The Academic Controversy Technique: Towards Cooperative Debates

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Abstract

The purpose of this paper is to introduce and explain a cooperative learning technique, Academic Controversy (Johnson, Johnson, & Smith, 1996), also known as Cooperative Controversy, Structured Controversy and Structured Academic Controversy, that has potential for use in education and other areas, and has support in both research and theory. Briefly, the technique involves a cooperative form of debate in which groups of four, divided into twosomes, take turns representing two opposing views on an issue before attempting to reach a consensus on the issue. The present article begins with a theory-based review of the potential educational benefits of controversy. Next, the Academic Controversy technique is described. In the next part of the article, Academic Controversy is viewed through the lens of selected cooperative learning principles. Finally, the last part of the article explains variations to the technique.

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Why Use Controversy

Controversies arise when people's views differ on matters considered important by all involved. Some educationists avoid controversies, fearing that they may lead to serious rifts, even violence, between students and may also arouse the displeasure of administrators and community members (Slattery, 2008). However, for several reasons, educationists in many subject areas, at many levels of education and from many theoretical backgrounds utilise controversies. Six of those reasons for employing controversies to promote learning are explained below: (1) more thinking, (2) enhanced intrinsic motivation, (3) more cooperation, (4) increased tolerance for ambiguity, (5) more incorporation of new perspectives and (6) deeper cognitive processing.

(1) More thinking

Perhaps the most frequently cited benefit of controversy is that it spurs thinking. For example, Dewey (1933/1991) rejected rote learning, pre-formed knowledge and lecture. Instead, in the tradition of Rousseau (1769/2010), Pestalozzi (1801/19) and Froebel (1826/1974), Dewey highlighted experiential, student centred learning, which involves learners in forming their understandings based on considering and acting on matters close to their own lives. Dewey (1916, p. 188) explains, "Conflict is the gadfly of thought. It stirs us to observation and memory. It instigates invention. It shocks us out of sheeplike passivity and sets us at noting and contriving .... Conflict is a sine qua non of reflection and ingenuity".

Another aspect of Dewey's student centred educational philosophy called for more democratic processes in education. Conflict and controversy, handled in a cooperative spirit, are central to democracy. At the same time that Dewey argued for student centredness and input from students and all stakeholders, he also felt educators have an important role to play in structuring students' experience to maximize the benefits students gain. For instance, controversy needs to be handled in a framework that promotes learning and mutual respect.

(2) Enhanced intrinsic motivation

Two oft heard complaints about education are overreliance on extrinsic (external to students) motivators, such as grades and gold stars, and an overall lack of student interest in learning. Controversy may address both these complaints. Enjoying the struggle involved in researching, grasping and presenting views on controversies can provide intrinsic rewards that spur similar future engagement with the same or other controversial topics. Csikszentmihalyi (1990) coined the term 'flow' for the intrinsically motivated mental state in which people find themselves positively energized and fully involved in an activity.

Student engagement with controversies can meet Csikszentmihalyi's eight criteria for promoting flow. One, presenting views on a topic and attempting to persuade others may present students with a <u>challenging task</u>. Two, students may well have opportunities to become <u>insiders</u>, part of the debate process, rather than outsiders, watching others debate. Three, controversies can supply students a definite <u>goal</u> to strive for: convincing others of their opinion. Four, while discussing controversies, students have opportunities to receive <u>direct and immediate feedback</u> on their efforts, as others respond to their arguments. Five, the give and take of debate promotes <u>deep concentration</u> in order to be ready to respond to others' assertions and rebuttals. Six, as students learn more about their topic and the various arguments for various perspectives on the controversy, their <u>feeling of control</u> can grow. Seven and eight, if students become immersed in the controversy and focused on convincing others to agree and act upon the viewpoint they espoused, self-<u>consciousness can evaporate</u> <u>and time can seem to pass surprisingly quickly</u>.

(3) More cooperation

A third benefit of controversies is that they offer students more opportunities to cooperate with others and to appreciate the benefits of cooperation. Social psychologists working in the tradition of Lewin (1935) and (Deutsch, 1949) have developed the concept of positive interdependence, i.e., the feeling among members of a group that their outcomes are positively correlated, e.g., if one group member learns, that helps other group members to learn and to succeed generally.

In a controversy, teachers can in several ways foster among group members the feeling of positive interdependence. For instance, goal positive interdependence exists when students feel they have a common goal, e.g., attempting to convince another group of their opinion on the controversial topic being discussed. Resource positive interdependence comes into play when students believe that each group member has unique information on the controversy and that they all need to share their information to achieve the group's goal. Celebration/Reward positive interdependence can be promoted amongst group members if they know that they will all celebrate should they achieve their goal.

