Examining the use of group projects in agribusiness courses to enrich overall student learning

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Abstract: *A clear majority of agribusiness programs require their graduates to successfully complete relevant coursework in both quantitative and theoretical areas. Instructors often make use of group projects to promote student participation, inculcate team working skills, and to enhance students' soft skills for service related jobs in the agricultural industry. In these projects, student groups work on project milestones followed by instructor feedback for improvement. Project completion is marked by student teams' engagement in interactive group activities such as presentations, debates, and sales pitches. The objective of this study is to evaluate the use of group projects for enhancing student learning in various agribusiness courses using an online survey tool. It is observed that students' performance and the overall learning experience is enhanced using group work in agribusiness courses. Results indicate that students find value in these interactive projects, which facilitates a higher level of learning. Students also feel confident about their soft skills, and can better enunciate and express their viewpoints among an audience.*

Key Words: agribusiness, group projects, student learning, survey data

Background: A clear majority of agribusiness programs require their graduates to successfully complete relevant coursework in both quantitative and theoretical areas. Students enroll in an array of courses that focus on quantitative skills, as well as theoretical courses that emphasize non-quantitative information such as existing and emerging policy issues, business management, and soft skill enhancement for customer service related jobs. Instructors often make use of group projects in classrooms to promote student participation, real world understanding of concepts, inculcate team working skills, and to enhance students' soft skills for service related jobs in the agricultural industry. Students are assigned to groups at the start of the semester, and they work together on project milestones as the class progresses. The instructor provides feedback for

improvement at specific points in time, and finally the teams engage in interactive activities to present their findings.

Group projects have long been employed by college instructors to improve student participation and to inculcate team working skills. Studies have shown that group projects can help students acquire an array of skills that are gaining importance in the work arena (Caruso & Woolley, 2008; Mannix & Neale, 2005), and student learning, retention and overall college success can be promoted through positive group experiences (Astin, 1997; Tinto, 1998; National Survey of Student Engagement, 2006). It has also been found that a positive educational experience that promotes learning among students leads them to be satisfied with their education, and such students are less likely to drop out of college (Meeuwisse, Severiens, & Born, 2010, Mu & Gnyawali, 2003). Additionally, employers have cited the importance of collaboration and teamwork as a critical skill for employees (Hansen, et.al. 2006), thereby reinstating the importance of group work to increase student employability traits.

Objective: The overarching goal of this study is to evaluate the use of group projects for enhancing student learning in agribusiness courses using survey data. Specifically, this study examines the use of group projects such as policy debate, farm business plan, market simulation, market plan, and sales pitch in agricultural policy, farm and ranch management, agricultural management and finance, agricultural market planning, and agricultural sales courses respectively.

Data and Methods: Student team members (n=164) enrolled in various agribusiness courses (that involve group projects) at The University of Tennessee at Martin and Angelo State University were surveyed regarding their perceptions of group projects, using an online survey tool. Specifically, the survey was conducted over a two-semester period (Spring and Fall of

2016) and questions were clustered around team interaction, communication, and overall learning experience related to real world scenarios, using a five point Likert scale. A brief description of specific group projects and corresponding survey data observations is discussed below.

Agricultural Policy Debate: Students were assigned to a group to present their point of view on a particular policy issue. There were expected to research their topic and answer questions from opposing sides on the issue. Grading was based on their responses as well as the professional nature of their presentation. Topics and groups were assigned by the instructor.

Farm business plan project: Students were assigned to a group to work on a cumulative project that demonstrated their understanding of farm planning, budgeting, and risk management. Students chose their own groups and topics as part of this project.

