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Debate: Innovative Teaching to Enhance Critical Thinking and Communication Skills in Healthcare Professionals

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ABSTRACT

Preparing students to be critical thinkers and effective communicators is essential in today's complex health care environment. In addition to sound psychomotor skills, future healthcare providers must possess the ability to communicate confidently and effectively, not only to their patients, but to a wide range of constituents such as policymakers and payers, as well as other healthcare professionals. The teaching method of debate will prepare students with such skills. Debates have the ability to reinforce and enhance knowledge in a topic area, to engage students in the learning process, to verify that students have the ability to analyze, incorporate, and apply the literature to various situations, to heighten organization and listening skills, and to boost confidence when challenged on issues by others. The purpose of this paper is to describe the utilization of structured classroom debates as a teaching strategy for critical thinking and enhancing professional communication skills.

INTRODUCTION

As the culture of health care continues to evolve, allied health professionals must stand ready to defend their profession and promote their practice. Hence, allied health educators are charged to not only give students the hands-on skills to effectively treat their patients, but also to prepare students to be responsible representatives of their chosen profession. Curricula in allied health typically excel at engaging students in communication and critical thinking as it relates to the patient/caregiver interaction; yet, with the health care arena broadening, students must be able to critically think and confidently communicate with other constituents (i.e. lobbyist, policymakers, other healthcare professionals, the general public, etc.) in their efforts to protect and advance their profession.

Even though educators recognize the importance of the student's ability to critically assess a clinical situation and effectively convey that assessment, communication and critical analysis are often difficult to assess. Yet, formal debates in the classroom can serve as an innovative teaching and learning tool in the educational process.¹⁻¹¹ For the student, debates require active involvement in the learning process, integration of previously taught material, development of problem-solving skills beyond the patient/caregiver interaction, organization, and teamwork.^{1-3,7,11-15} For faculty, debates serve as an opportunity to evaluate whether students comprehend and/or are able to apply major concepts of the profession that might otherwise be difficult to assess (i.e. active listening, cultural competence, professionalism, ethics, critical thinking, etc.).^{1-3,6,7,12,15-17}

Debates have been defined as an educational strategy that fosters clinical reasoning and thinking skills as well as heightens awareness of attitudes, values, and beliefs.^{1-7,12,16-19} Protagoras of Abdera, the father of debate, is credited with implementing debates in an educational environment over 2400 years ago in Athens, Greece.^{1,2} Debates were incorporated in American higher education in the 19th thru the early 20th century, yet lost its appeal until the 1980s as a teaching tool to develop critical thinking, logic, and communication skills.^{1,2,13,14,17}

In a traditional classroom setting, a large percentage of what students are taught occurs via the lecture format and is typically framed by interactions between the clinician and patient.¹⁸ However, with debates, students must go beyond the passive nature of the lecture format to the dynamic nature of debating. Whereas, the lecture format allows students to receive and respond to instruction, debates require students to actively engage in the multidimensional teaching and learning of a topic area.¹⁸ Debating is dynamic because students must be thoroughly prepared to advocate their stance while at the same time simultaneously acknowledge the opposition's arguments, plan counter-arguments, and refute the opposition's claims with a logical line of thought. This activity of being able to consider the evidence, in different ways and under different conditions, helps to develop and promote critical thinking skills in students.^{4,18} Hence, debates move students beyond the memorization and superficial application of theories, techniques, and evidence to actively integrating and applying classroom materials under an array of situations and circumstances.^{1,2,17,19}

Debates differ from lectures, labs, and discussion in that there are pre-arranged definitive sides to the issue: "for/affirmative" or "against/negative."^{1,2,17-20} Thus, it is not uncommon for students to have to debate the side of a topic they feel strongly against.^{1,2,17} For example, a student who strongly believes in the need for universal health care in the United States may have to persuade others that universal health care is unnecessary. While not meant to alter one's fundamental belief system, these situations allow the student to weigh the pros and the cons of both sides by reflecting on their own views while thoroughly investigating the "other" perspective in preparation for the debate.^{1-4,17,19}

Even though the literature supports debate as an effective experiential learning strategy, there are negative facets to debate.^{1,2} Preparation for debate can be labor intensive and daunting and may be a source of frustration on the part of the student.^{1,2} To minimize this frustration, the instructor should assure that students have adequate time to prepare or schedule debates during non-heavy test/assignment times. Because arguments in debates are either for or against, it is believed that debate will only argue the extremes and minimize the multifaceted aspects (the middle ground) associated with a topic.^{1,2} Garrett, Schoener, and Hood recommend that after the debate, instructors can allow time for reflection in a discussion format which would allow for the multidimensional views to be discussed.¹ Finally, debate is a competition of persuasion; thus, each debate has a winner and a loser. Hence, the thought of losing the debate can create angst for some students.^{1,2,20} This can be defused by explaining to students that debate is a learning experience and not a test of knowledge gained.^{1,2} Thus, the process of preparation, anticipation, and participation should be emphasized rather than the competition and the grade.

METHODS

Debater, Debriefers, Debate Teams

For the purposes of this article, the educational debates are comprised of 3 specific groups: two teams of 4-5 students who will actually debate the issue and a group of 2-4 students known as "debriefers." The responsibility of the debriefer is two fold; first, the debriefers are to create the scenario or identify the issue to be debated, and secondly, after the debates have taken place, the debriefers are responsible for providing an oral critical review of the debates, detailing the teams' arguments, effectiveness of the arguments, areas that were not addressed in the debate, and errors in reasoning.

The debaters have the responsibility to persuade the audience to either accept their position or to reject the opposition's stance on a particular topic.^{16,17,19-22} Therefore, debaters are challenged to not only thoroughly research and examine their own perspective of the subject matter using various logic and problem solving skills, but to also become familiar with and prepare for the possible arguments of the opposition in order to defend and refute the opposition's arguments against them.^{16,17,19-22} All members of the debate team must be knowledgeable of the literature and the strategy to win the debate.²⁰ Hence, debaters must work together to analyze and synthesize the literature, organize and prioritize arguments, and be familiar with possible counterarguments in the effort to convince the audience to side with them.^{1-7,9,16,17,19-22}

The size of the debate group will vary depending on the number of students and the number of debates. It is recommended that each debate group be no smaller than 10 members (2 debriefers and two 4-man teams of debaters) and no larger than 14 members (4 debriefers and two 5-man teams of debaters).

In regard to the assignment of students to a debate team, it is recommended for the course instructor to randomly assign teams. For example, prior to the beginning of the academic term, the instructor assigns numbers 1,2,3,4 to the affirmative and numbers 5,6,7,8 to the negative and numbers 9,10,11 as debriefers. When students enter class, they randomly draw a number that assigns them to their group for that particular debate. In the event that students are to do more than one debate, the instructor has the prerogative to maintain the same debate teams or to randomize the team again. If the instructor desires to randomize subsequent debates, it is recommended to do so before the beginning of the academic term. If at all possible, when randomizing

the assignments, it is recommended for the instructor to diversify the student experience by guaranteeing that a student does not serve as a debriefer or on a particular side with every debate.

Debate Topics

Prior to the beginning of the academic term, the instructor identifies broad topics that have controversial implications within the respective profession. Broad topics can include but are not limited to treatment protocols, political and professional issues, and legal concerns. After the broad topic has been selected, the instructor allows the class to determine the more specific topics from which the debriefers will create the scenario or identify the issue to be debated (Table 1). For example, the instructor selects “research” as the broad topic, the class chooses to debate research *design* as the specific topic, and then the debriefers may present a scenario or proposition that indicates that qualitative research is a better research method in educational research than quantitative. The debriefers’ scenario is reviewed and edited by the course instructor to guarantee that the scenario is debatable, descriptive but not prescriptive, and clear in its intent.