(4) Increased tolerance of ambiguity

The use of controversy in education can also be advocated for its potential provision to students of a glimpse of the complexity of the real world and its encouragement among students of the development of a tolerance of ambiguity (Budner, 1962). The psychological construct tolerance of ambiguity involves people's ability to encounter with equanimity the vagueness, fragmentation, multiple perspectives, ill-structuredness, open-endedness, inconsistency, and lack of clarity found in so many situations in life generally and, as a case in point, in controversies. Some scholars have associated such tolerance of ambiguity with greater creativity, emotional resilience, acceptance of diversity and intercultural competence (Norton, 1975). On the other end of the continuum lies ambiguity intolerance, which may manifest as feelings of discomfort or threat when faced with ambiguity (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950).

 (5) More incorporation of new perspectives

Following from the previous point about the ambiguity and complexity of controversial issues, encounters with a range of views on the complex issues involved in controversies may also benefit students by encouraging them to reexamine and possibly revise their own ideas (Piaget, 1975). Piaget's cognitive approach to learning included four interacting concepts: schema, equilibration, assimilation and accommodation.

Schemata are the organised knowledge structures in people's minds that are used to understand the world. Experiences lead people to modify their schemata. The process by which these modifications occur is called equilibration. Equilibration takes place as people try to keep their schemata in harmony with their experiences around them. Upon an encounter with information that fits existing schemata, that information is, according to Piaget, assimilated into the relevant schemata, whereas information that does not fit existing schemata provoke what Piaget termed accommodation, i.e., change in schemata, in order to maintain equilibrium.

Encounters with mangoes might be used to exemplify this equilibration process. When people familiar with yellow, oval shaped mangoes encounter another such mango, they smile and assimilate the mango into their existing schemata for mangoes. However, these people, upon their initial encounter with a multi coloured round mango, need to accommodate, i.e., to modify their existing mango schemata. The hypothesis here is that the range of information and perspectives accompanying controversies might trigger beneficial modifications of schemata among students.

(6) Deeper cognitive processing

Piaget was one of the pioneers of cognitive perspectives in educational psychological. Such perspectives seek to understand how minds work as people, and for that matter, other animals, deploy and develop their knowledge. Atkinson & Shiffrin (1968) developed a metaphorical three-part information processing model. The first part of the information procession model consists of the sensory register, i.e., the process by which the five senses take in the enormous amount of information that people receive from their environments. Most of this information from the environment is not retained. That

information which is retained goes what can be termed the working memory. Here is where information from the third part of the information processing model, the long term memory (the storage place for what has been learned), combines with information from the sensory register in order that it might be understood, interpreted and possibly retained.

Craik and Lockhart (1972) were cognitive psychologists with a particular view on factors that might affect whether information from the working memory is retained in the long term memory. Their levels of processing framework maintains that the likelihood of information being preserved in long term memory decreases if students process the information in a superficial manner, e.g., if students read pages 121-123 in their textbook, without spending much time thinking about the information on those three pages. In contrast, if students employ that information in a debate, using it to develop arguments and to rebut other arguments, this deeper processing may well enhance the probability of information retention.

The depth of processing framework proposes that learning involves more than quantity of study time. The key, rather, lies in how that studying time is spent. The cognitive elaboration spurred by the excitement of controversy, motivated by the sense of flow experienced and supported by groupmates who feel positively interdependent can result in deeper levels of processing and, thus, more learning.

The Academic Controversy Technique
A common technique for using controversy in education is the debate. However, one criticism of debate is that it creates a situation of negative interdependence among students, i.e., those on each side of the debate attempt to defeat those on the other side. For instance, if one side lacks information, this benefits the other side. Thus, what hurts one groups helps the other. This feeling of negative interdependence may discourage sharing among groups, may lead to ill will and may decrease learning.

In order to promote a feeling of positive interdependence (similar to the "All for One and One for All" slogan of the Three Musketeers) across all sides of a debate, Johnson & Johnson (1995) developed the Academic Controversy technique. While techniques in education often have multiple variations, the basic steps in Academic Controversy are presented in the next paragraphs. The length of time for each step will vary based on such factors as the amount of time available in the curriculum, the amount of preparation students do outside of class and students' level of engagement with the topic and the activity.

