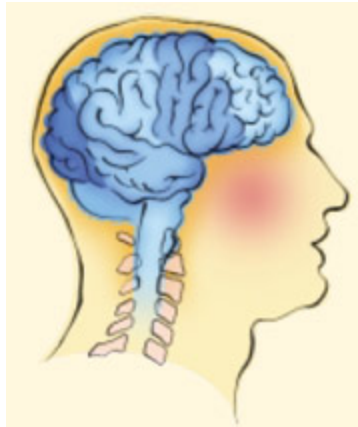


Structured Academic Controversy



In a Nutshell: What is Structured Academic Controversy?

Structured Academic Controversy is a teaching approach that encourages students to take on and argue for, alternately, **BOTH** sides of a controversial issue and ultimately come up with a balanced opinion about that issue.

Students work in pairs to become familiar with one side of an issue, and then debate with another pair who has become familiar with the opposing side. Pairs then switch “sides,” become familiar with the opposing argument, and debate again. Finally, the two pairs come together to discuss the strengths and weakness of each side of the argument, come to a consensus about their collective opinion about the argument, and present that idea to the other quads.

This teaching approach encourages students to consider all sides of an issue equally before formulating a final opinion.

Structured Academic Controversy



Steps in the Structured Academic Controversy Process...

- Step 1: Students are broken into two groups. One group receives materials favoring one side of a debate; the other group receives materials favoring the opposite viewpoint. Students read material and discuss together the most salient points of the argument to present.
- Step 2: Students present their argument. Each side has three minutes to present their ideas. After 3-minute presentations, each side has a minute to rebut.

Steps... cont'd

- Step 3: Students then "switch sides," receiving the material from the *opposite side*. In their groups, students now formulate their argument for *this* side.
- Step 4: Students present their arguments to the whole group in the same format as Step 2, except now they are representing the opposing view.
- Step 5: Back in their groups, students must come to a consensus and formulate their opinion on the topic, based on evidence from both sides of the argument.

What makes a good topic for a Structured Academic Controversy?

- A topic that has two clear sides.
- A topic that is relevant to the curriculum.
- A topic that is interesting to the students.
- A topic about which students (or you) can locate a variety of resources and information.

Sample Topics

- Hamlet is a hero. Hamlet is a villain.
- Gene is a good friend. Gene is a bad friend.
- America should be a melting pot. We should preserve individual cultures.
- Genetic engineering is destructive. Genetic engineering is creative.
- I won't ever use Calculus. Calculus is used every day.
- Everything is relative. There are absolute truths.
- The results of acid rain are more dangerous than limiting industry's greedy production. Industry's production provides for the needs and wants of a society, which is more important than the negative effects of acid rain.
- Reconstruction was a success. Reconstruction was a failure.
- Max is a hero. Max is a villain.
- Snakes are scary. Snakes are helpful.
- It is important to fit in. It is important to be your own person.
- Exploration leads to exploitation. Exploration is necessary for progress.
- The collective is more important than the individual. The individual is more important than the collective.
- Goldilocks is a hero. Goldilocks is a villain.
- Columbus is a courageous explorer. Columbus is a ruthless land thief.
- The truth of a situation depends upon one's perspective. There are absolute truths.

S.A.C. encourages...

- Researching and preparing a position
- Advocating a position
- Teaching peers
- Analyzing, critically evaluating, and rebutting information
- Reasoning both deductively and inductively
- Taking the perspective of others
- Synthesizing and integrating information into a novel conclusion upon which all sides can agree

What's important about this?

- Teaches students that ideas are not "either/or"
- Teaches students to find a middle ground
- Teaches students to think critically and evaluatively about ideas
- Teaches students to search for and consider multiple perspectives on an idea
- Teaches students the value of collaborative conflict

Structured academic controversies

To start, the instructor selects a topic with two different viewpoints (e.g., "Nuclear energy should be used more/less in this country."). Students form groups and divide into two pairs. Each pair is assigned an advocacy position, and depending on available time, either receives supporting documentation or researches the topic. If the instructor wishes, student pairs from different groups with the same positions can compare ideas after becoming familiar with their positions. The student pairs highlight the main arguments for their position and prepare a short presentation.