Market Simulation: The simulation ran from the middle of October through the end of November. Students were typically given at least 15-20 minutes in class each week during this time to discuss the simulation to help cut down their need to meet outside of class. There were times when more time was devoted to this and the time may have been spread over multiple course meeting times during the week. A practice round of decisions was added this year to help student understand the mechanics of how to make the required decisions. The instructor was available to answer questions during in-class group time. A required personality test was used to divide students into their simulation groups, and this process was not disclosed to the students. Students had to decide how much inventory to order, its price, number of employees, advertising expenditures, and whether to make capital expenditures. The results from the survey are consistent with a similar questionnaire students complete at the end of the simulation.

Agricultural Sales Pitch: The use of group projects was a great success in the agricultural sales course. Students found the team meetings to be productive and enhanced communication among the students. A positive aspect of using groups and team meetings is that a majority of students (67.35%) felt that it was very effective at helping them share ideas with one another. Soft skill development such as interpersonal and group communication is essential for agribusiness graduates to understand. The use of group assignments and meetings can help foster increased communication skills among the students. The group projects also helped reinforce sales presentation skills. Eighty eight percent of the student stated that their understanding of sales pitches increased as a result of the group project. From a faculty perspective these findings were promising and help to foster more connection between the course material and a deliverable product such as a sales presentation. As a faculty member it is often difficult to provide students with real world opportunities. The use of group assignments can be an effective tool for bringing reality into the classroom. As most would agree, the ability to work with others is vital to todays' agribusiness manager.

Market Planning Project: Students worked as a group to prepare a professional agribusiness marketing plan and delivered an actual presentation at the local and national levels of the National Agri-Marketing Association competition. This project included a trip to the national convention. The presentation included several hours of rehearsal and refinement, as well as preparation for answering questions posed by judges at the national competition.

Results: Overall survey results indicated that group work was received favorably by a majority of the students. In regard to questions pertaining to frequency of team meetings and productivity, 55% of the students indicated that their groups met at least once a week, and 54% suggested that they found team meetings very productive (Figures 1 and 2). When asked how frequently their

group was able to reach consensus on project decisions (Figure 3), and how frequently the team members completed their assigned duties for the project in the established time frame (Figure 4), at least 81% of the student response was 'often'. Further, about 66% students suggested that their team members were effective in communicating their ideas to each other (Figure 5). These results indicate an overall harmonious working environment among the surveyed groups.

More than 60% of the surveyed students strongly agreed that the team members treated each other fairly and with respect (Figures 6 and 7), and that individual team members' ideas were valued by the team (Figure 8). Also, more than half of the surveyed students strongly agreed to a general consensus on the procedures to meet the goals of the project (Figure 9), and 38% of the students strongly agreed that working on the team project was a valuable experience for them (Figure 10). Finally, 45% of the students strongly agreed that their understanding of the project improved through group work, and they were able to relate to real world scenarios in the agribusiness area as pertaining to the project (Figure 11).

Conclusions: It was observed that students' performance is enhanced using group work techniques, particularly in courses with a non-technical emphasis in the agribusiness area. Survey results indicated that students find value in these interactive projects, which facilitates a higher level of learning. Students also feel more confident about their soft skills, and can better enunciate and express their viewpoints among an audience. In addition to the survey, peer evaluation results highlighted some issues with group work, such as the existence of the free-rider problem. Students suggested the need for a team leader to keep everyone on track through the different stages of the project. They also indicated that occasionally the progress can be slow in collaborative group projects where everyone's input is required to complete the project, and when certain members of the group lack enthusiasm and participation. It was also found that

giving weightage to peer-evaluation on the final grade could be a possible solution to the free-rider problem. Instructor feedback at various stages of group work was perceived useful by the students, however class size can significantly affect the amount of time and individual attention provided by the instructor to the groups.

