Student-Designed Course in Land Ownership Changes

Introduction

Changes in land possession and ownership have been a part of agriculture and food systems ever since humans moved from hunting and gathering to more sedentary life styles and organized communities. Ancient civilizations achieved a degree of scale efficiency in food production that liberated many to become artisans, soldiers, teachers, and administrators who were not needed for direct food growing. Mechanization in the industrial revolution provided efficient alternatives to human labor, and further stimulated consolidation of farmland into larger holdings supported largely by fossil fuel based inputs of fertilizer and pesticides. Colonial powers exploited the natural resources and food production capacity of other lands to feed their own people and factories. But today there are sweeping changes of land ownership, often called "land grabs," and often legal within current local laws and dominant free market system. These transfers are reshaping the management of soil and water resources and distribution of benefits on a scale not seen in recent decades.

Our goal is to better understand this ongoing process. From the course syllabus, "*The loss of farmland to other uses as well as concentration of ownership have immediate effects on potentials for local food production and food sovereignty. Ownership changes reduce access to land by limited resource and beginning farmers, while free market policies and scales of production efficiency for commodity food production clearly drive consolidation of lands in a process claimed to be the only viable way for feeding a growing global population. Research and education on these land ownership issues are vital to inform policy, development agendas, and strategies for long-term sustainability of food production and ecosystem services.*"

With this perspective on changes in land ownership, we launched an on-line course to inform ourselves about the multiple issues surrounding use of land for food and other production outputs and to provide a foundation for a future course that will be accessible to students in the Nordic Region, Nebraska, and around the globe. The case study method pioneered by medical and business schools was chosen as the primary learning approach (Barnes et al., 1994). Different methods of using the case approach have been explored (Cliff and Nesbitt, 2005), and how design of cases impacts learning (Lundeberg et al., 1999). Applications in agriculture have been published by the American Society of Agronomy

Methods

We recognized the need for a university course that would guide students in learning more about massive changes in land ownership that have occurred over the past two decades. There is substantial information emerging from international conferences and technical journals in social sciences about the magnitude of changes and the impacts on former residents and farmers on the land, but limited attention in universities through formal courses; one exception is the International Institute for Social Sciences [www.iss.nl/education/] in The Hague, Netherlands.

Land Ownership Changes was offered as a graduate level independent study opportunity to a select group of students from University of Nebraska—Lincoln and Norwegian University of Life Sciences who were all appointed as special teaching assistants for three months and provided a modest honorarium for their work in developing the course. The course was three semester credits in U.S. or five ECTS in Europe. A syllabus was prepared with these course goals:

1. Develop an understanding of land use ownership changes at the local and landscape level: impacts and consequences on food production, economics of farms and communities, environmental impacts, and social dimensions.
2. Explore potentials of case study methods to understand dynamics of land ownership and impacts on food production and sustainability, long-term ecosystem services, and interactions in food systems among production practices.
3. Develop competence in case study development by each student crafting one open-ended case based on a local land ownership situation that has not yet been resolved.
4. Engage in critical assessment of case study papers done by peers in the course and discussion of alternative methods of learning about impacts of land use changes.
5. Provide critical examination of course methods and outcomes in order to improve the course for future years.

In keeping with course ownership and adaptive management of goals and activities, we first examined course priorities and requirements. The class met each week for two hours over Adobe Connect©, with students joining the course from India, Germany, Norway, Colombia, and U.S., for a period of twelve weeks. A technical specialist [D. Leingang] with experience in distance education was also one of the students, and provided valuable assistance with navigating in the electronic classroom and associated web site at UNL where documents were stored [passel.unl.edu/pages/].

After extensive reading and discussion about methods of case construction and their use as a learning device, each student developed a case based on one land ownership change in a country where they had personal experience and could access relevant resource materials. We reviewed these cases as a group, and made specific comments to the authors on how to improve them. The course was evaluated using a detailed survey of participants to assess organization, quality of the learning experience, and recommendations for the future. Each student prepared an individual reflection document to summarize their personal learning in the course.

