

# Debates as a Pedagogical Tool in Agribusiness and Animal Science Courses: Various Perspectives at the Undergraduate and Graduate Levels<sup>1</sup>

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## Abstract

Debate style learning shifts the focus from the instructor as sole deliverer of course content to students contributing ideas, knowledge and differing perspectives revealed through active engagement with class material. Students shift from being passive receptors to active learners. In this paper, we examined the different approaches taken in debate style learning in two undergraduate and one graduate agricultural policy class and one graduate animal science course at Sam Houston State University. The organization, the set-up and the grading of class assignments are discussed based on their use in the fall and spring semesters 2011-2012. Overall, student feedback on the debate experience was positive, suggesting that debate style learning is an effective method for getting students engaged in the course material. Student engagement has been shown to enhance content learning and strengthen student professional skills.

**Keywords:** Debate, agriculture, critical thinking, classroom techniques, higher education

## Introduction

### There is no debating about it!

Using debate as a pedagogical tool in university classes is not new, but it may be an underutilized technique. Hall et al. (2003) reported on various tools

that could be used in undergraduate agribusiness capstone management courses and concluded that issue debates were an “*effective tool for integrating previous coursework and applying those concepts to contemporary issues*” (p. 54). Such debates require students to research, articulate and defend positions that may differ from their personal views on the subject. As a result, they can expand a student’s horizons and ease the understanding of differing perspectives in a more rational manner. Debates are a great way to engage students, diversify the course curriculum, transform students from passive to active learners and improve students’ critical thinking and presentation skills (Chang and Cho, 2010).

According to Bellon (2000), “*a debate is a complex, interactive experience that presents students with personally meaningful challenges and encourages intensive analysis*” (p. 9). Debate style learning has been shown to improve oral communication as well as public speaking. It has also been shown to increase both self-confidence in stating one’s view and the ability to maintain an open-mind towards the views of others.

The Cengage learning website (Econ Debate Online, 2012) provides many examples of debate topics for economics classes (economic fundamentals, microeconomics, macroeconomics and world economy) beyond policy classes. Education World (2009) provides instructions, debate rubrics, scoring sheets and many

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ideas for debate topics. The web site is targeted at high school teachers but can be adapted to university curricula. At another institution, the following topics have been used for an Environmental Economics course: a) Are global warming facts too uncertain to guide government policy? b) Can the US continue to rely on oil as a major energy source? c) Do biofuels enhance energy security? d) Should the Arctic wildlife refuge be open for oil drilling? e) Should water be used for oil extraction in TX? f) Is wind energy green?

Scott (2008) evaluated the perceptions of 111 technology students on the debate process. Overall, the students believed that the debate process was a useful learning activity. The results of the questionnaire revealed that students believe that the debates helped them understand the topic better, learn new knowledge and gain an understanding of the debate process. Most would also rather prepare for a debate than take a test. In addition, students thought that the debates increased their critical thinking skills.

Alford and Surdu (2002) discussed using debates in computer science courses. They presented the advantages and drawbacks of various types of topics to assign, including topics discussed in depth during the course, topics discussed briefly during the course and topics not discussed in the course. They also indicated the advantages and disadvantages of the timing of assigning debate positions (i.e., whether the student or team is for or against the proposition) near the beginning of the course, later in the course but prior to debate day and at the time of the debate. The general structure of the debate (with or without audience interaction) and several debate formats (student team vs. student team, student team vs. faculty team and faculty team vs. faculty team) were also presented with the pros and cons of each. Additionally, they offered some recommendations for keeping the audience active, such as inviting students to grade or submit a critique of the debate.

This paper offers practical guidance on the “how to’s” in debate-style learning. It also discusses student perceptions of the benefits of using debates in the classroom by asking for a level of agreement with the following statements: 1) I learned new knowledge about the topic I debated. 2) I gained an understanding of the topic area of my debate. 3) I felt comfortable explaining my position in the debate. 4) The debate helped me know the difference between fact and opinion. 5) I was able to defend my position in the debate. 6) I was able to gain additional knowledge on subjects that I was not aware of by listening to the debates. 7) The debate process helped me increase my critical-thinking skills. 8) I prefer to prepare a debate rather than take a test.