Step 1. Students are in groups of four divided into pairs. Each pair is assigned one of two positions on a controversial topic, such as should humans eat non-human animals. For instance, one group of two might be assigned the position that we should eat our fellow animals, while the other twosome is assigned to argue in favour of the view that we should not eat them. Students are allotted time to prepare to present the best possible case for their assigned position, regardless of what their own personal view might be. While

sharing and developing ideas with their partners, students may come to see the value of cooperating with others (Deutsch, 1949).

Step 2. Each pair take a turn to present their assigned view, while the other twosome listen and take notes.

Step 3. Each side engage in rebuttal of the points made by the other side and defence of the position which they had presented. Here is one of the places in the technique that might engender the cognitive conflict that Piaget (1975) spoke of. Furthermore, students need to think deeply to defend their assigned view, with facts, examples and reasons (Craik & Lockhart, 1972).

Step 4. Here is where Academic Controversy begins to differ from the typical competitive debate. Students exchange positions and repeat Steps 1, 2 and 3 with their new assigned position. Again, they make their best effort to represent their assigned position. Just to be clear, Step 4 is actually three steps, as students repeat Steps 1, 2 and 3, but this time they represent the view that they had previously argued against.

Step 5. Students are no longer part of a group of two, nor are they any longer assigned a position. Instead, in their group of four, they attempt to forge a common position, which could be one of the two views assigned earlier and could also be another position on the issue. For example, they might decide that meat eating is okay but should only be done once a week. Students prepare to share this view with others. If a group do not reach a consensus, despite a sincere effort to do so, they prepare to report the various views of the group's members. Perhaps, this step, as a culmination of the process, provides students with opportunities to develop their tolerance for ambiguity, as they see a variety of possible options on the issue being addresses (Budner, 1962). Additionally, it is hoped that students will enjoy the process of engaging others in vigorous, meaningful discussion, thus finding the activity to be intrinsically motivating (Csikszentmihalyi, 1990) and a spur for their thinking on the topic and on people's roles in society (Dewey, 1916).

Viewing Academic Controversy Via Cooperative Learning Principles
The developers of Academic Controversy, David and Roger Johnson, have been pioneers in researching cooperative learning and developing ideas for its use. This section of the paper examines Academic Controversy via selected cooperative learning principles. For this purpose, some of the cooperative learning principles proposed by Jacobs and Goh (2007) will be used.

In Step 1, students form groups of four. Which students should be in which foursome and in which twosome within each foursome? The cooperative learning literature, as well as the literature on intercultural education, generally recommends the principle of 'heterogeneous grouping'. Factors that can be used in forming heterogeneous groups include past achievement, ethnicity, sex, nationality and first language.

In Steps 2 and 3 of Academic Controversy (which are repeated after pairs exchange assigned positions), pairs present to other pairs, and the pairs attempt to rebut each others' points. Two cooperative learning principles relevant here are 'equal opportunity to participate' and 'individual accountability'. Equal opportunity to participate seeks to avoid the problem of one pair member taking over the group and not affording to their partner opportunities to interact with the other pair in the foursome. This problem may be especially important if differences exist in the typical interaction patterns of the various cultures of group members. The principle of individual accountability addresses the opposite problem: one partner attempts to evade participation. Ways to promote equal opportunity to participate and individual accountability include:

(1) using turn taking procedures, possibly timed so that each turn is approximately of the same length;

(2) allowing adequate time for students to prepare and perhaps asking them to write out their points or to represent them visually, e.g., in a mind map;

(3) scaffolding via teachers, peers and materials so that lower achieving group members are indeed prepared to take part and so that their partners recognize that they are in fact ready to do so;

(4) involving students in choosing topics so that they will be more likely to want to participate;

(5) encouraging students to use a range of modes, other than speaking, to present their views, such as visuals, role plays, and poetry/song (Cohen, 1994).

In Step 3, the rebuttal, as well as in the later steps, affords one of many times during Academic Controversy in which the cooperative learning principle of 'explicit teaching of cooperative skills' can be useful. This involves students in thinking about why such cooperative skills as disagreeing politely and praising others are important, how these skills can be deployed and how well the students themselves are using the skills as they engage in the Academic Controversy activity. Sometimes, students and teachers need to understand that cooperative skills will take different forms in different cultures, e.g., cultures differ on the appropriateness of eye contact during discussion. Another aspect of teaching cooperative skills concerns providing time for students to reflect on how well they worked together in their groups. This time may enable students to better understand why peers act as they do and how best to communicate with them.

