A Case for Team-Based Learning in a Horse Production Course

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Introduction

One of the roles of post-secondary courses is to equip students with 21st-century skills. The National Education Association (2012) includes “collaborations” as one of the 4Cs essential for students to succeed academically and professionally. We know that learning is a social activity (Bandura, 1997; Vygotsky, 1978). Furthermore, collaboration is one of the top employability skills that post-secondary schools must address (Stewart, 2020). Team-based learning is a strategy that has been utilized to incorporate collaboration and social learning into classrooms. Additionally, team-based learning allows students to demonstrate the application of content, accountability, and decision-making (McCubbins et al., 2019). More specifically, students entering management positions within the equine field must be able to work effectively within a diverse team of professionals. While team-based learning is not something new, the use of it in post-secondary production agricultural courses has not been well documented. Animal production management courses offer the perfect environment for team-based learning. This study aimed to determine if team-based learning could be utilized in a post-secondary horse management course.

Methodology

The course utilized the four essential principles of team-based learning: form and manage teams properly, hold students accountable, promote learning and team development with assignments, and provide frequent and immediate feedback (Michaelsen & Sweet, 2008). Fifteen students were enrolled in this course, allowing for the creation of three teams of five. Two students dropped the course at mid-term, leaving two groups with four members. The researcher was also the professor teaching the course, allowing for direct observations of interactions. The teams were intentionally formed based on the student's answers to the following questions: "What experiences do you have with horses?" and "Which agricultural core classes have you taken?" Six students reported extensive experience with horses; thus, two experienced students were placed on each team. Each team had at least one member who had taken AG 325, AG 450, and ANSC 2320.

At the beginning of the semester, all students were asked to reflect on team-based learning and their perceptions of the process. As a team, students were asked to decide the type of equine facility they would design and develop a management plan. Four modules were covered throughout the course: 1) Biology, 2) Nutrition, 3) Reproduction, and 4) Management. For each module, articles, websites, and other resources were posted for the student to review individually before class. Students were given an individual Readiness Assessment Test (RAT) at the beginning of each module, as well as a Team Readiness Assessment test. The RATs assessed the student's comprehension of the provided materials before being given assignments. Each module consisted of two to six team assignments. Students completed peer evaluations for each assignment. At the end of each module, students reflected on the experience, including what the team did well and what they could improve. Throughout the semester, the researcher

journaled observations about the class. At the semester's end, nine students participated in unstructured interviews. Member-checking was utilized to verify interpretations.

Results to Date

The findings from the interviews at the end of the semester were generally favorable toward team-based learning. Overall, participants enjoyed the course's team-based learning structure. Students stated that collaborating allowed them to learn by bouncing ideas off each other and having more experienced students explain concepts differently. Furthermore, students expressed that collaborating with their team to solve problems would benefit their future careers. Some participants struggled with teammates who did not put forth the same effort, leading to team conflicts. While most of the students interviewed mentioned they thought they were able to learn more in the team-based learning course than in traditional lectures, there were a few who expressed they learned less. Several participants suggested the inclusion of short lectures and review materials would facilitate their understanding of the material. Most participants recommended using team-based learning for other production-focused courses such as Beef Production or Feeds and Feeding. One participant felt the peer evaluations were essential to improve accountability within the team. A few participants mentioned the growth they witnessed in some of their team members throughout the semester. Others mentioned how valuable some members were in contributing their knowledge to the scenarios. Another unique finding was that the team structure allowed the students to work with and become friends with classmates they may not have otherwise interacted with in class.

Observations of the interactions throughout the course support the integration of team-based learning into additional production courses. One of the most intriguing observations in this class was witnessing students who usually do not engage in class become the leaders within their group. The team-based approach allowed some students to utilize their knowledge and skills to assist their team in completing the assignments. At least one student on each team had tremendous growth in their ability to communicate, research, and assist their teammates throughout the semester.

Future Plans/Advice to others

Overall, the students' interview responses and observations from the course support using team-based learning in production management courses. By intentionally selecting teams to include members with attributes that complement one another, individuals can assist their peers in learning the concepts, and thus improve their own learning also. When using a team-based approach in animal production management courses, providing in-class lectures to cover more complicated material to assist knowledge-deficit students would be beneficial. Further, the addition of questions and answer sessions after each assignment could also be beneficial in providing students with the opportunity to gain a better understanding of some concepts, as well as to learn from other teams.

Costs/Resources

Team-based learning does not require any costs to implement. It will require time to adapt material of the course.

References

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