## Methods

Debate-style learning was implemented during two semesters of teaching an undergraduate agricultural policy class at the senior level at Sam Houston State University. Each course met twice a week for 80 minutes over a 15-week semester. During both semesters, the topics discussed were briefly covered during lectures (and sometimes on writing assignments with suggested references to get started), in alignment with the advantages presented by Alford and Surdu (2002). The topics discussed each semester were similar. However, during the second semester attention was given to narrowing the topics to allow for better and more specific rebuttal (which is part of the grading) and discussion. The topics used were:

1. “The US should offer Government Crop Insurance”
2. “The US should continue the Conservation Reserve Programs”
3. “The US should dissolve NAFTA”
4. “Checkoff programs should be eliminated”
5. “The US should stop ag assistance (other than food aid) to poor countries”
6. “The US should ratify the Kyoto Protocol”
7. “Country of Origin Labeling (COOL) should be required on all food packages (first semester only).”

During both semesters each proposition and opposition team was composed of four or five students. This number of students was chosen to ensure that each student would get a chance to speak during the debate. The team size was also chosen to allow for five or six debates per semester to avoid boredom from the audience and not take too much time from the lecture portion of the course. Each debate lasted about 30 minutes; therefore two debates could be scheduled during an 80 minute class period, if necessary.

The first semester, each team was assigned two debates. Given time constraints and based on students’ inputs, only one debate was assigned per team during the second semester. Assigning two debates per team gave teams the opportunity to practice and improve their performance the second time. It also meant the debates took longer, which increased the likelihood of a bored audience.

Teams were not assigned by the instructor; students self-selected their team members. Although not assigning teams meant that there could be some excellent teams and some mediocre teams, it put the responsibility on the students and not the professor, which served to limit complaints and headaches associated with balancing team aptitude. The first semester teams randomly picked the debate topic and their position (for or against) several weeks prior to the debate. The second semester teams were allowed to choose their topics but the positions

## Debates as a Pedagogical

were drawn the day of the debate and teams were given 5 minutes prior to the start of the debate to strategize. One of the benefits of choosing positions on the day of the debate is that it leads to less rehearsed positions. A second benefit is that students study both sides of the issue and therefore have a more complete understanding of the topic. However, students tended to split the duties, with half the team studying the pros and half the team the cons, leading to a less than ideal debate situation.

Debates were scheduled at the end of each semester after all the lectures were given. The advantage is that students understood policy fundamentals more fully by the end of the semester, which led to better debates. Another reason for scheduling debates at the end of a semester is that the debate topics cover lectures from the entire semester and therefore represent a good opportunity to review. Students were allowed to bring unlimited notes the first semester. The second semester, debaters were limited to one page of notes to discourage them from reading during the debate.

During the debates, the proposition team was allotted up to five minutes to give a brief introduction to the topic and provide some arguments supporting their position. The opposition team then had five minutes to refute those arguments and introduce new ones. The back and forth continued five minutes at a time for two complete rounds. At this point, the audience was allowed to ask questions and then the proposition team provided their conclusion followed by the opposition's final rebuttal. Five minutes were given for the audience and the professor to grade. The first semester, the instructor asked for students to assign in advance the order in which each would speak. The second semester, students were given more freedom to make such decisions on their own. The latter method allowed for more flexibility and a more active debate. However, shy students may be less likely to participate in such a format.

To increase audience participation, students in the audience are asked to evaluate the debaters using five rubrics on the same evaluation sheet as the instructor. Undergraduate students were also asked about the debates on the course final exam.

In the undergraduate Agricultural Policy course, debaters' grades were based on the audience's evaluation (20%) and the professor's evaluation (80%). The audience evaluated the debaters using a judging sheet available in Figure 1, without being graded on their evaluation by the professor. The judging sheet was accompanied by a grading rubric. The grading rubric is available upon request to the authors but is similar to those available online (e.g., Shoemaker, n.d.; Shanahan, n.d.).

