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# **Using Extension Fieldwork to Incorporate Experiential Learning into University Coursework**

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**Abstract:** This article presents a strategy for incorporating experiential learning into university coursework through the use of Extension fieldwork projects. In this case, undergraduate agribusiness management students construct business plans for primary agricultural industries and proposed new industries, such as food processing. Results of the study suggest that fieldwork projects enhance student learning and provide a valuable "real world" application of their classroom coursework. Undergraduate fieldwork projects should have a clear set of steps/goals, and instructors may need to help students identify an industry and appropriate industry contacts, as well as specify region of interest and number of contact hours required.

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## **Introduction**

University Extension specialists in agricultural economics are continually looking for new ways to blend Extension work into their university courses. Loveridge (2003) outlines a number of important strategies, such as incorporating case studies and examples from Extension work, having industry contacts serve as guest lecturers, using student papers for jointly authored Extension publications, and having students do Extension-related internships and/or independent studies.

Another potential strategy is the use of Extension fieldwork projects to incorporate experiential learning into the classroom. Fieldwork projects might include interviewing producers to construct enterprise budgets and building business plans and/or feasibility studies for new or proposed industry. Experiential learning encourages students to apply course concepts to actual problems in the field, thus increasing their skills and hence their value to potential employers. According to Jiggins and Roling (1994), academic institutions have previously left professional work practice and skill development to employers, an outdated tradition.

One type of experiential learning that has been incorporated into classroom education and noted in the literature is "service learning." Service learning incorporates the use of a community partner who is in need

of a service. The students then complete the service as part of their course work. Examples include conducting community economic impacts of an annual livestock show, an Extension program advertising campaign, and community land use planning (Horrisberger & Crawford, 2007; McGoldrick, 1998; Fannin & LeBlanc, 2007; Haines, 2002).

The idea for the Extension fieldwork project discussed in this article arose out of the need to create a "real" experience for students in their agricultural economics program and to measure the impact of the project on their learning experience. Many students simply do not see a connection between their university studies and their future career. Students can often be overheard in the halls noting that their courses are "just a bunch of pointless theories" or "I'm never going to use this stuff." Thus, the instructor (holding an Extension appointment) of a sophomore level agribusiness management course devised an assignment for students to complete a comprehensive business plan that would require interaction with a local or regional agricultural/food processing operation of their choosing.

To examine the value of the project to students and their perception of their learning experience, we sought to answer the following questions.

- What did students learn as a result of the project?
- How did students interpret the meaning of their involvement in the project?
- In what ways, if any, did the students perceive the project to be useful and personally valuable?
- Would students recommend the project for future use? If so, how would they suggest the project be improved?

## **Field Study Assignment Description**

The fieldwork project, which was spread out over the course of a sophomore level agribusiness management course, required students to complete a business plan in an agricultural industry of their choice. Students were also given the opportunity to use parts of their plan to develop co-authored case studies and Extension publications with the course instructor, such as cost and return studies for primary agricultural industries. In order to complete the assignment, students were required to compile data from primary and secondary sources and conduct interviews with agribusiness professionals, famers/ranchers, and/or necessary regional agricultural resource contacts if applicable.

The instructor recognized that this assignment could prove to be overwhelming for students, because for many it was a new method of learning about and understanding concepts in their field. However, scaffolding was provided by dividing the assignment into smaller portions that were due throughout the semester and beginning with the least-challenging concepts first, those that students had already encountered in prior coursework. The assignment was divided as follows.

### **Part I**

- Mission statement

- Goals
- Business details (size, location, product(s), customer, distribution)
- Pricing and revenue estimates

#### Part II

- Description of expenses, definition of terms/formulas
- Enterprise budget (year 1)
- Investments overview
- Break-even analysis

#### Part III

- Cash flow budget
- Income statement (profit/loss statement) (year 1)
- Balance sheet (as of the end of year 1)
- Business analysis overview
- Interview schedule (date, person interviewed, and contact information)

To ensure that students selected an appropriate agricultural industry, they were provided with individual guidance. If a student did not have access to a feasible site or the initial site selected was not successful, he or she was given options for local projects of which the instructor was aware through Extension activities. In addition, students were provided with examples of similar completed projects, and local resource experts were brought in to discuss their own operations and assist students in locating and using primary and secondary print sources. Students were also advised as to the protocol for contacting their sources (initially by phone), and were given sample questions to use as a guide when conducting their interviews.

