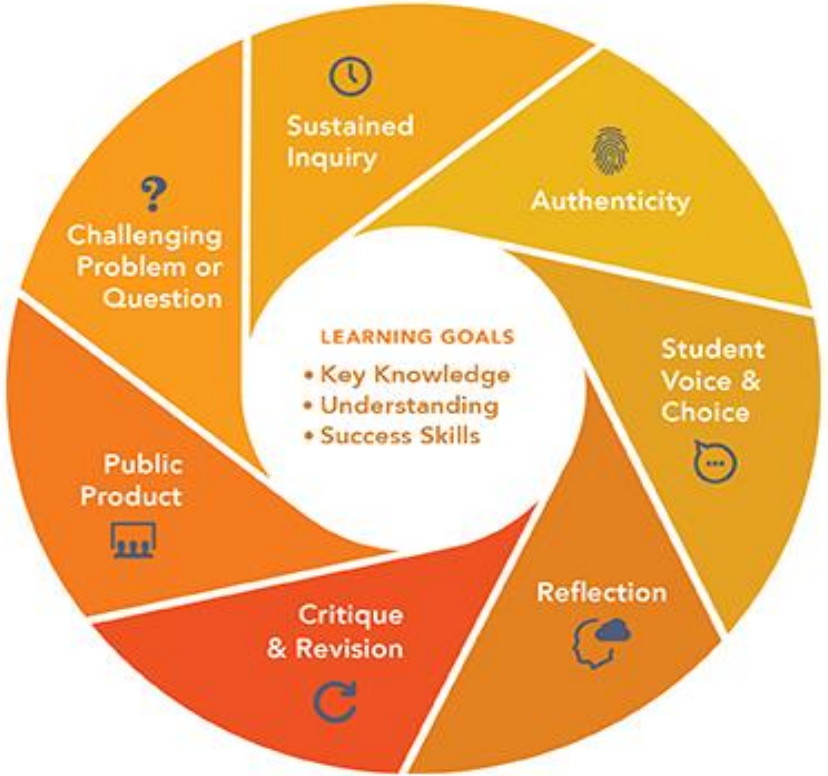
The five-year project to adopt these research-based, high-impact teaching practices is designed to facilitate greater student engagement and persistence and attainment of key learning outcomes.

Project-Based Learning:
What to Know Before You Begin

What Is Project-Based Learning?

The Buck Institute for Education defines "[p]roject-based learning (PBL) [as] a teaching method in which students learn by actively engaging in real-world and personally meaningful projects."

Worcester Polytechnic Institute emphasizes project-based learning as a core feature of their undergraduate experience. Their "WPI Plan provid[es] students a professional and social context to apply their acquired skills and abilities."



Are there Potential Challenges to Multidisciplinary Project-Based Learning?

Project-based learning can be incorporated into any class as a stand-alone project, but it can also be used as a collaborative assignment between students in two different classes. Before choosing to work with another faculty member, consider how to manage these challenges:

- Selecting a meaningful topic for students to investigate
- Finding a common assignment in two different disciplines
- Previewing the types of sources required for both classes
- Structuring the project's timeline to fit both classes' schedules
- Getting students in different classes to communicate often and well
- Making time for students to meet with their groups both during class and outside of class
- Encouraging and maintaining students' accountability throughout the project's duration
- Creating a grading method that accurately represents individual and group contributions

How Do You Develop a Cross-Disciplinary Assignment?

- Talk to your colleagues to find out if anyone is open to working on a cross-disciplinary project.
- Find out what types of assignments you and your colleague might have in common. If you don't have the exact assignment, that's OK! Could you both create something that would incorporate skills used in both classes?
- Decide on a relevant, interesting topic to build an assignment around. Tip: Pick something that's important to your community.
- Meet with one another before the semester begins to discuss schedules, assignments, and grading.

Our English-Math Collaboration

How We Began Our Collaboration

Roane State's QEP team received training from Worcester Polytechnic Institute (WPI) in the summer of 2020. During that time, our group decided to use the topic of food insecurity as the theme for our PBL.

That fall, other subgroups were formed for different PBL topics, but the two of us continued to focus on food insecurity. We also continued to use and develop collaborative activities and projects in our courses.