In addition, the second semester, scores from students assigning full points to all debaters were excluded

Figure 1. Students' judging sheet for the undergraduate policy class and the graduate animal science class

Debate Judging Sheet	
Judge's Name: _____	
Topic: _____	
Proposition Team: Write the students' name in the order they are seating	
1 <sup>st</sup> : _____	Points: _____
2 <sup>nd</sup> : _____	Points: _____
3 <sup>rd</sup> : _____	Points: _____
4 <sup>th</sup> : _____	Points: _____
5 <sup>th</sup> : _____	Points: _____
Opposition Team: Write the students' name in the order they are seating	
1 <sup>st</sup> : _____	Points: _____
2 <sup>nd</sup> : _____	Points: _____
3 <sup>rd</sup> : _____	Points: _____
4 <sup>th</sup> : _____	Points: _____
5 <sup>th</sup> : _____	Points: _____
In my opinion, the Team that won the debate was the (circle one) PROP/OPP (2 bonus points)	
Use point rubric attached to tally points: Maximum points 40.	

from the grading scheme. In the second semester, 10% of the debater's grade was also based on the writing of ten multiple choice questions about the debate and the selection of an article on the subject (during the first semester); the writing as a team, of their list of arguments, for and against as well as their list of references (during the second semester). The list of arguments and references were extremely useful when assigning the final grades. Team members were also asked to grade each other using a student peer evaluation. This evaluation was considered, although not formulaically, when calculating the debater's final grade.

Debates in the graduate Agricultural Policy course were handled in a similar, yet distinct manner. The graduate level course met once per week for three hours during the 15-week semester. The debates were also planned for late in the semester, after the students had studied most of the base material in the course. The debate topics were similar to the ones used in the undergraduate course. Debates were held at the start of a class period, with a lecture and discussion typically following. Students were permitted to self-select three-person teams, which were maintained throughout the semester. Each team participated in two debates, one on the proposition side and one on the opposition side of the particular topic, using notes to help with the discussion.

Figure 2. Students' judging sheet for the graduate policy class

Debate Judging Form: # _____	
Grader's Name _____	Date _____
Max 8 pts in each box. Comments are REQUIRED for each box! Use the back if needed.	
Points are for logic and presentation, but whose arguments convinced you? Circle: <b>F</b> <b>A</b>	
FOR	AGAINST
Argument 1 5 min	5 min
Argument 2 5 min	5 min
Argument 3 5 min	5 min
Q&A 10 min	10 min
Rebuttal 8 min	8 min
Total Points: FOR _____	AGAINST _____

All students not on the debating teams each week became formal graders using the professor-supplied judging sheet (Figure 2).

To ensure that non-participating students were engaged in the judging process, they were graded on the effort and depth of their judging comments. Additionally, time was allotted after the main arguments, but before the closing statements, when non-participating students could ask clarifying questions of the debate teams. Each of these students submitted general topic questions or ideas for possible questions to the professor prior to the start of the debate. This encouraged them to study the issues beforehand and come to the debates prepared, even though they were not “performing.”

Debate style learning was also utilized in the graduate level Contemporary Issues in Animal Agriculture course. This course is taught each fall semester and meets once per week for three hours during the 13 week semester. Students debated in teams of two (students chose their own teammate) and were on the Pro and/or Con side for each of the two debates. This gave the teams the opportunity to debate on the side of an issue that they may not have agreed with. The instructor believes that it is equally important to understand both viewpoints

to issues. Students are better prepared to defend their position if they understand the opposing side.

The teams were allowed to choose their debate issue, but were required to obtain instructor approval of the topic. Topics that have been debated include: Animal Rights and Welfare, Horse Slaughter, Animal Cloning and Xenotransplantation, Waste Management and the Environment and Food Safety. The debate teams were allowed to use note cards as a reference during the formal debates. Blatant reading off of the cards was not permitted.

The format of the debates consisted of the proposition team (speaker 1) taking 10 minutes to make a case for the motion of the debate. The opposition team (speaker 1) was then provided 10 minutes to present arguments against the case presented by the proposition team. Each supporting team member was provided 10 additional minutes to support the case presented by each of their respective members. This format allowed each student on each team equal time to participate in the debate. The rebuttal section of the debate was divided into 8 minute sections starting with the opposition and ending with the proposition. At this point in the debate, the non-debaters and instructor were given time to ask questions to the panel of debate teams.