Student often chose to study farming/ranching operations or current and potential food processing facilities. Many students chose to examine a familiar business, such as their own family farm, or an industry in which they had worked during the summer or in high school. Several students decided to study the industry they hoped to work in following graduation. For most students, this was the first time they would be required to make contact with industry personnel. This not only gave students a chance to make valuable connections for

their future employment, but to apply their classroom learning to a real-life situation as well.

## Impact of the Project on Student Learning

Several data sources were relied upon in order to answer the project's questions, including a survey of all students who completed the course and voluntary, open-ended interviews conducted by a non-course instructor.

### Student Survey

A survey of all students completing the course across two semesters was conducted in-person on the last day of the course. The survey was designed to gauge student evaluation of the project compared to other learning experiences in the program. The survey was developed by the course instructor and tested by a graduate student focus group.

The first section of the survey examined student perceptions of their learning, their experiences with the agribusiness professionals they worked with, and the value of the fieldwork project to them and future students. The second section of the survey examined student preferences for various instructional methodologies (lecture, textbook, case study, etc.), and the final section of the survey collected basic student demographic information. Students were given complete definitions of the terms "case study," "fieldwork project," and "learning" at the start of the survey to avoid confusion. A total of 30 students completed the survey.

The following is an overview of the survey sample statistics.

- The majority of the students completed the course late in their college career (junior/senior 70%).
- Two-thirds were female (63.4%).
- Half were between 18 and 22 years of age (50%).
- Over half majored in the College of Agriculture (66.6%).
- Students preferred lectures, homework, and fieldwork assignments over other types of assignments (93%, 93%, and 86% respectively vs. 53% for exams, 60% for case studies, and 80% for textbooks).
- Many students noted having completed one to three fieldwork projects while in college (86%).
- All students said they would recommend the fieldwork project for future courses (100%).

Students were asked to rate the learning experience they received as a result of the fieldwork project over other types of assignments. Students were given the choice of rating the learning experience as "inferior," "same," "improved," or "much improved" relative to other assignments.

Given the ordered and multinomial-choice nature of the student survey data, student perception of learning as a result of the fieldwork project was modeled using an ordered probit model. (See Mittelhammer, Judge, & Miller, 2000, pg. 584 for description.) Explanatory variables included the college in which the student majored, the current class standing of the student, whether the student worked with an agribusiness professional on the project, and the student's age, gender, and preferences for the following instructional methods: homework, fieldwork projects, textbook, lecture, case study, and examination. The ordered probit model found the following significant variables.

- Lower class standing, such as freshman/sophomores: For these students, the "newness" of their college experience and/or this type of assignment likely caused enthusiasm.
- Students who worked more with agribusiness professionals: Many students were surprised at how helpful these professionals were and appreciated their desire to genuinely help students with the project. Students who completed most of the work over the phone or on the Internet without visiting the operation and therefore had little interaction with professionals were less likely to see a greatly improved learning experience as a result of the fieldwork project.
- Student preference for fieldwork, textbook, and case study assignments: Students who had preferences for more traditional university instructional methods such as lectures and exams were less likely to view the fieldwork project as valuable. The variables for traditional instructional methods were all negative as would be expected, although they were not statistically significant in the model.
- Students in older age groups: Older or non-traditional students may have a stronger recognition of the importance of job skills and assignments that can be directly applied outside of the university environment.

## Student Interviews

For the interviews, a random sample of 12 students was compiled from those who had successfully completed the business plan project and achieved a grade of C+ or higher on the project. Students were asked to participate in the interviews via email after the course was completed. Four female and two male students completed the interviews. All of the students were Caucasian and under the age of 25. One student was a senior, three were juniors, and two were sophomores. Three students completed analyses of cattle ranches, while the remainder investigated a nursery, peach and almond farming, and apiculture.

