



Student Conceptions and Designing Supports

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Overview of Class



Date	Topic
Nov. 27 2:30 – 3:45	Introduction to Argumentation
Dec. 4 2:30 – 3:45	Designing Argument Lessons
Dec. 6 (Thursday) 12:30 – 3:30	Student conceptions Designing supports
Dec. 11 2:30 – 3:45	Classroom talk
Feb. 12 2:30 – 3:45	Assessments and rubrics

Overview of Today



- Analyze student work
- Presentation on common student difficulties
- History argument activity
- BREAK
- Discussion of history example
- Presentation on different supports
- Introduce Assignment #2
- Design your own argument lesson
- Discussion/Wrap-up

Activity: Analyze Student Work



- Share student writing with colleagues
- Discuss the writing with your colleagues:
 - What are the strengths of the writing?
 - What are the weaknesses of the writing?
 - How similar and different is the writing across science and history?
 - What did you learn that you hope to address or apply in future argumentation lessons?
- *Hand-in Assignment #2*

Student Challenges



1. Using appropriate and sufficient evidence
2. Providing reasoning
3. Considering alternative claims/perspectives or rebuttals

Student Challenges: Using appropriate and sufficient evidence



Students can:

- Rely on their own opinions or personal experiences instead of evidence
- Have difficulty using enough or sufficient evidence
 - May focus on one piece of data
- Struggle with using different types of evidence
 - May focus on quantitative and not consider qualitative data
- Difficulty considering the reliability of evidence or treat all evidence equally (more history?)

Student Challenges: Providing reasoning



Students can:

- Omit describing why they chose or did not use certain data or information
- Have difficulty describing the link between the claim and evidence
- Struggle with including a general principle, theory or set of criteria for using evidence

Student Challenges: Considering alternative claims/perspectives or rebuttals



Students can

- Focus on one claim or side
- Have difficulty seeing that there are potentially multiple different ways or perspectives for a question or problem
- Struggle with evaluating and articulating why an alternative claim is not appropriate

Student Challenges

1. Using appropriate and sufficient evidence
2. Providing reasoning
3. Considering alternative claims/perspectives or rebuttals

Historical Argument Activity

Breakdown of Activity

1. Read and analyze the artifacts, taking notes for both sides of the argument in the T-chart provided
2. In your table group, write an argument for why or why not the atomic bombs should have been dropped on chart paper
3. Gallery Walk of written arguments
4. Short discussion about the written arguments

Historical Argument Activity

Discussion

- Considering the different arguments posted - What are some similarities, differences, strengths, etc?
- How do these historical arguments compare to scientific arguments (e.g. dinosaur example)?
- How would you implement this in your classroom?

BREAK



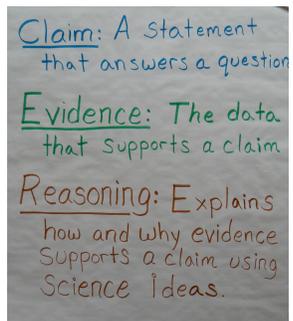
Designing Argument Lessons

- Step 1: Identify the question and data
- Step 2: Imagine the ideal student response
- **Step 3: Create classroom supports**

Classroom Supports

- Visual Representations
 - E.g. poster
- Curricular Scaffolds
 - E.g. sentence starters, prompts, graphic organizers
- Activity Structures
 - E.g. Specific ways to structure instruction such as time to work in pairs/groups before writing individually or engaging in a full class debate

Visual Representation



Claim: A statement that answers a question

Evidence: The data that supports a claim

Reasoning: Explains how and why evidence supports a claim using science ideas.

Curricular Scaffolds

- Characteristics to consider:
 - General and content support
 - Detail and length
 - Fading
 - Structure
 - E.g. explanation, sentence starter or question

Curricular Scaffolds

Conclusion:

Which bird beak is the best adaptation for this environment? Why?

Claim

[Write a sentence stating which beak is the best adaptation for this environment.]