The non-debate individuals were required to write at least eight questions over the debate topic and had to be prepared to ask those questions during this Q/A session. This assignment allowed the non-debaters to have prior knowledge and research the topic. Along with the instructor, the non-debate students evaluated and graded the individuals on the debate panel using a variant of the judging sheet in Figure 1. Points were allocated to each individual and the team as a whole. Feedback was provided to each individual from the instructor after the first debate. A summary of the judges' comments were emailed to each debater and the video recording of the debate was uploaded onto Blackboard. This information could be used by the student to improve their debate skills, since the second debate was worth more points towards their overall grade in the course.

### Results and Discussion

On the last day of the agricultural policy classes in the spring 2012, the students were asked to fill out a questionnaire based on the questions asked by Scott (2008) and Alford and Surdu (2002). The first part of the questionnaire was composed of nine questions using a five-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Table 1 provides the statements and the mean responses from the students, divided by classification (undergraduate and graduate). Overall, students were pleased with their experience as indicated by



## Debates as a Pedagogical

the average ratings, all higher than 3. The undergraduate students rated the statement “I prefer to prepare a debate rather than take a test” the highest followed by “I gained an understanding of the topic area of my debate.” This latter statement was also rated second highest by the graduate students, but was preceded by the statement “I learned new knowledge about the topic I debated.” The statement rated the lowest by the undergraduate students on average was “The debate process helped me increase my critical-thinking skills,” while it was “I felt comfortable explaining my position in the debate” for the graduate students.

*Table 1 Mean Scores of Students' Responses*

Statement	Mean Undergraduate Ratings N=26	Mean Graduate Ratings N=9
I learned new knowledge about the topic I debated	4.00	4.67
I gained an understanding of the topic area of my debate	4.08	4.56
I felt comfortable explaining my position in the debate	3.69	3.89
The debate helped me know the difference between fact and opinion	3.65	4.00
I was able to defend my position in the debate	4.00	4.22
I was able to gain additional knowledge on subjects that I was not aware of by listening to the debates	4.00	4.33
The debate process helped me increase my critical-thinking skills	3.58	4.22
I prefer to prepare a debate rather than take a test	4.19	4.44

5 point Likert-type scale with 1 = strongly disagree, 5 = strongly agree

The mean scores were higher than the ones reported by Scott (2008). However, both here and in Scott’s findings, the results were lower for the statements “I felt comfortable explaining my position in the debate” and “The debate helped me know the difference between fact and opinion.” In contrast with Scott (2008), scores were lower here for the statement “The debate process helped me increase my critical-thinking skills.” Interestingly, for every statement the graduates expressed a higher level of agreement than the undergraduates.

Students were also asked open-ended questions related to what they liked and disliked about the debates in the class and whether they would recommend holding debates in the future. They also had opportunities to comment on what to change in the debate exercise (if anything), whether they would like for debates to be used in other classes and if so, which ones? With regards to these open-ended questions, students were supportive of using debates. In the undergraduate class, 23 of 26 students recommended holding debates in the course again, as did eight of nine graduate students. They mentioned liking group work, having a different assignment rather than regular projects or more exams and that it was a “fun way to learn” and a “break from lectures.” Seventeen of 26 undergraduate and six of nine graduate students recommended having debates

in other classes such as Marketing, Economics, Ethics, Government and Animals and Society. Seven of 26 undergraduate students mentioned that they would like to know their position (for or against) several days prior to the debate. In the graduate class, students were informed of their position with at least three weeks of prior notice, while the undergraduates did not find out their position until the day of the debate.

## Summary

Overall, students indicated that they enjoyed the debates in the Agricultural Policy and Contemporary Issues in Animal Agriculture classes and believed that this type of assignment is transferrable to other classes. The set-up of the semester (rigid format or more flexible format, when to assign positions) and the grading of the debates are still decisions left up to the instructor. Most undergraduate students in the classes had never debated before, although several graduate students commented that they had used debates as a learning experience in other courses. In the authors’ opinion, there is a need for online instructional videos to help students understand better what a debate is all about. These videos would benefit students by demonstrating effective debate principles and techniques prior to engaging in an actual debate.

Debate style learning is a useful tool to put students in the driver’s seat of their learning experience with faculty members providing a supporting role in helping students learn. As indicated in the literature review, debate style learning has been successfully helping students prepare for lifelong learning and making them more adaptable to work in fields where they must acquire new skills and knowledge regularly.

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