Each student pair then presents their position to the other pair in their group. The students listen and take thorough notes but are not permitted to ask questions, disagree, or debate. After the presentation, the other pair presents their position. After the presentations, the students discuss their positions and provide more supporting evidence. With their notes as a guide, the students **switch** advocacy positions and prepare and give a new presentation. Finally, students drop their advocacy role and generate a consensus report addressing the original question posed (Johnson, et al. 1991).

Academic controversy can enhance student skills including:

- researching issues
- organizing information
- preparing a position
- advocating a position
- being able to rationalize one's position
- learning to debate
- evaluating strengths and weaknesses on both sides of an issue
- seeing issues from other perspectives
- reconceptualizing one's position
- synthesizing information
- reaching consensus

STEPS TO CONDUCT THE CONTROVERSY

1. Assign each pair of students the following tasks:
 - a.) Learning their position and its supporting arguments and information
 - b.) Researching all information relevant to their position
 - c.) Giving the opposing pair any information found supporting the opposing position
 - d.) Preparing a persuasive presentation to be given to the other pair
 - e.) Preparing a series of persuasive arguments to be used in the discussion with the opposing pair

Pairs research and prepare their positions, presentations, and arguments. Students are given the following instructions:

Plan with your partner how to advocate your position effectively. Read the materials supporting your position. Find more information in the library reference books to support your position.

Plan a persuasive presentation. Make sure you and your partner master the information supporting your assigned position and present it in a persuasive and complete way so that the other group members will comprehend and learn the information.

2. Have each pair PRESENT ITS POSITION to the other. Presentations should involve more than one medium and persuasively advocate the best case for the position. There is no arguing during this time. Students should listen carefully to the opposing position. Students are told: *As a pair, present your position forcefully and persuasively. Listen carefully and learn the opposing position. Take notes, and clarify anything that you do not understand.*

3. Have students openly DISCUSS THE ISSUE by freely exchanging their information and ideas. For higher-level reasoning and critical thinking to occur, it is necessary to prove and push each other's statements, clarify rationales, and show why their position is a rationale one. Students refute the claims being made by the opposing pair and rebut the attacks on their own position. Students are to follow the specific rules for constructive controversy. Students should also take careful notes on and carefully study the opposing position. Sometimes a "time out" period needs to be provided so that pairs can caucus and prepare new arguments. Teachers encourage more spirited arguing, take sides when a pair is in trouble, play devils' advocate, ask one group to observe another group engaging in a spirited argument, and generally stir up the discussions. Students are instructed:

Argue forcefully and persuasively for your position, presenting as many facts as you can to support your point of view. Listen critically to the opposing pair's position, asking them for the facts that support their viewpoint, and then present counterarguments. Remember that this is a complex issue, and you need to know both sides to write a good report.

4. Have the pairs REVERSE PERSPECTIVES AND POSITIONS by presenting the opposing position as sincerely and forcefully as they can. It helps to have the pairs change chairs. They can use their own notes, but may not see the materials developed by the opposing pair. Students' instructions are:

Working as a pair, present the opposing pair's position as if you were they. Be as sincere and forceful as you can. Add any new facts you know. Elaborate their position by relating it to other information you have previously learned.

5. Have the group members drop their advocacy positions and REACH A DECISION BY CONSENSUS. This process will likely require looking at the nuances of both sides and seeking a moderate position between the two extreme positions. The group should prepare a consensus paper, project, or other statement that expresses the collective understanding and opinions of all group members.

Students are instructed:

Summarize and synthesize the best arguments for both points of view. Reach consensus on a position that is supported by the facts. Change your mind only when the facts and the rationale clearly indicate that you should do so.

This collaborative learning structure has been thoroughly researched (Johnson, et al., 1991 and references cited within) and many positive academic outcomes have been observed including complex reasoning skills, higher quality decision making, increased motivation and energy to

take action. Other positive outcomes are enumerated in Johnson, et al. (1991, 1994) and Millis and Cottell (1998).