Table 1. Examples of Debatable Topics in Allied Health

Allied Health Profession	Example of Specific Topic
Athletic Training	Appropriateness of athletic trainers to work as aides in a physical therapy setting
Chiropractics	Mixers provide best practice among chiropractor
Dietetics	Appropriateness of FDA labeling
Nursing	Patient abandonment
Occupational Therapy	Establishing a standardized evaluation tool for patients who suffer from mental illness
Paramedics	Use of the term differential diagnosis in the educational curriculum
Physical Therapy	Membership in the American Physical Therapy Association
Speech-Language Pathology	Medicare reimbursement in the rehab setting

To ensure a thorough, well-researched debate, it is recommended that the debate teams are given enough time (minimum two to three weeks) to prepare and plan for the debate.⁴ Therefore, it is imperative for the debriefers, who are responsible for creating the debate case, to receive the topics and to begin the development of the debate scenario as soon as possible. As the debriefers are constructing the debate, they should consider the post-debate deliberations for which they are responsible. Debriefers should record areas they expect to hear being addressed during the debate. For example, if the topics was a professional concern (broad topic) regarding continued competence (specific topic), and the debriefers’ scenario proposed that all states require the respective health profession to require a minimum of 50 continuing education credits per year, the debriefers should expect the debaters to address implementation and assessment of this policy, financial and legal implications, and jurisdiction or power to enforce, as well as if there is any precedent to support this policy.

Debate Preparation

Since debate is a persuasive argument, active listening is critical to the success of a debate. Debating would be futile if the class was not aware of strategies used to sway the audience’s opinion.¹⁹⁻²² Recognizing these tactics allows students to address these antics accordingly as a defense during the debate. Hence, before students participate in a debate, they are given five hours of interactive instruction in the basics of critical thinking/logic, problem solving, and debate. Introduction to critical thinking includes logic topics such as propositions, probabilities, errors in reasoning, propaganda techniques, and value judgments.^{19,20} A discussion on the errors in reasoning includes faking a connection, detecting double standards, and jumping to conclusions.^{17,19-21} Moreover, students are challenged to recognize and categorize various propaganda techniques seen on a regular basis (i.e. car dealerships, commercials, election campaigns, etc.).

Next, students engage in a discussion on problem solving skills that includes an understanding of the scope of the problem, analysis/synthesis, types of propositions, skills of research, and skills of reasoning.^{16,17,19-22} Skills of reasoning include the use of analogy and linkage as a means of understanding and solving a problem. Students are taught to differentiate in the three types of propositions and their value within a debate.¹⁹ A proposition of fact is not debatable because it is fact and can be easily researched for the truth. A proposition of value is difficult to debate because it draws on personal values and beliefs that are not consistent from one individual to the next. Lastly, there are policy propositions, which are traditionally easily debated because they seek to change current policy.

To conclude the preparations, the students are given a cursory explanation of debate fundamentals, construction, etiquette, and execution.^{16,17,19-22} Fundamentals of debate include an understanding of burden of proof, the stock issues (significance, harms, inherency, topicality, and solvency) and the flow of an argument.^{19,20} The structure of each debate consists of four speeches: first constructive, second constructive, rebuttal, and the cross-examination. Students are taught the value and importance of each

speech (Table 2).¹² Constructive speeches (five minutes) attempt to develop arguments to convince the audience that change is necessary (affirmative) or that the status quo is sufficient (negative). The first affirmative speech is the only speech that can be prepared in advance as it establishes the necessity to change policy and does not need to address the opposition's argument as that argument has not yet been proposed. The rebuttal (three minutes) is the closing speech that attempts to counter the opponents' claims while continually supporting one's own stance. Consequently, no new arguments can be presented or established in the rebuttal. Lastly, cross-examinations (two minutes) are used to provide clarity, find weakness in the oppositions' claim, expose errors and contradictions, and set-up arguments for subsequent speeches. Students are given 2 minutes between constructive speeches and cross-examinations to regroup and discuss strategy to counter the oppositions' points while advancing their plan. If 5-man teams are used, then the role of the cross-examiner can be shared by two students (Table 2). To diversify the learning experience, students are not allowed to repeat a speech in subsequent debates. For example, if a student presented the affirmative rebuttal in the previous debate, he/she was not allowed to present the negative rebuttal for another debate. The student must become the cross-examiner or present one of the constructive speeches.