Last year, we both officially piloted the topic in our individual classes, but this past spring, we decided to merge our assignments to develop a cross-disciplinary project between our students.

Our Experience So Far: Trial and Error

Spring 2021 - Online Classes → Met synchronously (math) and asynchronously (English)

Students communicated and collaborated on Microsoft Teams.

Fall 2021 - In-person Classes → Meet at the same time but in two different time zones

Use certain class meetings to allow students to meet on Zoom.

Allow students time to meet with one another, discuss, the project, and begin working on assignments related to the project.

Students communicate and collaborate on Microsoft Teams.

Spring 2022 - In-person Classes → Will not meet at the same time

How to encourage students to meet with one another?

Students will still communicate and collaborate on Microsoft Teams.

Our Students' Project on Food Insecurity

Project Purpose and Desired Outcomes

To have students in College Composition I and Introduction to Probability and Statistics work together on a collaborative, cross-disciplinary project.

To illustrate how a central topic unifies two seemingly unrelated subjects.

To raise students' awareness of food insecurity in their community.

To help students develop practical skills they can apply in college, work, and life:

- Communication
- Collaboration
- Writing
- Research
- Analytical

Timeline

Beginning of the Semester

Students meet with their groups to learn about each other and the project. During another meeting, they select a topic that interests them. Each group will research a different facet of the broader, class-wide topic.

Throughout the Semester

Students have check-in sessions with one another every few weeks. Schedule time during class, so everyone can work on and discuss elements of their project.

End of the Semester

Students come together during the last week of class, where they will showcase their project in a group presentation. The group report is also due at this time.

Encouraging Communication and Collaboration

Class Time

If both classes' schedules permit, students can meet in-person and virtually to use Zoom and Microsoft Teams as they work with one another on their project.

Microsoft Teams

Each team of students has a Channel and a Chat, where they can post assignments, set up video calls, and discuss their project.

Zoom

When class time is devoted to the group project, students connect on Zoom to talk with their group mates.

Managing Accountability

Team Contract

Groups work together to outline their expectations and roles for how their team will communicate and operate.

Weekly Work Logs

Students keep track of the work each person does every week.

In-class Meetings

Teams use class time to check in with one another, to provide updates on the project, and to work on related assignments.

Assessment Methods

Each professor can grade the assignment differently, if they so choose, using points or weighted grades. Tip: Consider assigning individual grades (not just group grades) to ensure all students are given credit for their contribution.

English

The in-class article analysis activities are a completion grade. The report and presentation are worth the most (50 points each). All students are graded on their individual contribution. The group members' individual grades are then averaged for the group grade.

Math

The project is worth 15% of each student's final grade.

Final Thoughts

What We've Learned

Groups

Create larger groups (~8 students). Be intentional about who is in each group. Consider each student's attendance, work ethic, course-related skills, and personality.

Project Planning

Work with one another to develop assignments related to both classes. Create a schedule for assignment due dates, in-class meetings (if possible), and milestone events (i.e., students meet with their group to select a topic).

Group Assignments

Popular Source Analysis: Use class time to read, discuss, then answer questions about a popular source.

Scholarly Source Analysis: Use class time to read, discuss, then answer questions about as scholarly source.

Report: Create a professional document with headings: Introduction; Research; Proposed Solution; Sources

Presentation: Explain why they selected their topic, what they discovered about the issue, and what can be done to address the problem. Students may also talk about their challenges and successes with the project.

Our Advice for Others

Get to know your colleagues.

What interests do you share? How does your subject matter overlap? How can a cross-disciplinary project show students how their courses are interconnected?

Be flexible and willing to adapt.

You may need to pivot at some point during the project, so have a back-up plan if students drop the class or if the group project doesn't work perfectly. Remember: Each attempt is a learning experience for you and your students. Use their feedback to create an even better project the next semester.

Thank you for attending!

What questions do you have?

Survey Questions

1. What courses do you teach?
2. What other discipline would pair well with your subject matter?
3. What challenges do you think you might have in implementing a multi-disciplinary PBL assignment?
4. How could you address those problems?
5. What's one idea you found helpful in today's presentation? What would you like to try?

Get in Touch with Us

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