Results

1. Cases developed for future students

Six open-ended cases were developed on situations that reflect current challenges resulting from land ownership change, and each of which includes dimensions of food production, economics and distribution of benefits, environmental implications, and social change. The topics were:

- Sugaring Up the Locals to Palm Over Their Land? A Look at the Effects from the Emerging Sugarcane and Palm Oil Industries in Guatemala [J. Simons].
- Yes, We Have No Bananas: Development versus Exploitation? Case Study of a Multinational Food Corporation in Philippines [C. Francis].
- A Journey Back to the Land, Las Pavas Case (Colombia): Land Restitution: Making Things Right or Legalising Land-grabbing? [K. Sanchez and H. Scharff].
- Defining Socially- and Ecologically Responsible Foreign Agricultural Investment: A closer look at a Norwegian 'reforestation' company in Madagascar [J. Smith].
- Special Economic Zones in India: Land Acquisition: Lawful or Just-less? [C. Bradburn].
- Bakken Boom: Curse or Boon? Examining the impacts of oil extraction in North Dakota [D. Leingang]

Through real-time discussions, we went carefully through each of these cases to examine their structure according to an agreed-upon outline [attention grabbing segment, introduction, goal, rationale/background, stakeholders, student activities, references]. Although we recognized the need and expected to encourage creativity in case design, the group concluded that a common structure would be useful to guide students in performing a 'compare and contrast' exercise across cases and in writing their own cases, and that innovation could be introduced in each of the sections. We further decided that a list of key stakeholders with their roles should be provided, but that an open-ended table would encourage students to expand this list through their reading of each case. We intended to strike a balance between providing too little information, giving a case that would perhaps discourage all but the most motivated students, and too much information, that would allow students to engage the questions without doing much research on their own.

The study questions at the end of each case were described as two types: those that are generic to studies of land ownership changes, and those that are specific to a particular case. The former will be included in all cases, and provide an obvious start for students to compare issues across cases they study in the course, while the latter will help them delve into case-specific issues that are unique to the context, stakeholders, or nature of the land acquisition or its specific use by new owners and participation by former occupants of the land. We decided that the generic questions would likely be required, while the specific questions could be given for the students to choose a subset of what they consider most important. For example there could be five generic questions required, then students could pick five of ten specific questions that they consider most relevant for the specific case. Students could also be required to provide one or two additional priority questions and answers to them. We have yet to decide the parameters for how students should answer the questions, but a general guideline is to require some independent research beyond the information provided in the course, and to develop a half-page response to each question plus references.

2. Evaluation of learning in land ownership distance course

An end-of-course survey to assess learning and provide guidance for shaping the new course next year included 24 statements with responses of "completely disagree" (1) to "completely agree" (9). The sample was too small to analyze statistically, but the responses provide valuable insight on the learning process. Students found the syllabus useful in a general way, with clear goals, but that more specific details would improve this for future students. From the start, students felt strong ownership of the course and appreciated being responsible for their own learning. The initial organization into three modules was quickly abandoned, as the team embraced one continuous process of learning about ownership changes that was not readily divided into sections. The students appreciated their role in 'adaptive management' of the course.

There was consensus that more concrete organization of informative material was needed in the introductory sessions to build interest and awareness among future students. Although several general references on land ownership were useful, this list should be expanded to include videos, excerpts from news broadcasts, and other relevant visual materials to capture the urgency of the land use issue. Students found that the in-depth readings for their own cases were most useful, along with those they accessed to be able to evaluate and suggest improvements for other student cases. The in-depth discussion we organized for each case was found to be particularly valuable to building general appreciation of the course topic and to take advantage of our group as a learning community.

3. Recommendations for future course

In our final group evaluation we recommend more information up front in the syllabus including readings and other relevant resources. Having students read and respond in writing to questions on several current cases would be valuable, and discussion of those cases in small groups would be important to learning. One idea was to establish a discussion room where students could asynchronously add comments to previous ideas and later meet on Skype or other electronic 'classroom' to discuss results. Having each student develop a case related to a geographic area of personal interest and experience would be highly valuable to learning. This could be subjected to peer review in small groups, as well as to oversight and review by the instructor. A reflection paper on learning at the end of the course was seen as valuable, while a final exam was not viewed as necessary. As with previous experience in conventional and distance courses, feedback from the instructor was highly valued.

Conclusions

This one-semester experience in learning about how to design a distance course provided recommendations about organization and content, and results will inform the design of an expanded course from these two universities in the future. Among the conclusions:

- Organizing the course into three modules is not useful; it should be one three-month course for three semester credits [UNL] or five ECTS [NMBU]
- Synchronous meetings of students and instructor may be valuabler for first introductions, but are technically cumbersome; an asynchronous schedule with weekly assignments is preferable
- More detailed instructions and better content including references to articles, chapters, and current cases are needed at the start of the course
- Course ownership with students is possible with a small and select group, but less feasible with a course having open enrollment and larger number of students
- Reading prepared, open-ended cases is valuable and written responses to questions contribute to solid preparation before a discussion of each one
- Having each student develop a case is a valuable strategy to learn more about one land ownership situation in depth, and should be a component of future courses
- Small group discussions are extremely important to developing a balanced perspective and challenging personal assumptions
- Engaging in peer review process provides a valuable learning opportunity and demands high level of engagement and responsibility to classmates
- It is difficult but essential to approach issues in an objective way, with focus on understanding both benefits and negative consequences of ownership changes
- Individual student action as a result of the course should be an integral goal: letters to the editor, articles in newsletters, other methods of promoting action
- Writing a final reflection paper increases potential for self assessment and is integral to the learning process
- Evaluation of student learning should include grading responses to questions on several cases, individual cases developed by students, and reflection papers

We conclude that issues surrounding changes in land ownership, specifically the impacts of "land grabbing," are among the most critical questions of our time. Access to land influences food production, distribution of benefits from agriculture, food security and food sovereignty. Although there are clear ethical guidelines publicized by international public and private non-profit organizations, it appears that these are rarely followed on a voluntary basis by national governments, investors within and from outside a country, and international funding organizations. We feel that this global issue should be a concern to anyone interested in the future of farming and food systems, included as a vital component of the educational programs of our universities, and critical to food security for the future.

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Using C-SPAN as a Teaching Tool in Agricultural and Natural Resource Policy Courses

Introduction

Agricultural and natural resources policy courses focus on public policy and its impact on the structure and financial performance of the agricultural and natural resources sectors, nationally and internationally. Different approaches are used in policy analysis, but focal points tend to be the political process, affected stakeholders, public participation, solutions to policy problems, and explaining the structural nature and factors influencing the policy problem. Discussion on national public policy issues tends to culminate in Washington, D.C. and involves the White House, senators, congressmen, their staff, lobbyists, and various sorts of policy experts. One outstanding way to incorporate a national perspective into these policy courses is to include actual discussion and historical perspectives that center on the "drama" that takes place in Washington as the public policy process produces laws, regulations, and real-world public policy. C-SPAN is one way to accomplish this.

C-SPAN is an acronym for Cable-Satellite Public Affairs Network. It is a non-profit cable-satellite television network with three channels and a radio station. Most cable and satellite television systems include at least one or two of their channels. It is best-known for gavel-to gavel coverage of all U. S. Congress sessions. Its content is unedited and includes congressional hearings, White House press briefings, presidential speeches, and general governmental meetings. There are regular interviews of individuals involved with current events. Most important, their website includes a video archive of past programming and other historical content. Lots of this content involves agricultural and natural resources policy issues.

What C-SPAN Offers

Currentness is a main asset of the network. Public policy issues are most interesting and relevant when they are topical. At the federal level, the Farm Bill is debated on about a five-year cycle and is the primary vehicle for defining public policy that affects agriculture, food, and natural resources. There are plenty of publications that describe the Farm Bill and that address the issues associated with it. However, only a discussion of the current Farm Bill will focus on immediate concerns, directions, and consequences. C-SPAN provides that currentness.

The network provides live coverage of both Senate and House debate on the Farm Bill, with that coverage easily retrievable from its video archives. Searching "farm bill" on its website (www.c-span.org) produced dozens of related events, discussion, and lectures. These included testimony of Agriculture Secretary Tom Vilsack on the department's current budget request before the House Appropriations Subcommittee on Agriculture (lasting two and one-half hours), a discussion of the Farm Bill by Secretary Vilsack after it passed, the White House signing ceremony for the Farm Bill, expert discussion of negotiations over the Farm Bill, panel discussions over the future of American agriculture and natural resources, and discussions of the Farm Bill by relevant House and Senate committees and subcommittee chairs.

Searching "agriculture" yields dozens of related videos on topics like government nutrition programs, Florida's cattle industry, factors that impact U.S. food prices, agricultural trade between the U.S. and Europe, food access and security, and President Franklin Roosevelt and the New Deal. Searching "natural resources" yields topics like state hunting and fishing rights, national monument designations, the Clean Water Act amendment, history of Hawaii' and sugar, artic and deep water oil exploration, wildfire management, and the lumber industry. Many videos are less than six months old. These are current discussions on very current topics.

C-SPAN has about two dozen series on topics like America and the Courts, American History, American Presidents, and American Writers. Scattered among these videos are many agriculture and natural resource topics. Under American History, for example, is a "Reel America" (C-SPAN's name for its historical videos) film titled "The River." It is a 31 minute movie produced by the U.S. government with a New Deal promotional theme on the importance of the Mississippi River Valley, that argues that poor farming and lumbering practices result in erosion, flooding, and poverty. The first film the U.S. government produced for commercial release and distribution is included in "Reel America" and it deals with agriculture. It is a 1936 documentary produced by the U.S. Resettlement Administration on the history of the Great Plains region from the 1880s to the 1930s Dust Bowl. "The Plow That Broke the Plains" was designed to spotlight New Deal programs.

One of the strong aspects of the network is an emphasis on current nonfiction authors and books. The emphasis continues to be current events and many of these books and authors address agricultural and environmental issues. For example, Wenonah Hauter,

author *of Foodopoly: The Battle Over the Future of Food and Farming in America*, was recently interviewed.

Assessment

No textbook and few journal articles are absolutely current, and much of public policy is being formulated in real time as classes take place. Students live in a world with instant access to news and communication, and have come to expect course material to be timely and to include more than the printed word. Access to most political dialogue tends to be short clips from news agencies with limited public access. CSPAN is the opposite of this. It is complete coverage of political events and is strives for accessibility. For an instructor trying to explain public policy, there is no better example than the actual legislative process, supplemented by experts explaining what is going on behind the scenes. For a professor willing to take the time, many nuggets of the public policy process can be gleamed from the CSPAN broadcasts to add real-world flavor to a course.

C-SPAN has programs to make its material accessible to the classroom. The emphasis is on the middle and high school classroom. However, much of the access applies equally well to the college classroom. Their entire website focused on access and its framework serves to produce reams of potential teaching material. For any policy professor, it is a goldmine of "easy pickings."

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Enhancing Student Experience in Plant Sciences through Inquiry Based Learning

Many students at land grant universities start their undergraduate studies with an undecided major or switch from major to major during their undergraduate career. With so many competing and more lucrative career options, recruiting undergraduate students into Plant Sciences is a challenge. Developing and maintaining an interest in agricultural majors is equally important in retaining those students who do enter into agricultural fields. Innovative and entertaining ideas must be applied to motivate and attract students towards plant sciences. One solution is a needed paradigm shift from traditional textbook-focused instructional methods to of inquiry based learning, where students exploring challenging questions appropriate to the field (Crawford, 1999). Inquiry-based learning is an active form of learning and enhances students' self-engagement with scientific activities (Edelson et al., 1999) resulting in an open environment in which students design their learning through exploration with the subject matter. An essential component of inquiry-based learning is that students work independently to solve problems rather than passively receiving direct, step-by-step instructions from the teacher. The instructor does not provide knowledge, but instead helps students along the process in discovering knowledge themselves.

This note provides an example of how a fun-filled, hands-on inquiry based learning model implemented in a general education introductory plant science course helped stimulate interest about plants in non-agriculture major students at New Mexico State University. In addition, the project as designed promotes problem-solving, team-work and presentation skills among students.

In an effort to increase student interest in plant sciences and make students aware of 1) the tremendous variety of plants, 2) the importance of plants in daily life, 3) plant origins, 4) plant production and management practices and 5) fun facts about plants, the instructor developed a multi-faceted project "Know Your Plant Project." For this project student teams are assigned a "mystery" plant or plant product. To ensure students consider a global perspective beyond domestic plants and issues, assigned "mystery" plants and plant products include international examples. Each team must then identify the plant or plant product they are assigned, research various aspects and uses of the plant or plant product, and create a presentation, including PowerPoint, for the entire class. Students were offered extra credit for including tangible objects in their presentations; many teams prepare and serve edible dishes to share with the class.

One key requirement for the "Know Your Plant Project" is that the instructor or teaching assistant of the course will not help in identifying the assigned mystery plant or plant product. Students are allowed to question faculty or students who are not directly linked with the course. Some mystery plants/plan products are seeds – student teams who receive seeds as their mystery product frequently choose to plant the seeds to try to identify the plants as it grows.

The "Know Your Plant Project" develops and measures presentation skills using a detailed rubric to evaluate presentations based on content, professional appearance, presentation skills and timely submission. The project also fosters team work: The project is assigned early in the semester and motivates students to work together and interact regularly to successfully complete the assigned project. Because the project requires students to interact with each other, students develop personal connections with others in the class, and not just with those in their own teams. This is a particularly important element because students come to this class from various colleges and majors, rarely know each other, and are not generally inclined to form personal associations. Students are evaluated for their individual contributions towards the group activity by the instructor and through confidential peer-evaluations. Peer evaluations are averaged and then included in cal-

culating the final grade on the project. To ensure students are attentive during presentations, each team is required to contribute a list of questions to the instructor from their presentations. Questions are then selected by the instructor for inclusion on quizzes.

A reflective element is also included in the project. In the reflection students provide feedback to the instructor about their experiences in the team activity. A vast majority of students indicate the project is a positive experience. Students report that the project fosters interest and investment in a particular plant – that they engage in deeper research and learn much more about their assigned plant than what is required or expected for the team activity. Many students also indicate that the project provides valuable lessons in teamwork, including cooperating and sharing responsibility with other team members. Finally students report that the project helps them learn how to find information and how to problem solve.

This "Know Your Plant Project" aroused student interest in the subject matter early in the semester and retained that interest throughout the semester. The results of the project demonstrate that inquiry based hands-on experiences are instrumental in 1) helping students connect abstract ideas to the real world, 2) building personal connections between students, and 3) generating and maintaining interest in agriculture and plant sciences. Through content-based inquiry and learning using the "Know Your Plant Project," students improve their teamwork and communication skills, as well as develop information literacy and problem solving strategies.

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Achieving Engagement through Real-World Examples

Introduction

Some of today's students have developed poor habits of "learning to forget" in an effort to maintain an acceptable grade, but not really learning the content. This "learning to forget" mentality includes learning content specifically for the test and then immediately disposing of the information. These students are apathetic, and our current classroom structure of lessons, reading book chapters, and an eventual test, only feeds and encourages their apathy. For students to be engaged they need a reason, a purpose. Some gain purpose through experiential learning activities and projects, but we believe even that system can be improved. Instructors should motivate their students with a solid learning plan, an endgame. Students want to graduate and get jobs (intrinsic motivation), so extrinsic motivation by the instructor(s) using real-world scenarios is necessary for students to see application for their future careers. This tactic was employed in a senior level graphic design course for agricultural communications and apparel studies undergraduates at the University of Arkansas. The course is traditionally a skill and project-based course. Students attend weekly lectures that focus on program competencies and create projects based on the specific competency covered in class. The instructors added design examples to daily lessons to foster discussion and motivate students to learn the material.

Procedure

The procedure is simple. Find examples that directly reinforce lesson content. For each lesson in the graphic design course, a design example that pertained to the lesson was shown and discussed. In the beginning of the course, basic principles of design were taught. These principles are reinforced throughout the course by having students identify principles in each design example. Additionally, depending on the material, students were asked how they would make the design example themselves. What program would they use? What tools would they employ to achieve that effect? Finally, students were often given an example of how the product might be used in industry. Some examples were easy like an event flier or invitation. Other examples were more challenging to help students visualize the competencies and programs on a deeper level, which also helped reinforce the broad scope of knowledge they must have in order to be prepared for the workforce. Design examples were retrieved from various outlets. The instructors used Pinterest, design blogs, Google searches, and their own personal work to pull examples. This strategy was effective for a graphic design course because it produced a wide variety of examples that incorporated traditional and modern design trends. Finally, throughout each lesson, the instructors pulled from personal industry experience to create relevant examples.

Assessment

Students throughout the semester became increasingly engaged in the course. More students participated in the design example discussion as the course progressed, and by the end of the semester they were sharing their opinions freely. Many showed a more complete understanding of design principles and indus-

try techniques than in previous semesters. Granted, there were still students who remained quiet and, at times, disengaged, but on average students seemed to pay more attention when lesson competencies were explained using industry examples. They were able to more easily visualize how the lesson pertained to their future career aspirations. The design examples also provided an introduction for each lesson, allowing the instructor to preview competencies through discussion. Finally, this course is skill-based in nature. Students traditionally follow the instructor along through various programs and competencies. So, by adding design examples with discussion, the instructors were able to appeal to the three types of learners—tactile, visual, and auditory; thus, providing a more complete opportunity for learning. The design examples improved the students' overall design aesthetics and professionalism. Industry examples should be integrated into all courses, if possible, to improve student understanding and increase student motivation to learn through application of real-world examples. This teaching tip should be used as a reminder for each of us to work to bring industry (even if in examples) into the classroom. This provides a better opportunity for us to make sure our students are workforce ready upon graduation.

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Crafting the Exam

In addition to teaching and delivery of information is measuring what students understand; that is, when preparing a course for delivery, the instructor is giving consideration to the appropriate questions to assess learning and one way to approach framing questions is to set expectations appropriately. We have found that using a tool such as Bloom's Taxonomy (2014), the level of deep can be considered in composing the question. For instance, Bloom's suggest six general areas for questioning: 1) knowing, 2) understanding, 3) applying, 4) analyzing, 5) creating, and 6) evaluating, thus the expectation is gradually different but points to a level of progression such as the difference in expectations between freshmen through senior level assignments.

So, how does one consider framing the questions?

Understand fully what you expect them to know relative to the course level and expectations.

Develop a strategy on how to gauge level of understanding. Here some tips to consider: a) Let's consider the instructor is wanting to give a multiple choice exam, then ask students to submit two to three multiple choice questions per person for consideration on the next exam. In this exercise, the instructor will gain an appreciation for the level of depth and if there were any miscommunications regarding the subject matter, i.e., possible instructor stated something incorrect and this would be an ideal time to make an adjustment in-class before the actual exam or b) Let's consider the instructor desires to test student's knowledge using open ended/written type questions. Similar to the multiple choice, the instructor can ask for possible questions and get a feel for how well the students may know the materials and/or if anything may have been miscommunicated. Like the multiple choice, if students are way off from the intended point, take the opportunity to bring the substance back to where it should be relative to the question. Further, the instructor should clearly communicate the writing expectations, i.e., grading, grammar or just reading for content or both, so no one is surprised when exams are returned.

When planning a test it is also important to consider class size and the time available to prepare and/or grade an exam. Some instructors desire to choose essay/open-ended type questions and for a large class that may be time prohibitive for both the test taker and grader if not crafted carefully. We have found that it requires less time to write an essay type test because point values are typically higher and there are fewer questions to develop than on a multiple choice type exam. Its known essay type tests will take much more time to grade and can be more subjective, especially when considering the level of detail expected compared to other types of exams.

When creating effective test questions it is key that the format of the test questions you select are best for what skills or concepts you are testing the students on. The methods outlined above that involve the students provide an excellent way to address student comprehension of the material, while building an extensive bank of questions. Lastly, it is critical to spend time formulating the questions so they are concise and well-written.

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