Table 2. Debate Format

Speech	Time (min)	Description of content
1 st Affirmative Constructive Speech	5	Introduce debate and need for change
Prep time	2	
Cross of 1 st Affirmative	2	Negative team cross-examines affirmative team*
Prep time	2	
1 st Neg Constructive Speech	5	Introduces neg. arguments and initial attack against affirmative claims
Prep time	2	
Cross of 1 st Negative	2	Affirmative team cross examines negative team*
Prep time	2	
2 nd Affirmative Constructive Speech	5	Continues to promote affirmative stance and attacks negative arguments
Prep time	2	
Cross of 2 nd Affirmative	2	Negative team cross-examines affirmative team*
Prep time	2	
2 nd Neg Constructive Speech	5	Continue to promote negative stance and attack affirmative arguments
Prep time	2	
Cross of 2 nd Negative	2	Affirmative team cross examines negative team*
Prep time	2	
Negative rebuttal Speech	3	Negative Final Speech***
Affirmative rebuttal Speech	3	Affirmative Final Speech***

* With 5-man debate teams, cross examination can be shared between 2 people sharing the responsibility to question and respond, one at a time.

*** No new arguments can be introduced during the rebuttal speeches

Debating

Although debates can be conducted at any time for various lengths of time, for the purpose of this article, debates were conducted in a 50-minute class period.⁸ Debates hold fast to the time allotted. Therefore, arguments or questions stated beyond the time allotment are not heard. Thus, student must prioritize their arguments and rehearse their speeches to guarantee that their line of reasoning is communicated with accuracy and clarity.

In this classroom activity, three tables, in a "U" shape, were used to stage the debates. There is a speaker's table that is in the middle and faces the audience and the two debater's table, one at each end of the speaker's table facing one another. The speaker's table is the location from which all speeches and cross-examinations take place. The debater's table is where the teams sit, take notes, caucus, and prepare for the next stage of the debate.

During the debates, the members of the audience are given a rubric to evaluate the debate (Table 3). They are asked to identify strengths and weakness of the debate and assess organization and clarity, diction, respect, confidence, knowledge of material,

use of arguments/examples/facts, and cross examination. Audience members (faculty, students including the debriefers, and other visitors to the class) vote for the team that they believe won the debate. Only scores from rubrics of the faculty observing the debate are used to grade the debate teams, yet comments from students in the audience, which count towards participation in the class, are reviewed and scored for accuracy, thoroughness, and effort by the course instructor. Evaluations are shared with the debate team to enhance and improve performance on future debates.

Table 3. Debate Evaluation Rubric

	Criteria
1. Organization and Clarity:	<ul style="list-style-type: none"> • viewpoints and responses are outlined both clearly and orderly • statements/remarks/rebuttals well organized
2. Use of Arguments:	<ul style="list-style-type: none"> • reasons are given to support viewpoint • arguments made by the other teams are responded to and dealt with effectively • well thought out
3. Use of Examples and Facts:	<ul style="list-style-type: none"> • examples and facts are given to support reasons
4. Use of Cross-Exam:	<ul style="list-style-type: none"> • specific to opposing teams remarks • able to clarify points and terminology, expose errors/ contradictions, get admissions, and set up for subsequent speeches
5. Response in Cross-Exam:	<ul style="list-style-type: none"> • direct responses provided • did not volunteer information • saved comments for next speech
6. Presentation Style:	<ul style="list-style-type: none"> • tone of voice, use of gestures, and level of enthusiasm are convincing to audience
7. Diction:	<ul style="list-style-type: none"> • students spoke loud and clear enough to be heard and understood
8. Knowledge of Material:	<ul style="list-style-type: none"> • statements/remarks/rebuttals read from cards
9. Respect:	<ul style="list-style-type: none"> • addressed remarks to the audience throughout debate, did not interrupt opposing team, no name calling or negative gestures toward the opposing team
10. Appearance:	<ul style="list-style-type: none"> • all team members were dressed professionally and appropriately for the debate

