

Introductory Module on Scientific Argumentation



*How do we support students in
interacting with their peers during
argumentation?*



Agenda

How do we support students in interacting with their peers during argumentation?

- Extension – Discussion about *Try it with your students!*
1. Video & Discussion: Encouraging student interactions
 2. Activity: Analyzing data with peers
 3. Discussion: Connections between argumentation elements
 4. Session Takeaways
 - Extension – *Try it with your students!*

Extension Discussion: *Try it with your students!*

Share the lesson you developed to focus on reasoning, as well as any student artifacts you may have

Discussion Questions:

1. What went well with the lesson? Why do you think it went well?
2. What was challenging with the lesson? Why do you think it was challenging?

1. Video & Discussion: Encouraging student interactions



Watch the video below, which focuses on the interactive nature of argumentation

Discussion Questions:

- What are the benefits to having your students interact with peers during argumentation tasks?
- What challenges do you think your students might have when engaged in this work?
- What types of activities (e.g. writing arguments, science seminar) can you envision incorporating into your instruction to encourage student-to-student interactions? Why?

2. Activity: Analyzing data with peers

The task:

- Examine results from three studies to develop the strongest argument in response to the question – *When a person trains to become an athlete, how does her body change to become better at releasing energy?*
- Work with others as you engage in this task, making sure to:
 - listen to one another
 - ask each other questions
 - build off other's ideas
 - critique ideas that you do not agree with
 - be convincing

Background science content

- When the human body exercises, cells need more energy.
- The mitochondria in cells need both glucose and oxygen to release energy.
- The body systems work together to deliver glucose and oxygen to the cells in the body.

2. Activity: Analyzing data with peers

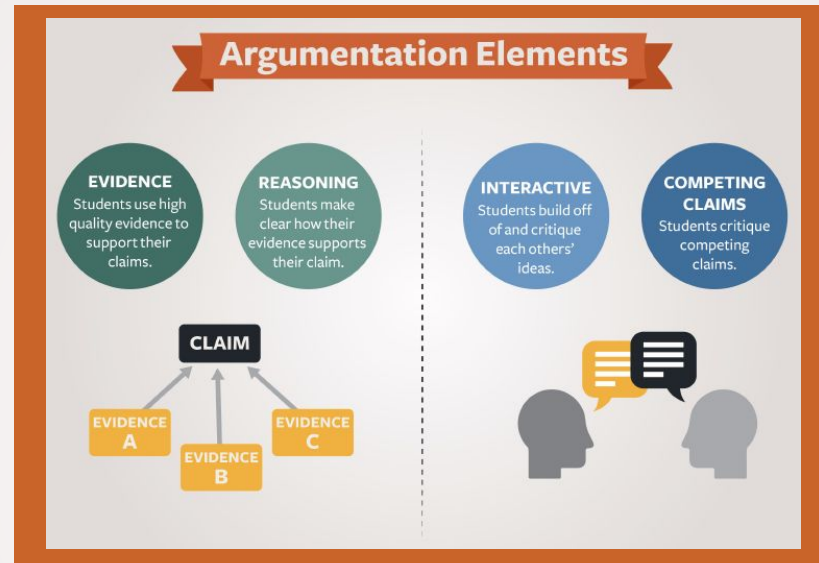
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Discussion about Activity

- What did you talk about when you engaged in this task?
- How did interacting with others influence the argument you developed?
- What types of supports do you think your students might need to engage in this element of argumentation?

3. Discussion: Connections between argumentation elements



Discussion Questions:

- How do you see these elements working together?
- What strengths do you see in using these argumentation elements in your classrooms?
- What challenges do you think your students will have engaging in these argumentation elements?
- What questions do you still have about these elements?

4. Session Takeaways

Argumentation entails students questioning, critiquing, and building off of the ideas of their peers

Interacting with peers can help students develop stronger arguments

Persuading others of the strength of a claim is an authentic goal of argumentation

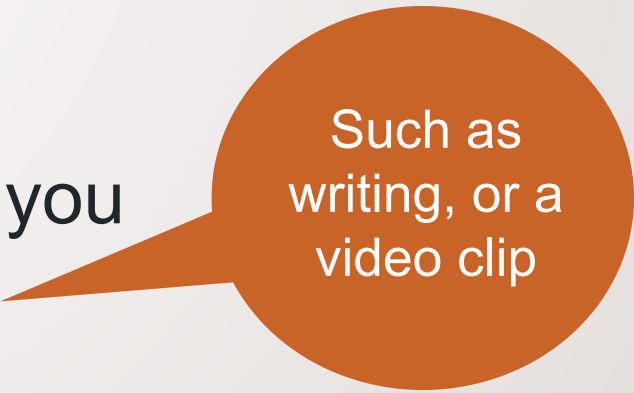
Students can convince an audience of an argument through both writing and speaking tasks



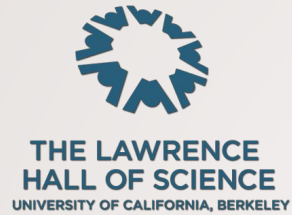
Extension: *Try it with your students!*

Develop or revise a lesson to encourage students to interact with their peers during an argumentation task. This lesson could be a science seminar, making sense of data from an investigation, writing a persuasive argument, or another activity.

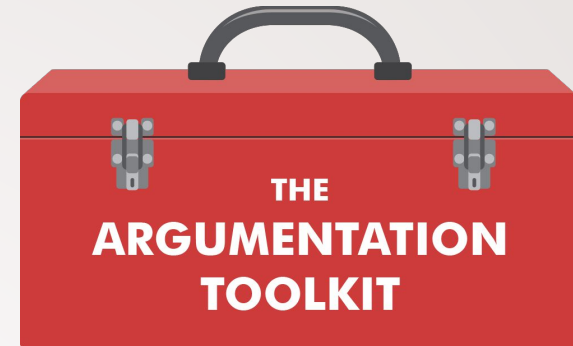
Meet with colleagues to share the lesson you developed, as well as potentially **student artifacts** of students engaged in this



Such as writing, or a video clip



The Learning
Design Group



PARTNERS AND RECOGNITION



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