Example of interview questions included "What aspects of this experience did you find most useful?," "What, if anything, did this experience teach you about your strengths and weaknesses in regard to your major/future career?," "Was your professional philosophy affected in any way by this experience?," and "How are you different than students who have not had a similar field experience assignment?" Student interviews were recorded with a digital hand recorder and then transcribed to text.

The results of the student interviews revealed a number of themes. Primarily these included improved depth of content knowledge, improved professional understanding, self-reliance, deeper awareness of strengths, value of hands-on learning, and critical comparison. Further discussion of these themes follows.

- **Improved Depth of Content Knowledge:** The majority of the students commented that they were surprised at how much went into a business plan. They appeared to develop a more comprehensive understanding of the variables involved in creating a business plan and forecasting a profitable business. In some cases, students realized that the information they were learning for a business plan could also help them in their personal lives.
- **Improved Depth of Professional Understanding:** Students showed a much stronger awareness of the depth and breadth of the profession they were entering, especially the extent to which professional contacts and resources could be helpful for support and information.
- **Self-Reliance:** Students commented at how the project forced them to test their own limits and pushed them beyond their comfort zones.
- **Deeper Awareness of Strengths:** Through the project, students became better acquainted with the aspects of their future work that might present the greatest challenges, but they also gained confidence from recognizing the strengths they already possessed.
- **Value of Hands-on Learning:** Students commented that case studies provided answers, but in the field study they had to seek out the answers themselves.
- **Critical Thinking:** Students learned the importance of critical thinking and application to different environments. Students realized that in some cases what they learned in class would not always work in their particular industry, encouraging them to make appropriate adjustments.

## Discussion

The student survey and the interview results explicitly show that the project enhanced the learning of the majority of the students. The students had the opportunity to deepen their learning because the project used aspects such as prior knowledge, inquiry, and meaningfulness. They created their own viable business plans, tested their learning and beliefs, and perhaps most important, were forced to assert and insert themselves into the learning process. Additionally, students found the project useful in building skills for future employment, which will also be valuable to their personal lives and growth as individuals. The project forced students to more closely examine what they will be called upon to do in the "real world." Finally, all students recommend that the project be continued in future courses. To date, this project has been ongoing in the agribusiness management class, and several other similar projects have been included in the program, including:

- Assessing the demand for a year-round indoor market by surveying consumers at local farmers' markets.
- Constructing start-up financing plans for renewable energy projects.

- Assessing potential public policy towards environmental issues including water, fire, and desert habitats.

State Extension specialists interested in incorporating fieldwork projects or similar experiential learning activities should consider the following suggestions. (Additional suggestions for service learning projects can be found in Fannin and LeBlanc [2007].).

- Clearly outline the assignment's requirements and goals for students at the start. Discussing the "real world" experience of the project will likely enhance their enthusiasm. Providing examples of previous projects may also be helpful.
- Avoid overwhelming students by scaffolding the assignment into manageable segments. (See Vygotsky [1978] for more information.)
- Allow students to choose the industry or subject matter for their project. When students are allowed to make these choices, there is a greater potential for student "buy-in" and enthusiasm.
- Help students to identify community members or industry professionals to work with when needed. Students might be very apprehensive of making the initial contact. If the instructor makes the initial contact or provides a reference for the student, student stress may be diminished. Providing students with a protocol or overview of business etiquette for working with professionals is also recommended.
- Require job shadowing or a specific amount of time for interaction with community members/industry professionals. In this example, the assignment did not require job shadowing or a specific amount of time spent on-site. Some students spent more time searching for information from second-hand resources and less time engaged with the community member/industry professional.
- Strongly consider involving county and area Extension faculty in the project as guest speakers, subject matter experts, and liaisons with project site and/or subject matter selection.
- Designate a regional boundary for the project; specifically a short distance (less than 2-hour drive) from campus to allow for more interaction with community members/industry professionals. Students from this project commented that requiring them to investigate local operations might encourage more frequent interactions with the producer/professional and a better knowledge of the local area.
- Allow students to choose to investigate their family's industry, but not their own family's operation. In this way, students will become more familiar with the variety of approaches to management in their particular industry.

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