Debate Deliberations

Following the completion of a debate(s), the debriefers are given 2-4 days to prepare the critical analysis of the debate(s).^{12,22} This time allows the debriefers to diligently and thoroughly review the arguments made, examine the read literature cited, and reassess the conclusions that were drawn by both teams. As stated previously, this analysis details each team’s argument, reviews the accuracy and effectiveness of the arguments, describes the line of logic used including any propaganda techniques and errors in reasoning, and addresses concepts that the debriefers expected to hear during the debate. Because of the vast amount of information, debriefers typically provide their critical review in the form of a PowerPoint presentation.

Following the debriefing, the instructor facilitates an open forum to allow the audience (which now includes the debate team) to voice their perception of the debate, their critique of the debate, and any alternative viewpoint.¹ This forum not only allows debaters to address the analysis of the debate and provide additional clarity, but also allows audience members an opportunity to share the arguments or the factor that influenced their vote.

OUTCOMES

Debate is an experiential learning process that allows students to demonstrate their communication ability while presenting reasonable arguments based on evidence.¹⁻¹² Over the past four years, in the final academic term, approximately 81 students participated in the debate experience. Each student was involved in at least three debates. At the end of the academic term, students were queried about debates (overall impressions, pros and cons of the debate experience, and how debate would help them as a professional). Students overwhelmingly indicated that preparing for a debate was arduous; therefore, it was the least liked aspect of debate. Other concerns were the stress of having to speak persuasively to an audience and the unequal division of labor (Table 4).

Students were also asked what aspects of debate they found most beneficial. The frequently noted areas centered on learning and listening. Students reported the use of critical thinking skills in different ways, researching of controversial topics, learning how to organize thoughts, listening to both sides of an issue, learning new ways to communicate to colleagues and other professionals, and being able to analyze both sides of an issue (Table 4).

When asked about their overall impression, students commented that debates were stressful but important, painful but beneficial, good for learning how to stay poised when questioned by others in front of a group of people, and beneficial for increasing public speaking skills. Several students indicated that they preferred debate over standard lecture-discussion format because they believed it to be more engaging (Table 4).

Finally, students were asked to indicate how participating in debates would help them as professionals. Although many students did not see themselves participating in a structured debate in the future, they did indicate that learning the principles of debate was useful for them as a professional. Several students felt debating gave them the opportunity to practice their critical thinking skills and provide rationales for decisions, increased overall confidence and the ability to think on the other side of the issue that otherwise would have not been considered, helped evaluate and clarify what people are trying to communicate, and enabled recognition of how someone can make an issue appear convincing (Table 4).

Table 4. Student Comments on Debate

	Student remarks
Overall perception	<ul style="list-style-type: none"> • Better than having class discussion on controversial topics • Good to explore/research issue • Interesting and practical • Good way to increase critical thinking skills • Important to increase public speaking skills • Exposes students to vast amounts of information available on issues • Found value in researching topic • Good for learning how answer questions in front of a group of people • Good for learning how body language influences a person's perception and decision
What students' liked most	<ul style="list-style-type: none"> • Listening to different view points and analysis of debate • Getting use to critical thinking skills • Able to learn more about controversial issues • Competition • Learning more about topics • Enhance skills for the future • Being able to analyze both sides of an issue • Support a stance I did not support before • Researching a topic • Organizing your thoughts • Learning new ways to communicate to colleagues or other structures outside of the profession • Listening to different strategies to convince others • Research and argument construction • Challenge of forming a winning argument
What students' liked least	<ul style="list-style-type: none"> • Stressful for people who do not enjoy public speaking • Preparation is time consuming • Did not improve clinical skills • Got less out of actual debate than preparing for debate • Group work not divided equally
Impressions of how debate will help students as a professional	<ul style="list-style-type: none"> • Helps increase skills needed to objectively analyze information before presenting it to others • Good practice for critical thinking and providing rational for decisions • Helps in evaluating what people say • Gain knowledge about how to present information and how speakers can be perceived during public speaking • How one can make an argument appear convincing • Improvement in communication and public speaking • Increase overall confidence and ability to critically think on the other side of an issue that I may not have considered before • Beneficial for those who struggle with critical analysis skills and public speaking and would not have sought out assistance in these areas