Here are some helpful suggestions to give your students:

- be respectful of each other
- disagree with another person's position and ideas but don't be critical of the person
- don't take criticism of your ideas as a personal attack
- listen to everyone's ideas, especially if you don't agree with them
- change your mind when the evidence supports this
- try to understand both sides of the controversy
- understand the position differences before trying to reach consensus
- focus on reaching the best outcome, not on winning

Johnson, D. W., Johnson, R. T., and Smith, K. A. (1998). *Active learning: Cooperation in the college classroom*. Edina, MN: Interaction Book Company.

Johnson, D. W., and Johnson, R. T. (1994). "Structuring academic controversy" In Sharan, S. (Ed.), *Handbook of cooperative learning methods*.

Millis, B. J., and Cottell, P. G., Jr. (1998). *Cooperative learning for higher education faculty*, American Council on Education, Series on Higher Education. The Oryx Press, Phoenix, AZ.

Social Studies: Reconstruction

Know:

- 1863: Lincoln announces "10 Percent Plan."
- 1865: Freedman's Bureau is established.
- Lincoln is assassinated.
- Johnson's amnesty plan.
- Thirteenth Amendment is ratified.
- 1866: Civil Rights Act is passed over Johnson's veto.
- 1867: Alaska Purchased.
- First Reconstruction Act.
- 1868: Fourth Reconstruction Act.
- [Fourteenth Amendment is ratified.](#)
- Ku Klux Klan begins.
- [1869: Belle Babb Mansfield becomes the first woman lawyer in the United States](#)
- 1870: Fifteenth Amendment is ratified.
- Force Act
- 1875: Civil Rights Act.
- 1876: Battle of Little Bighorn.
- [1877: President Hayes agrees to compromise of 1877.](#)
- 1881: Tuskegee Institute is founded.
- [1882: Chinese Exclusion Act passed.](#)
- 1887: Pearl Harbor acquired.
- 1890-1900: Blacks are deprived of the vote in the South.
- 1895: Booker T. Washington's Atlanta Compromise Speech.
- [1896: Plessy vs. Ferguson.](#)

UNDERSTAND:

Change causes conflict which result in both positive and negative consequences

Ones' perspective shapes how we view events in history

Changing a culture's collective beliefs takes considerable time

BE ABLE TO DO:

Analyze key historical events surrounding the Civil war and Reconstruction to determine the causes and effects

Investigate events of the Civil War and Reconstruction from varying perspectives. Analyze how perspective shapes the telling of the events in history

Evaluate the short term and long-term effects of the Civil War and Reconstruction

Team 1: “Overall, Reconstruction was a Success”

- 1.) 13th, 14th, and 15th amendments...
- 2.) Civil rights act of 1866
- 3.) Freedlanders
- 4.) African Americans could now hold public office
- 5.) South returned to Union as planned

Team 2: “Overall, Reconstruction was a failure”

1. Black codes
2. Hate groups developed and flourished
3. Sharecropping not as successful as hoped
4. Southerners resented the Reconstruction causing alienation between north and south
5. Andrew Johnson didn't carry out Reconstruction as planned

Science: Acid Rain

Fact: Industries provide us with needs and wants that in some cases result in acid rain.

Team 1: The needs and wants of a community are more important than the effects of acid rain.

- Team 2: The results of acid rain are more dangerous than limiting industries' production of needs and wants.

