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Development of a University Undergraduate Course Sequence About the Extension System

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Abstract

Many undergraduates are interested in community-based programming, but at most land-grants undergraduates have little contact with Extension. This article describes a grant project that developed two undergraduate courses about Extension and community-based, experiential education. The academic-year course incorporates lecture, discussion, guest speakers, and hands-on activities. The summer-session course takes students to visit program sites in operation. In outcome evaluations, students gained significantly in their understanding of land-grants, Extension, and community programming, and gained confidence in working collaboratively, among other findings. Recommendations note that the success of similar courses requires involvement of county Extension personnel and balancing of several key factors.

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Introduction

Extension programs and undergraduate students are naturally suited to each other in many respects, and getting students involved with Extension can provide mutual benefits for both the programs and the students' educational development. Many undergraduates are eager to spend some of their educational time outside of the classroom, in real-life settings where they have a chance to make a difference in the lives of families and communities. Extension programs, for their part, can be enriched by the energy, creativity, and perspective that many college students can provide.

Yet at too many land-grants, the Extension system and undergraduate education are different worlds that rarely intersect. Land-grant universities are complex organizations that pursue multiple missions —teaching, research, and community engagement—which often get conducted without a great deal of attention to finding optimal forms of integration (Fitzgerald, Bruns, Sonka, Furco, & Swanson, 2012; Jaeger, Jameson, & Clayton, 2012; Kellogg Commission, 2000). In this article we describe an attempt to bridge part of that gap, through the creation and development of an undergraduate course sequence focusing on the Extension system. The primary aim of these courses is to educate undergraduate students about Extension programs and the possibilities they present for community engagement, volunteerism, and career pathways.

To date, most of the efforts aimed at bringing undergraduates into closer contact with Extension have taken the form of service learning projects, in which undergraduate courses in a variety of subjects use Extension sites as the setting for real-world student projects (Barlow, 2012; Curtis & Mahon, 2010; Fannin & LeBlanc, 2007; Horrisberger & Crawford, 2007). In other approaches, Alberts, Wirth, Gilmore, Jones, and McWaters (2004) describe a case study analysis of a statewide Extension service, conducted by undergraduates, and Loveridge (2003) recommends that undergraduates can be incorporated into Extension settings as part of courses taught by Extension faculty. Several institutions offer career preparation degree tracks for future Extension professionals, including The Ohio State University (Scheer, Ferrari, Earnest, & Connors, 2006), New Mexico State University (2013), and North Carolina State University (2013). But outside of professional training programs, we have found no previous literature that describes elective undergraduate courses in which the Extension system is the primary topic of study.

The courses we describe were developed at Oregon State University (OSU), with funding from the National Institute of Food and Agriculture's Higher Education Challenge Grants Program, coordinated under what is now the Division of Community and Education (National Institute of Food and Agriculture, 2012). The grant's leadership team included Extension specialists and an undergraduate administrator in OSU's College of Public Health and Human Sciences (CPHHS). The college houses two of OSU's five Extension programs: Family and Community Health and 4-H Youth Development. OSU's other Extension programs are Agricultural Sciences and Natural Resources, Forestry and Natural Resources, and Sea Grant.

Course Descriptions

The Academic-Year Course

"Community Education Programs and Practices: The Extension System" is a 2-credit course that meets in one 2-hour session during each week of the campus's 10-week academic quarter. The major topics covered in the course include the organization of Extension and the land-grant system, principles of community education and curriculum development, diffusion of innovation theory (Stephenson, 2003), working with volunteers, organizational change (West, Drake, & Londo, 2009), and other topics. Although the Extension system is the central focus of the course, a prominent theme is that Extension is but one example—probably the leading example among established educational institutions—of the larger concept of community-based experiential education. One or more readings are assigned each week from the *Journal of Extension* and other publications, as well

as from other types of media such as websites and online videos (e.g., Food Hero, 2012).

The class sessions are organized to be a mix of lecture, discussion, hands-on activities, and guest speakers drawn from each of Oregon's Extension programs. The speakers represent a variety of organizational roles, including campus-based specialists, county-based faculty, administrators, and special project leaders. Extension programs that have been highlighted include SNAP-Ed nutrition education, 4-H youth development, Master Gardener volunteers, forestry, coastal safety, wine grapes and viticulture, and numerous others. Most of these programs are from the course's home college (CPHHS), since the class has tended to draw students primarily from the college's undergraduate programs of Nutrition, Public Health, Human Development and Family Sciences, and Exercise and Sport Science.

Outside of class time, students are required to get on-site exposure to Extension by visiting two local Extension programs. Examples of program sites include 4-H meetings, Master Gardener workshops, agricultural workshops, demonstrations, and nutrition education classes. Other required coursework includes short written essays each week based on assigned readings and the presentation of a final team-based curriculum project.

The final team project involves the creation and presentation of a brief workshop that incorporates sound curriculum design principles. This assignment reflects the recognition that most Extension programs involve some form of community education, and so the students should get an opportunity to develop short curricula themselves. Working in teams of three to four, students' curriculum content choices have tended to reflect the subject matter of their own major programs—primarily nutrition, human development, and health promotion.

The class was first offered in fall 2009, with seven students enrolled. Through the 2011-12 academic year, it has been taught a total of seven times. Four different instructors taught the course over the grant project period, including an Extension county educator in winter and spring 2012. In all instances, the instructor's salary was covered by the NIFA grant. Attendance has grown steadily: in the final grant year, course enrollment was 25 in winter 2012 and 35 in spring 2012.

The Summer Course

The project team also developed a corresponding 2-credit summer course, entitled "Community Education in Action: Observations of Extension Programs," which focuses on getting students off-campus to visit Extension programs in operation. This course was delivered twice in summer 2011, testing alternative delivery formats that were made possible by the variety of summer session schedules on the campus's academic calendar. Each class had two co-instructors and maintained the required 20 hours of instructional time that corresponds to two credits.

The first class delivery model was an intensive 3-day road trip with overnight stays in hotels along the way. The group drove up the Willamette Valley to the Portland area, visiting a combination of rural and urban sites within approximately 120 miles of campus. The second delivery model incorporated three single-day trips on consecutive Fridays, each consisting of approximately seven hours. Three to four program field sites were visited each day, all within an approximate hour's drive

from campus.

The two sections of the summer class each enrolled six students. The visited sites included a county food bank distribution center, one of Oregon's 12 agricultural field experiment stations, county Extension offices, community gardens, private farms that collaborate with Extension on agricultural sustainability projects, an urban watershed restoration project, a coastal community development program, and a farmer's market (focusing on its underlying economic basis), among others (Figures 1 and 2).

Figure 1.

Summer Class Visit to a Regional Food Share Distribution Site

Figure 2.

Summer Class Visit to a Demonstration Farm

Significant Decision Points and Challenges in Delivering the Extension Courses

In delivering and revising the classes, there were several recurring dilemmas that we faced. Among the most significant were the following.

- **To really learn about Extension, students need to get off campus and into the community.** Extension is a community-based organization driven by an ethic of hands-on, experiential learning. Therefore it seems somewhat contradictory to teach students about Extension without having them get into the communities to see programs in action. This experience is exactly the goal of the summer class, but it is insufficient to rely solely on that class to produce an experiential component for the academic-year class, because it reaches far fewer students. Finding ways to get students off campus was a challenge throughout the development of the class. We tried several strategies to get students closer to program settings, including a field trip to the local county office and assigning project work at the county level with county faculty. Each of these presented obstacles, and we eventually settled on the option of requiring students to make two program site visits on their own time.

- **Local Extension staff need to be buffered from the course-related needs of students.** In the early terms, students were required to work with a county Extension faculty member on projects that would be of real use to the local Extension program. This approach was abandoned after several quarters, primarily for two reasons. First, the collaboration required a time commitment on the part of the county faculty member, and although some of the faculty-student collaborations were quite successful, others were not. The benefit to cost ratio was ultimately determined to be too low to continue this approach. Second, as the class size expanded, the need of each student for a county-based collaboration produced a backlog of requests for a relatively small number of

county faculty members. If the faculty were too busy to take this on in a given term, many students faced being left without a viable option for a final project.

- **Which Extension program content should be highlighted?** Given that most of the students were pursuing studies within the College of Public Health and Human Sciences, it was reasonable to highlight our home college's Extension programs, 4-H Youth Development and Family and Community Health (FCH). Over the years, the FCH topics included SNAP-Ed nutrition education, financial literacy and family economics, physical activity promotion, healthy aging, and others. We made a point of also including presentations on agricultural topics and other scientific areas. However, it turned out that many students in CPHHS had limited interest in other topics. So we needed to strike a balance between, on one hand, showcasing the OSU Extension Service in all of its significant dimensions and, on the other, recognizing and accommodating the interests and foci of the students in the class.

Evaluation Strategies and Findings

The grant team addressed two primary evaluation functions. First, we describe what was done on a formative basis to learn about the classes each time they were offered and to revise them to become increasingly effective in reaching educational goals and meeting students' expectations. Second, we discuss our outcome evaluation activities and our assessment of student learning outcomes. All evaluation activities for the project were approved by the OSU Institutional Review Board.

Formative Evaluation and Course Evolution

To ascertain student perspectives on the classes, both written student questionnaires and focus group interviews were administered after each course delivery, including both the academic-year and the summer-term courses. The focus groups proved to be particularly productive. The interviewers were grant team members (those not involved in teaching or assigning grades) and graduate students not involved with the grant. The size of the focus groups was limited to 10 students or fewer, which necessitated convening multiple groups within the class as the course enrollment grew. Individual interviews were conducted with students who had missed the group interview. In total over the course of the project, 14 focus groups and two individual interviews, involving 105 students, were conducted for the academic-year course. Two focus groups and one individual interview, involving 11 students, were conducted for the summer course.

Based on this formative evaluation feedback, the academic-year class went through numerous changes across its 3 years of delivery. For example:

- The course was changed from 1 to 2 credits.
- The uses of class time—guest presentations, discussion, learning exercises, group work—steadily shifted to attain an optimal balance.
- The nature of the work assignments changed. In early terms, students worked directly with

Extension offices to create their final projects, but in later terms they gave class presentations.

- The requirements for site visits were revised several times, to encourage more significant reflection on the part of students.

- In order to get closer to Extension operations, for several quarters the class visited the local county office during one of the class sessions. However, this was abandoned in the final year because the logistics of the visit, accommodating 25 or more students in the Extension office, did not permit sufficient interaction and engagement to hold students' interest.

Outcome Evaluation

Project outcomes were assessed through questionnaires that students completed at the beginning and end of each course. The questionnaires were developed through a collaborative process, measuring variables through multiple-item scales where possible, to maximize reliability (Cronbach, 1990). Also where possible, outcomes were assessed at both pre and post, allowing for gains to be tested for statistical significance through a paired-sample t-test. Other outcomes were assessed by asking students on the post-questionnaire for their ratings and/or judgments.

Academic-Year Class

Because the class underwent continual changes in its organization, focus, and logistics, we focus on the results from the project's final year, 2011-12, in which the class was taught in winter and spring quarters. The primary learning outcomes of interest, and the ways they were assessed, included the following.

- Knowledge of the land-grant system and Extension: measured through a five-item test for the academic-year course (11 items for the summer course), administered at both pre and post.

- Understanding of how to deliver community programs: measured through a series of self-report items at posttest.

- Value placed on volunteering in one's community: measured through a four-item scale in a 5-point Likert format (Strongly Disagree to Strongly Agree). Sample item: "It is important for me to volunteer my time helping people." Internal consistency reliability (Cronbach's alpha) was .862, measured at pretest.

- Interest in an Extension career: measured through self-report at posttest.

- Interest in a career in food, nutrition, or agriculture: measured through self-report at posttest.

- Self-confidence in working with people on community projects: measured through a five-item Likert scale. Sample item: "I am confident in speaking to groups of people." Reliability (Cronbach's alpha) at pretest was .836.

Table 1 presents results for the target outcome variables that were assessed through pre-post change scores. As can be seen, there were strongly significant gains in students' knowledge of land-grant universities and the Extension system, and in students' self-confidence in working with people. Students' mean gain on the value placed on volunteering in their communities approached, but did not reach, statistical significance.

Table 1.

Pre to Post Gains on Targeted Outcomes from Academic-Year Class

Variable	N	Pre	Post	Gain	t	*p* value
Knowledge of land-grants and Extension (Number correct, out of 5 items)	51	2.55	4.00	1.45	7.30 (50 df)	<.001
Value placed on volunteering in one's community (Mean of 4 items; response range 1 [lowest] to 5 [highest])	54	4.25	4.41	.16	1.74 (53 df)	.087
Self-confidence in working with people on community projects (Mean of 5 items; response range 1 [lowest] to 5 [highest])	54	3.76	3.99	.23	2.79 (53 df)	.007

For the outcomes assessed through student self-ratings (N=54), 93% of students reported at the end of the course that they have a better understanding of community programs; 78% believed they can be more effective in their communities; and 74% reported more interest in participating in community programming. With regard to careers, 43% reported that as a result of the class, they were more interested in a potential Extension career, and 46% reported more interest in a potential career in food, nutrition, or agriculture.

Summer Class

The post-questionnaire used in the 2011 summer-term class was shorter than that used in the academic year class, with the exception that the knowledge test about land-grants and Extension contained 11 items rather than five. The value placed on volunteering in one's community was measured with a single item ("How personally important is it for you to volunteer in your community?"), with four potential responses.

Of the 12 students enrolled in the two field-visit classes, one missed the post-questionnaire, resulting in an N of 11. Results for the gain score analyses are presented in Table 2. Despite the very low statistical power associated with the small N, students exhibited strongly significant gains in

their knowledge of land-grants and Extension. They did not significantly increase their scores on the importance placed on volunteering in their communities. This may be due to both the low statistical power and the high pretest scores (mean of 3.45 out of a possible 4.00), leading to a potential ceiling effect in the responses.

Table 2.

Pre to Post Gains on Targeted Outcomes from Summer-Term Class

Variable	N	Pre	Post	Gain	t	*p* value
Knowledge of land-grants and Extension (Number correct, out of 11 items)	11	5.00	8.18	3.18	3.34 (10 df)	.007
Importance of volunteering in my community (Single item, range 1-4)	11	3.45	3.36	-.09	-.36 (10 df)	.724

For the outcomes assessed through student self-ratings (N=11), 100% of students reported at the end of the course that they have a better understanding of community programs, and 100% reported learning a good deal about Oregon communities. In addition, 91% reported that they can be more effective in their communities, 91% reported having more ideas about how they can use their degree, 82% were more interested in participating in community programming. With regard to careers, 55% were more interested in a potential Extension career, and 64% reported more interest in a potential career in food, nutrition, or agriculture.

Lessons Learned and Recommendations for Future Efforts

Several lessons can be gleaned from this project's experiences in developing and presenting these courses. Among the most significant are these.

- As we had anticipated at the outset of the project, we found that many undergraduate students are enthusiastic about opportunities to learn about and, ideally, interact with local communities. These students are naturally drawn to experience-based subject matter and may get little exposure to it in their other coursework. A few students, primarily those who have previously been 4-H members, will probably have had extensive experience with Extension and can be peer leaders within the class.

- The experiential aspects of the course will most likely involve nearby county Extension programs. Consequently, faculty in those programs should be involved as local partners during the course planning phases. Care should be taken that local Extension programs and their faculty are not caught unaware by requests from students who need to fulfill course requirements, especially in the closing weeks of the term.

- There is a considerable amount of content to be communicated to students in the academic-year course. This content may be conveyed efficiently through lecture format, but since this is fundamentally a course about experiential education, relying on lecture creates a contradiction between the course's content and its delivery method. Therefore lecture should be used sparingly within class time, and course designers should strive to find a balance between experiential activities and content presentation.

- In developing the specific course content, we found it advisable to go light on organizational details about the Extension system, placing attention instead on the ways that Extension faculty create, plan, and conduct activities. Most often, the aspect of Extension that interests undergraduates most strongly is its interface with the community. Thus, information about Extension as an organization—such as supervisory structures, county office arrangements, campus roles, budget streams, etc.—should be dealt with expeditiously whenever possible.

With the completion of the USDA grant, the next step has been to consider how continued delivery of these unique courses can occur. Advocating for new course adoption is difficult during a time of educational cuts and budget constraints. The summer course is resource-intensive and serves a small number of students, but the academic-year course can serve many students and entails only the instructor salary as an expense. Administrators within the college are supportive of the concepts underlying the courses and the value of Extension programs as viable real-world settings for stimulating student learning and engagement. As of this writing, planning is underway to add the academic-year course to the college's undergraduate course offerings, and the course is currently being revised to conform to the college's overall directions and priorities for undergraduate education. Salary costs for an Extension faculty member to teach the course will be covered by university instructional funds rather than Extension funds.

Conclusion

This article describes the experience of one land-grant institution in developing and delivering an undergraduate education sequence focusing on the Extension system as a model of community-based experiential education. As we had anticipated at the project's outset, many undergraduate students are enthusiastic about opportunities to learn about and interact with local communities, and they form a natural constituency for this course material. Educating undergraduates about the Extension system is a way to build awareness about Extension and its public value (Franz, 2011). As land-grant universities continue to evolve and adapt to a changing society, these linkages can help ensure that Extension remains a vital and dynamic component of the land-grant vision.

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