Evidence

[Provide scientific data to support your claim. The evidence should include the amount of different types of food that the birds with different beaks ate.]

Reasoning

[Explain why your evidence supports your claim. Describe what an adaptation is and why your evidence allowed you to determine the beak was the best adaptation.]

CWA Grade 6 Human Body Systems: What Keeps Us Healthy?

¶ 1 Claim and evidence
Introductory sentence: *In your own words*, explain what this assignment is asking you to do.

Claim (*What* you think): Choose one of the three student's statements that you think is most true about how the human body works.
I think...

Evidence #1 (*Why* you think so.) Identify and describe evidence from the activities, experiments, readings and other sources about the human body that supports your claim above.

Evidence #2 (*Why* you think so.) Identify and describe another piece of evidence from the activities, experiments, readings and other sources about the human body that supports your claim above.

¶ 2: Reasoning and Conclusion

Introductory Sentence: Explain *how* the evidence you cited in the first paragraph supports your claim.

Reasoning #1: defend and explain how your first piece of evidence supports your claim.

Reasoning #2: defend and explain how your second piece of evidence supports your claim.

Concluding sentence(s): Summarize your answer and thinking about the assignment.

Nussbaum (2002)

ONE OR MORE STUDENT EVIDENCE ITEMS

Yes _____ Date _____

Teacher's Question:	Evidence 1	How does your evidence relate to question?	Report your opinion here:
	Source:		
	Evidence 2	How does your evidence relate to question?	
My Opinions:	Source:		
	Evidence 3	How does your evidence relate to question?	
	Source:		

Discussion Scaffolds



- **Claim**
 - What is your claim?
- **Evidence**
 - What is your evidence?
 - Is the evidence appropriate?
 - Is the evidence sufficient?
- **Reasoning**
 - How does the evidence support the claim?
 - What is the link between the claim and evidence?
- **Rebuttal**
 - Is there an alternative claim or explanation?
 - Why is that alternative not appropriate?

Activity Structures



- **Preparation for writing or talking**
 - Structures to help students organize and make sense of the data (e.g. table, t-chart, etc.)
 - Working with a pair or a group to talk and help make sense of the argument
- **During writing and talking**
 - Structures for feedback or critique from teacher or peers (e.g. questions or prompts for talk, structure for feedback on writing – circle claim, number evidence and underline reasoning).

Classroom Supports



- **Visual Representations**
 - E.g. poster
- **Curricular Scaffolds**
 - E.g. sentence starters, prompts, graphic organizers
- **Activity Structures**
 - E.g. Specific ways to structure instruction such as time to work in pairs/groups before writing individually or engaging in a full class debate

Assignment #2 – Due Feb. 12



- **Design and then videotape or audiotape an argument lesson.**
 - Select a section that you feel was more successful in terms of a full class discussion. Transcribe a one-page section (approximately 3 minutes) of the video/audio. Bring four (4) copies of the transcript to the 4th workshop.
 - Jenny said there are video cameras you can borrow from the IT person at your school

Assignment #2 – Due Feb. 12



- Observe science or history colleague teaching argument lesson
 - Jenny said that your principals agreed to provide coverage for the peer observations. That you will need to set this up in your schools.
- Complete corresponding reflection for the assignment.

Activity – Design Argument Lesson



- Design an argument lesson to teach in your classroom.
 - This could specifically be the lesson you want to videotape or it could be a lesson you want to try out before then.
 - Talk to your science/history colleague in terms of similarities and differences that you might want to bring up across the disciplines (e.g. definitions, graphic organizers, visuals).

Conclusion and Discussion



- Students can have a variety of challenges with engaging in argumentation
- Designing Argument Lessons
 - Step 1: Identify the question and data
 - Step 2: Imagine the ideal student response
 - Step 3: Create classroom supports
- Next Time:
 - Classroom talk (next Tuesday, Dec. 11)
- Questions???

Tuesday – Class 4. Dec. 11



- Read:
 - McNeill & Krajcik, Chap. 4
 - Barton & Levstick (2003) article

Contact Information



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