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Figure 1. Response to survey question 1

Figure 2. Response to survey question 2

Figure 3. Response to survey question 3

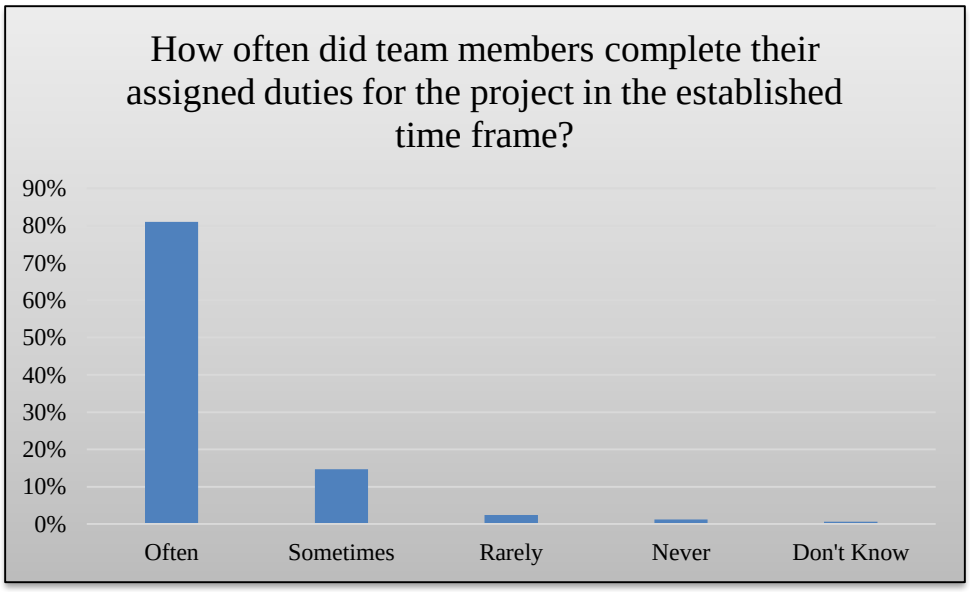

Figure 4. Response to survey question 4

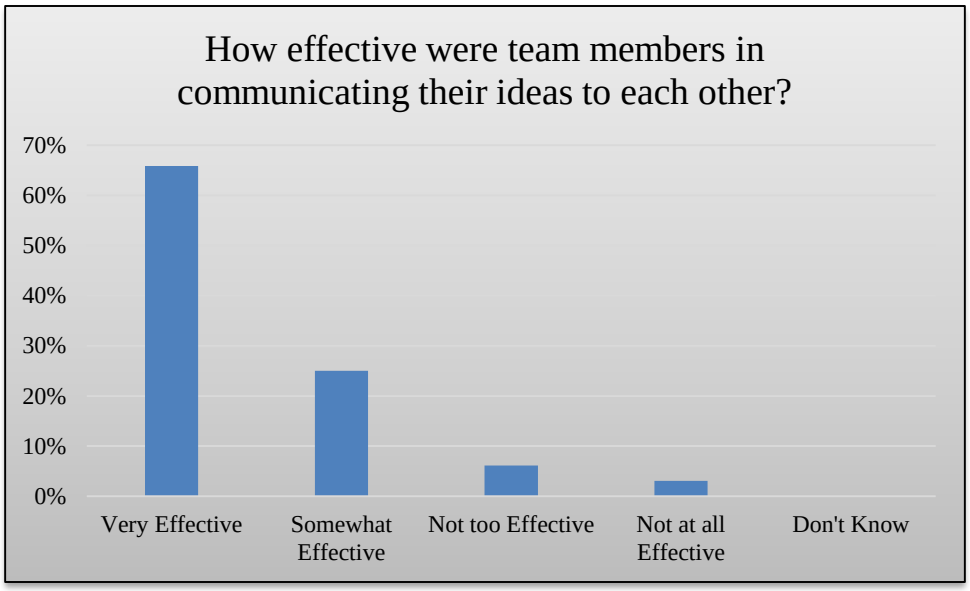

Figure 5. Response to survey question 5

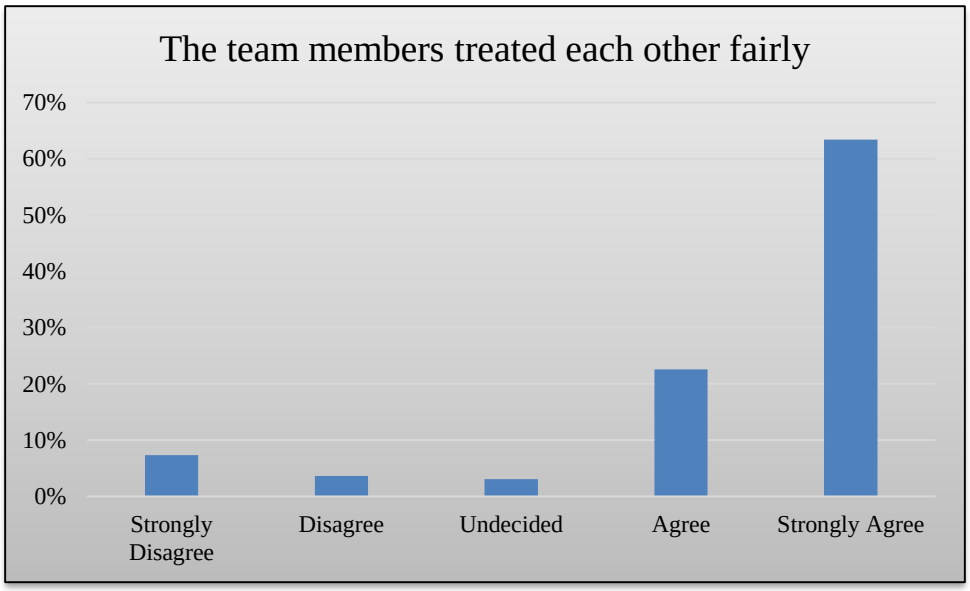

Figure 6. Response to survey question 6

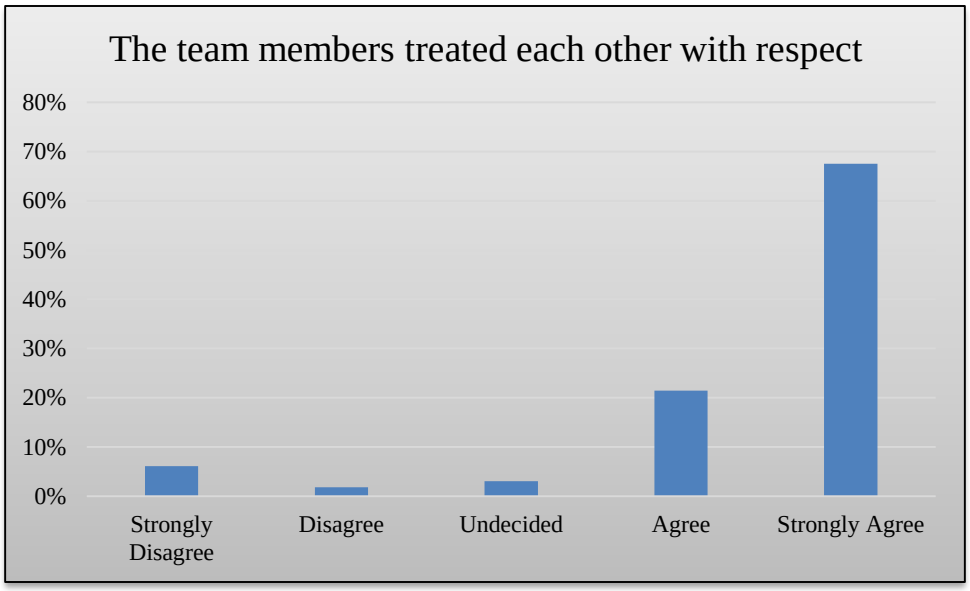

Figure 7. Response to survey question 7

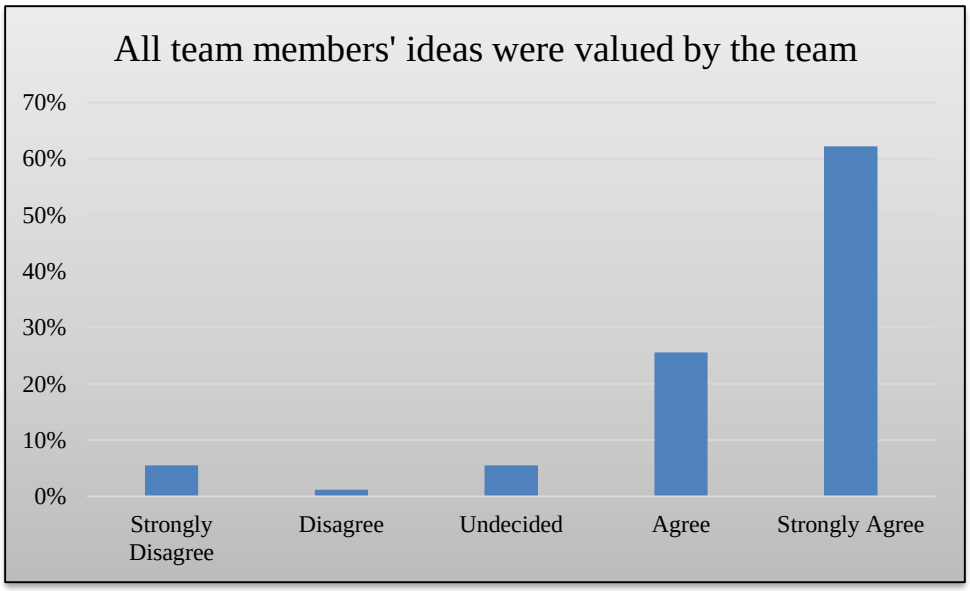

Figure 8. Response to survey question 8

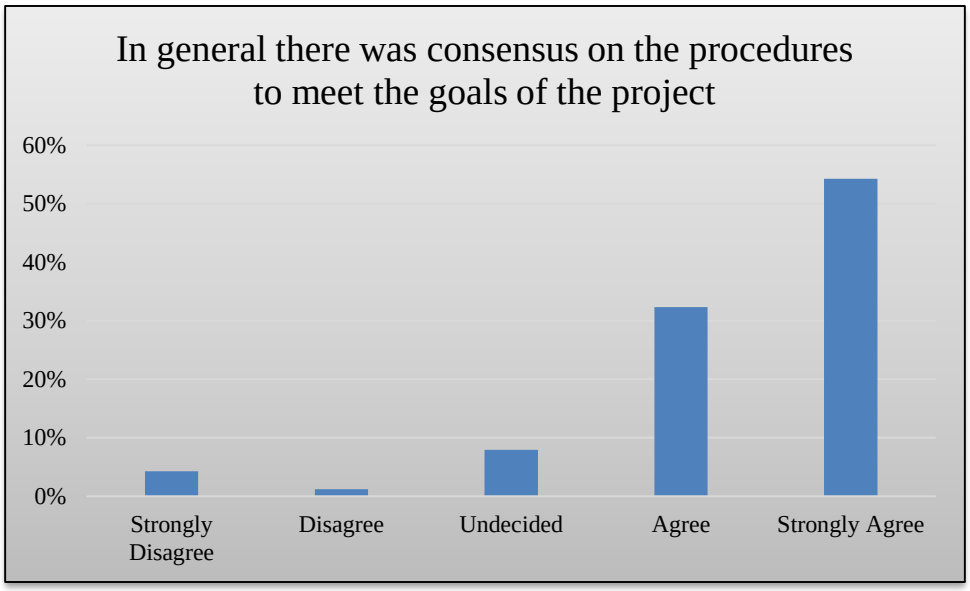

Figure 9. Response to survey question 9

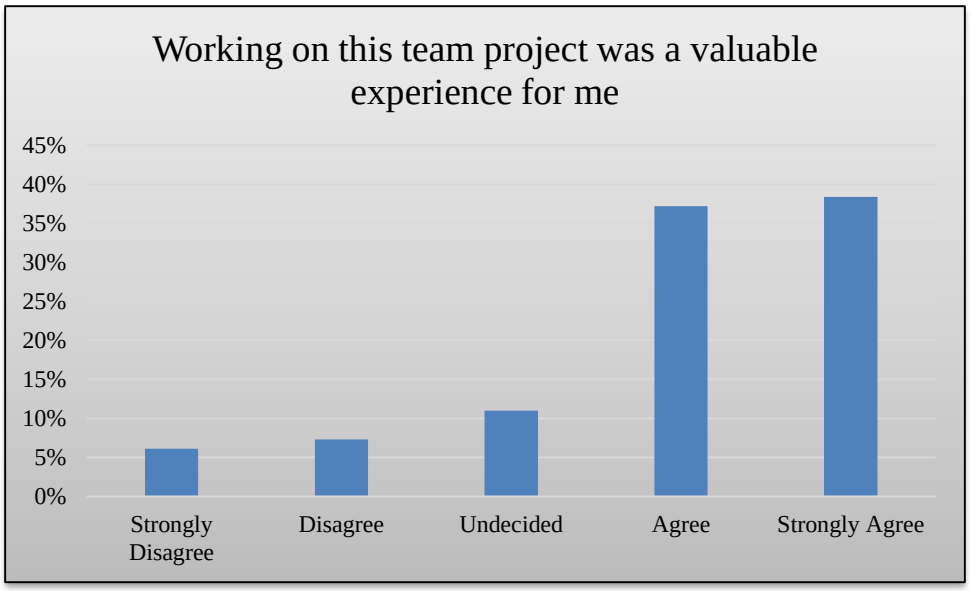

Figure 10. Response to survey question 10

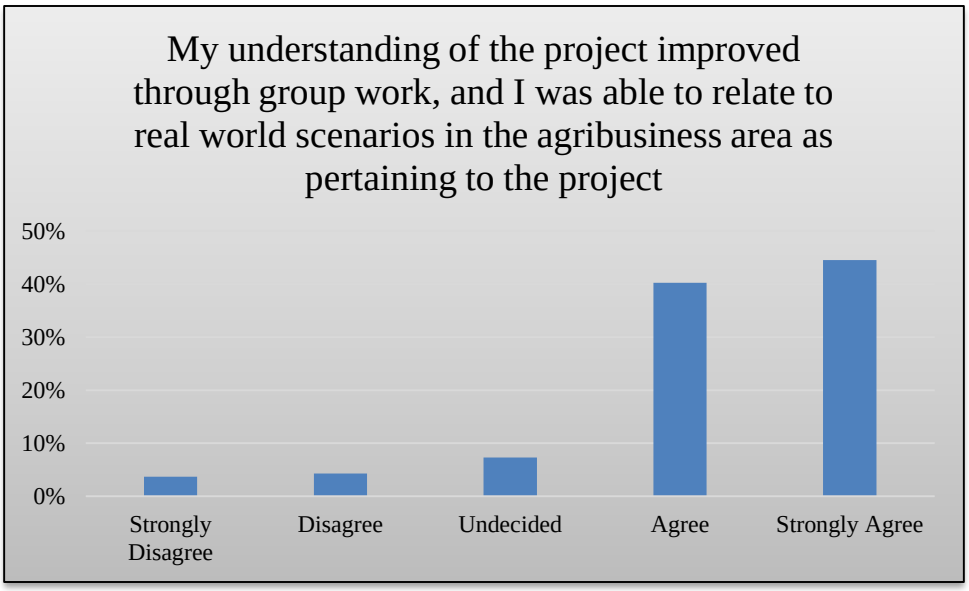

Figure 11. Response to survey question 11