

Impact of a Crop Production and Marketing Contest on Student Learning

Report Prepared for ISU SoTL

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The majority of college students enrolled in agriculture courses in Illinois come from non-farm backgrounds (Illinois Agricultural Education Report, 2000). Since approximately 25% of all jobs in Illinois are in the agriculture sector, a farm background is advantageous for many careers. While the principles of production agriculture and marketing are taught in the Department of Agriculture at Illinois State University, no single class provides an opportunity to apply these principles. Because student comprehension is enhanced through critical thinking exercises and applying course material to real-world situations (Kraft, 1985), a crop production and marketing contest was organized by several members of the Department of Agriculture at Illinois State University to increase student knowledge of production agriculture.

The contest challenged four teams, consisting of at least 5 undergraduate students each, to compete against each other by growing soybeans on 5-acre plots at the ISU Farm located near Lexington, IL. The objective was to obtain the highest profit. Each team was responsible for making all input decisions, completing all field operations, and selling the harvested crop. Input costs and selling price were used to determine the contest winner. The top three teams were provided cash awards of \$300, \$200, and \$100 for first, place, second place, and third place, respectively. Additionally, the first place team was recognized by having their team name engraved on a trophy, which is displayed by the Department of Agriculture.

The impact of the contest was evaluated quantitatively using a quasi-experimental design, where contest participants and non-participants were not randomly assigned. Results from a pretest/posttest were evaluated using an analysis of variance to determine if participating in the contest increased student knowledge of crop production and marketing. The pretest and posttest utilized the same questions. Contest participants and non-participants took the pretest in the spring of 2003 prior to the start of the contest and the posttest in the November 2003 following harvest. The impact of the contest on student learning was further evaluated qualitatively, by having contest participants participate in a focus group in December 2003. Prior to testing, this project received appropriate approval from the Institutional Review Board and student participation in the research project was voluntary with their signed consent.

Thirteen students took both the pretest and posttest; seven were contest participants and six were non-participants. Demographics of the contest participants were: 86% farm backgrounds, 100% male, 100% Caucasian, 29% sophomores, 14% juniors, and 57% seniors. Demographics of the non-participants were: 67% farm background, 33% non-farm background, 67% male, 33% female, 100% Caucasian, 17% sophomores, 17% juniors, and 67% seniors.

Participants scored significantly higher (64%) on the pretest than non-participants (42%), indicating that the contest attracted students with a greater knowledge of crop production and marketing (Table 1). Results from the posttest showed scores for the non-

participants increased from 42% to 53%, however, this increase was not significant. Additionally, non-participant scores were lower than the participants (53% compared to 64%) but this difference was also not significant. These data indicate that non-participants might have increased their knowledge of crop production and marketing from their agricultural courses, which the participants already knew.

Table 1. Pretest and posttest results from participants and non-participants in a crop production and marketing contest.

Test	Test average (%)		Significance
	Participants	Non-participants	
Pretest	64	42	**
Posttest	64	53	ns
Significance	ns	ns	

** Significant at $\alpha = 0.05$

No significant differences in test scores were noted between students with farm and non-farm backgrounds, males and females, or student classification.

Results from the focus groups showed participants perceived benefits by participating in the contest. By participating in the contest, students stated that they were more aware of many production and marketing practices including tillage, fertilization, seed selection, row spacing, planting populations, planting dates, harvest, and marketing strategies. Their comments in response to “what was the most beneficial aspect of the contest?” were: being able to make real farming decisions, seeing the results of their decisions, applying course knowledge, and discussing farming strategies with fellow participants. Participants also commented that participation in the contest increased their confidence when discussing production agriculture with farmers and agricultural professionals and improved their leadership skills. Additionally, they recommended participation in the contest to other students majoring in agriculture.

When asked the least beneficial aspect of the contest, the only response was “not being involved during the spring and summer” and this comment came from a participant who participated during the fall semester only.

To improve the contest, students suggested having the faculty provide more detailed information on crop production and marketing, provide teams with more direction, and encourage more student participation.

Although there was no quantitative evidence that the contest enhances knowledge of crop production and marketing, qualitative results suggest participants gained confidence in their knowledge of crop production and marketing and participation was worth their time committed to it.

References

- 2000 Illinois Agricultural Education Report. Found at <http://www.agriculturaleducation.org/report/00rpt-careerops.htm>
- Kraft, R.G. 1985. Group inquiry turns passive students active. *College Teaching* 33: 149-154.