Structured Academic Controversy

Today's Issue: US Metric Conversion

One position is: The metric conversion is necessary for the health of the US economy

The other position is: The need for metric conversion is obsolete and would actually harm the economy if businesses were mandated to change

As a result of this lesson, all participating students will:

KNOW:

- *Key vocabulary* related to metric conversion: metric, standard, SI, decimal positions, base 10 system components, conversion formula algorithm, prefixes' and their meanings (mili, centi, deca, kilo)

UNDERSTAND:

- There are patterns in measurement systems that help individuals create order, solve problems, and communicate information to others
- Changing patterns in a society are difficult to implement and result in polarized views regarding the changes
- Changing one part of a system results in necessary changes to other parts of the system (e.g., changing to metric results in the need to change measurement tools)

DO:

- Sequence from least-greatest metric and standard units
- Compare and contrast standard and metric units (greater than, less than, equal to)
- Convert standard units into metric and metric units into standard units
- Articulate a position related to the metric debate and support the position with evidence

Ideas for using this lesson:

In General Education setting:

- Alternative activity for students who compacted out of measurement lessons
- Higher tier of measurement tiered assignment
- In language arts/media when teaching supporting arguments in writing

In Gifted Education setting (Pull out or special classroom)

- Advanced content in measurement, economics
- Tie into concept-based lessons on change and conflict
- Interdisciplinary look at metric problem—math, language arts/media, economics

Prefix Symbol Multiplier U.S. & French System Example

Prefix	Symbol	Multiplier	U.S. & French System	Example
Yokto	y	10 ⁻²⁴		0.000000000000000000000001
Zepto	z	10 ⁻²¹		0.00000000000000000000001
Atto	a	10 ⁻¹⁸		0.0000000000000000000001
Femto	f	10 ⁻¹⁵	Quadrillionths	0.0000000000000001
Pico	p	10 ⁻¹²	Trillionths	0.000000000001
Nano	n	10 ⁻⁹	Billionths	0.00000001
Micro	μ	10 ⁻⁶	Millionths	0.00001
Milli	m	10 ⁻³	Thousandths	0.001
Centi	c	10 ⁻²	Hundreths	0.01
Deci	d	10 ⁻¹	Tenths	0.1
Demi		2 ⁻¹	Half	0.5
		10 ⁰	One	1.0
Double	D	2	Double	2.0
Deka	da	10	Tens	10.0
Duodec		12	Twelve	12.0
Vic		20	Twenty	20.0
Hecto	h	10 ²	Hundred	100.0
Kilo	k	10 ³	Thousand	1000.0
Myria	my	10 ⁴	Ten Thousand	10,000.0
Mega	M	10 ⁶	Million	1,000,000.0
Giga	G	10 ⁹	Billion (Miliard)	1,000,000,000.0
Tera	T	10 ¹²	Trillion	1,000,000,000,000.0
Peta	P	10 ¹⁵	Quadrillion	1,000,000,000,000,000.0
Exa	E	10 ¹⁸	Quintillion	1,000,000,000,000,000,000.0
Zetta	Z	10 ²¹	Sextillion	
1,000,000,000,000,000,000,000,000.0				
Yotta	Y	10 ²⁴	Septillion	
1,000,000,000,000,000,000,000,000,000.0				
		10 ²⁷	Octillion	
1,000,000,000,000,000,000,000,000,000,000.0				
		10 ³⁰	Nonillion	
1,000,000,000,000,000,000,000,000,000,000,000				
		10 ³³	Decillion	
1,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ³⁶	Undecillion	
1,000,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ³⁹	Duodecillion	
1,000,000,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ⁴²	Tredecillion	
1,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ⁴⁵	Quattuordecillion	
1,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ⁴⁸	Quindecillion	
1,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ⁵¹	Sexdecillion	
1,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ⁵⁴	Septendecillion	
1,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000				
		10 ⁵⁷	Octodecillion	
1,000				
		10 ⁶⁰	Novemdecillion	
1,000				

Task Card:

Structured Academic Controversy

- 1.) Read the materials in your folder. There are brief articles about Structured Academic Controversy, Lesson ideas, a complete lesson example with resources, and a student organizer worksheet to use during the lesson.
- 2.) Discuss the strategy and its uses with the others in your expert group. Use the graphic organizer to guide your discussion.
- 3.) If time permits, brainstorm other applications of this strategy that would be applicable to the students with whom you work.

SAC Worksheet

Name: _____

Metric Conversion: Necessary or Obsolete?

Your side: _____

Our best arguments to support our side:

Notes and important points after hearing the opposing view:

Best arguments for the opposing view:

The consensus statements related to our issue: