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## Teaching Multiple Cohorts in the Same Classroom

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## Teaching Multiple Cohorts in the Same Classroom

### Abstract

Extension serves an increasingly diverse community, with a number of program participants being new farmers, minority farmers, and low-income farmers. Since the 1980s, Washington State University Skagit County Extension has provided a tractor safety course to older youth farmers, aged 12 to 15. In 2010, a nonprofit farm incubator showed interest in having its members participate in the course, and new adult farmers and Latino farmers were introduced into a classroom of older youths. Meeting the needs of these distinct farming cohorts in a single classroom required a multimodal approach, the success of which is replicable in other Extension education programs.

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## Introduction

The demographics of U.S. farmers are shifting to reflect an increasingly diverse national population. Nationally, minority-operated farms increased from the 2007 census to the 2012 census; of particular note is the 21% increase in Hispanic-operated farms (U.S. Department of Agriculture, 2014). The 2012 U.S. Department of Agriculture Census also revealed an 11% increase over the 2007 census in new or beginning principal farm operators (those having farming as their primary occupation) (U.S. Department of Agriculture, 2014). In Washington State, these demographic increases are reflected in the rise in the number of new small farms, particularly of those in the smallest category (under \$10,000 in annual sales) (Ostrom & Donovan, 2013).

The necessity for Extension to evaluate its effectiveness in outreach to minority and burgeoning farming demographics goes back to as early as 1984 (Grogan, 1991). Since then, the diversity of farmers in the United States has only increased, and, accordingly, so have the complexities of serving multiple demographics through Extension programs. To effectively provide outreach and education to distinct farming cohorts, Extension must remain flexible in program delivery, enlisting multimodal approaches as the norm, not the exception.

## Diversifying the Classroom

Washington State University (WSU) Skagit County Extension serves a diverse community, with a number of

program participants being new farmers, minority farmers, and low-income farmers. Since the 1980s, WSU Skagit County Extension has provided a tractor safety course to older youth farmers, aged 12 to 15, allowing them to gain the experience necessary to meet the safety training requirements mandated for youths aged 14 to 15 in the Fair Labor Standards Act (U.S. Department of Labor, Employment Standards Administration, Wage and Hour Division, 2007). In 2010, a nonprofit farm incubator showed interest in having its members participate in the Extension tractor safety course. As a result, new adult farmers and adult Latino farmers were introduced into a classroom of older youths.

WSU Skagit County Extension's 2010 tractor safety course was the first year in which a comingled class existed. Although the structure, curriculum, and purpose of the course remained the same, a Spanish translator was added so that the needs of the Latino participants were met. Despite a near 100% pass rate, an end-of-course survey revealed that many adult participants shared the following concerns:

- The pace of the course was too slow, especially for farmers with prior tractor experience.
- The course involved too much book-based learning.
- One day of actual tractor driving was insufficient for skill proficiency development.

## Multimodal Classroom Approaches

On the basis of feedback from the 2010 tractor safety course, the course design was changed to address the educational and scheduling needs of the various participant groups. Engagement hooks and experiential learning, associated with positive boosts in subject retention and participation (Lobley, & Peronto, 2007; Wolfe & Carroll, 2003), were employed as mainstays in the course. The five modalities outlined in Figure 1 were used throughout the course as methods for educating, engaging, and empowering all participants.

### Figure 1.

Five Modalities Used in Modified Tractor Safety Course

### 1. Targeted Administrative Support

- Dedicated course administrators were hired for each cohort:
  - 4-H instructor for youth,
  - Spanish translator for Latino participants, and
  - third administrator for beginning farmers.
- Each administrator had an active and ongoing relationship with students within specified cohorts.
- Opportunities for accelerated course completion were introduced:
  - Qualified students were allowed to complete course within three sessions.
  - Administrators ensured that curriculum standards were maintained.

### 2. Traditional Course Work

- Lectures reviewing course reading remained a staple of the program, ensuring that key points of the curriculum were discussed and assessed.
- Tests and intermittent quizzes were used to evaluate knowledge set.

### 3. Contextual Application of Subject

- Farm/tractor safety anecdotes were shared among administrators and course participants. This approach
  - articulated real-life importance of farm safety and
  - engaged all classroom cohorts in participation.
- Small-group discussion of example scenarios and responses, facilitated by a course administrator, were encouraged.

### 4. Dynamic Hands-On Experience

- Time on a tractor was increased—five 2-hr sessions as opposed to one 6-hr session.
- Dynamic tractor-driving obstacle course was introduced.
- Proficiency tasks were implemented:
  - properly engaging power take-off (PTO),
  - driving with a trailer, and
  - moving soil with a bucket loader.

### 5. Collective Knowledge Transfer

- Students took on the teacher's role:
  - Students (among and between cohorts) coached each other through tractor-driving obstacle course and proficiency tasks.
  - Students' knowledge set was strengthened by explaining information to new users.
- Students were asked to share highlights from small-group discussions, which revealed safety implications for different types of farming.

## Results

The modified tractor safety course was offered by WSU Skagit County Extension in 2012, 2013, and 2015. For all three years, there was a 98% participant pass rate among all cohorts, with only one participant reporting a farm-

related injury after course completion. Over this period, 54 of the 65 students submitted program evaluations. The average age of participants was 30 years; 70% of participants were male, and 30% were female. Survey results revealed that 56% of students were from a farming background and that 83% planned to work on a farm or ranch in the future.

Program evaluations demonstrated positive outcomes from the redesigned course. Every student, regardless of farming cohort, agreed or strongly agreed that participation in the course had significantly increased his or her confidence in operating a tractor. Furthermore, 96% of participants agreed that the course was an enjoyable experience.

Students from the 2015 tractor safety course participated in a survey to evaluate the course structure. Of the 22 students (15 non-Hispanic White, 7 Latino), 21 participated in the survey, for a 95% return rate. When asked to choose between (a) having classroom instruction and a driving lab every week or (b) having classroom instruction twice a week followed by an all-day driving lab at the end of the course, 100% of the survey participants chose the option of weekly integration of classroom instruction and driving lab.

## Conclusion

The overwhelmingly positive response to the new course structure points to the success of the multimodal educational approach. Because the course involved each of the five modalities described in Figure 1, each student was able to access course material through means best suited to his or her learning style, regardless of age, ethnicity, or experience. Using a similar approach in other Extension education programs may help alleviate some of the apparent hurdles in reaching diverse cohorts.

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