Related to three of the above mentioned principles of equal opportunity to participate, individual accountability and explicit teaching of cooperative skills is the cooperative learning principle of 'maximum peer interaction'. This principle has two aspects: quantity of peer interaction and quality of peer interaction. Quantity of peer interaction looks at how often students interact with each other, rather than listening to the teacher, interacting with the teacher or working alone. Quality of peer interaction looks at whether students are employing thinking skills when they interact with peers, in contrast to

participating in some kind of rote exchange, e.g., practicing a multiplication table. The quality of the exchange can be seen in the incidence of, for example, planning, giving of explanations and examples, questioning, making of predictions and proposing of compromises.

In Step 5, culture again plays a key role, because of different cultures' views of the value of consensus and how to achieve consensus. Here, the cooperative learning principle of 'positive interdependence', explained earlier, becomes particularly important. Based on this principle, educationists encourage students to take the very reasonable view that they "sink or swim together" with their groupmates. Indeed, when students feel that all their groupmates are important and that by helping groupmates they are helping themselves, positive interdependence can be said to exist among group members, making it more likely that a consensus can be achieved or at least an amicable agreement to disagree, while understanding and respecting others' views.

Possible Variations to Academic Controversy
Academic Controversy, like other cooperative learning techniques, can be varied in a number of ways. In this section, we look at possible variations. Perhaps the most common variation occurs in Step 4, when group members switch their assigned positions, with the pair who had previously presented the pro position now arguing for the con view. When I have used Academic Controversy, sometimes students ask to skip Step 4, because they believe that all they will be doing is repeating what the other twosome said in Steps 2 and 3. I offer two reasons for the value of doing Step 4 with the same four group members:

(1) Students should be able to think of other supports for their assigned position or other ways of explaining those supports.

(2) There is great value in "putting oneself in the shoes" of people with each of the two assigned positions.

However, what I have also done and what is suggested by D'Eon and Proctor (2001) is what they call Double Switch, i.e., pairs not only switch positions on the issue under discussion, they also switch the pairs with whom they are debating. For example, the twosome who initially argued in favour of meat eating change places with the twosome in another group of four who were arguing for the same position.

Another source of ideas for variations in Academic Controversy is the work of Johnson and Johnson (1999) on ways to promote the feeling of positive interdependence among student groups. One of these means of promoting positive interdependence involves facilitating the establishment of a group identity, something similar to what sports teams and other organisations attempt, e.g., via a special name for the group, a mascot, a motto or a handshake or cheer. To allow time for this identity to grow, groups often stay together for a while, such as ten weeks, rather than students changing groupmates every time they work together. An example of what a group can do once it has established it identity, for instance a group handshake, is for the group to exchange their handshake

once they have achieved their goal in Step 5 of reaching consensus or agreeing to disagree after intense debate.

Finally, one other cooperative learning principle that can inform the use of Academic Controversy is 'cooperation as a value' (Jacobs, Power & Loh, 2002). The concept involves students seeing cooperation, rather than competition or individualism, as the first option in their dealings with others, in class, in school and beyond. Thus, cooperation as a value attempts to spread the feeling of positive interdependence beyond the small group to the entire class, beyond the class to the school/educational institution and so on until positive interdependence embraces other countries and species. One means of infusing cooperation as a value in Academic Controversy might be to move beyond talking about the issue being debated. Therefore, students might also discuss how they – alone, with peers and with others – can act on the beliefs they expressed in Step 5. For instance, if a group decides that reducing meat consumption might be worthwhile, they could also discuss how they and others can do that and then implement their plan and monitor the implementation.

Conclusion
The successful use of Academic Controversy has been reported in a wide variety of subject areas (Davis-McGibony, 2010; D'Eon & Proctor, 2001; Green & Klug, 1990; Hammrich & Blouch, 1998; Johnson, Brooker, Stutzman, Hultman, & Johnson, 1985; Overby, Colon, Espinoza, Kinnunen, Shapiro, & Learman, 1996). When I first read about Academic Controversy, it was love at first sight, as my view of what education should be clashes strongly with the competitive nature of the typical debate, with both sides looking to derisively attack any perceived weakness in their "opponents" so that they and they alone could emerge victorious. Such negative debate formats seem to generate a great deal of heat but little light, and they leave students with little energy nor inclination to work together to address the real world issues that arose in the debate.

Thus, I was anxious to use Academic Controversy, as it maintains the educational benefits of controversy, while blending in the benefits of cooperation, in order to facilitate an environment that encourages everyone to take part, to learn, to support the learning of others and to address important issues. The supportive environment promoted by cooperative learning techniques such as Academic Controversy makes it more likely that these issues can be addressed not just as academic topics to debate in class but also as real world matters that require real world actions.

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