Students do not always agree with having to participate in debates, but they admit that debate is effective in accomplishing the goal of increasing active listening skills, communication skills, critical thinking and problem solving skills, and boosting confidence. For example, during the reassessment of a group of students four months following the completion of the debates, one student commented that prior to debating, she was not the type of person who defended her stance on a subject. Yet, after participating in debates, the student reported that she felt prepared to engage in conversations with other healthcare professionals with whom she did not see “eye to eye.” She exclaimed that she now possessed the ability to listen for their true concerns, which inevitably fostered a better working relationship with the other professionals.

Two to four days following a debate, debriefers provided a critical review of the debate that was followed by an open forum.¹ During the open forum, all students (debaters, debriefers, and audience members) were at liberty to respond to the analysis of the debate, offer different perspectives to the debate, and share which factors influenced their vote. Interestingly, when students are at an impasse based on the arguments presented, they voted for the team who demonstrated better verbal and non-verbal communication skills such as charisma, confidence in speech, showing respect to the other team, ability to respond quickly even if the reply was not accurate, and the perception of being more knowledgeable. The open forum also served as an opportunity for students to provide constructive feedback on the debater’s communications skills. In this situation, when a student appeared timid or uncertain in the midst of a debate, classmates shared their concern and provided solutions for improvement that were incorporated and noted in subsequent debates.

Finally, at the conclusion of each debate, the audience (which includes faculty) filled out a debate evaluation rubric (Table 3). Audience members rated and commented on each team’s clarity and use of argument and cross-examination, presentation style, diction, knowledge of material, and respect. The faculty ratings are averaged to give each team a grade for the debate, while the class members in the audience’s evaluations are reviewed to assure that students are providing adequate feedback (i.e. identifying contradictions in a team’s arguments, noting any errors in reasoning, and exposing incidences of disrespect). After the deliberations, debate teams are given the evaluation rubric to guide them in future debates. Under this circumstance, students, whose body language overshadows their speech, were made aware of their non-verbal communication via comments on the evaluations. As a result, these students made a conscious effort at the next debate to manage their body language.

CONCLUSION

Preparing students to be critical thinkers and effective communicators in a broad environment is essential in health care, and allied health educators are challenged with assessing whether or not students possess the skills needed to be well-rounded professionals.^{11,18} Besides being a clinician, it is possible that allied health students will also become leaders and promoters of health care and need the skills that demonstrate a knowledge-based, confident ability to communicate effectively. The teaching method of debate will prepare students with such skills. Debates require students to work alone or with others to research critical issues, present a reasonable argument, actively listen to various perspectives and weigh those perspectives against the literature and personal values/beliefs, differentiate between anecdotal information and evidence, and ask the necessary questions. Debates also increase students’ confidence, foster respect among students, facilitate students’ ability to maintain composure, and enhance the students’ ability to articulate their own thoughts based on evidence.^{1-4,12,14}

Students, who have participated in educational debates as outlined in this article, have admitted that although preparing for a debate was stressful and time consuming, the process did reveal the impact of verbal and non-verbal communication, the benefits of organizing thoughts and broadening one’s perspective, and the value of researching and formulating arguments based on evidence. While this type of educational debating engages the entire class in the learning experience, it is not intended to prepare students to be great debaters. It is the process by which the students prepare, anticipate, and participate in the debate that enhances communication skills, improves critical thinking and problem solving, and develops confidence and respect.

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