



Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning to STEM Audiences

Video Analysis Worksheet

Title of Video: Collaborative Learning Video

Grade Level: 11th/12th

Video Length: 21:53

Subject: AP Calculus

Video Description: This video showcases a group assessment in which students work collaboratively to solve complex calculus problems, demonstrating both mathematical reasoning and teamwork skills in a student-centered learning environment.

Observations

Instructions: Watch the video clip carefully, taking notes on the collaborative learning practices you observe. Then complete this worksheet to analyze the effectiveness of these practices and reflect on how you might apply similar strategies in your own teaching.

General Observations:

| Question | Consider | Notes/Specific Examples |
|---|--|-------------------------|
| What collaborative learning strategies did you observe in the video? | <i>The activity set up, think-pair-share, collaborative problem-solving, peer teaching, etc.</i> | |
| How did the teacher facilitate student interaction and group work? How does the teacher's role change as the collaborative experience evolves? How did the teacher's transition to facilitator impact the students? | <i>Instructions given, monitoring strategies, intervention moments, scaffolding provided...</i> <i>What was different about the students as the teacher's role changed?</i> | |
| How did students demonstrate active listening or build on each other's ideas? | <i>Verbal and nonverbal cues, questioning techniques, respectful disagreement</i> | |
| What signs indicated that meaningful learning was taking place? | <i>Quality of student discussions, questions asked, connections made, work produced</i> | |

Reflection and Connection

1. How do the collaborative practices shown in the video align with what you've learned about effective teaching? *Reference specific educational theories or best practices from your coursework.*

2. What aspects of this lesson would you feel confident trying in your own classroom? Why?

3. What might you do differently if you were leading this activity?

4. How did the classroom culture support or hinder collaboration?

Consider: Physical environment, established norms, teacher-student relationships

5. What did the video teach you about the teacher's role in promoting equitable participation?

Consider: How did the teacher ensure all voices were heard? How were diverse learners supported?

Application and Growth

1. How can you adapt similar collaborative practices for different age groups or content areas? *(Be specific)*

2. What challenges might arise when implementing these strategies, and how might you address them?

3. How would you assess individual contributions and group outcomes in this type of activity?
Consider both formative and summative assessment approaches

4. In what ways can collaborative learning promote social-emotional growth as well as academic learning?

5. How might you create a safe and inclusive environment that encourages all students to participate fully?

6. Imagine integrating technology into a collaborative activity.

- a. When is a good time to leverage technology?
- b. How would the technology change the collaboration?
- c. What evidence would you look for to indicate meaningful learning/interaction is occurring?

Overall Evaluation

1. Identify some strengths of the collaborative approach demonstrated:

2. What are some key takeaways you could bring to your own teaching practice?

3. What are your immediate next steps to implement 1 or more of these strategies into your practice?

4. What questions do you have?



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Washington, D.C.:

1001 Connecticut Ave. NW, Suite 935
Washington, D.C. 20036

Redwood City, CA:

702 Marshall St., Suite 340
Redwood City, CA 94063

Website: <https://digitalpromise.org/>

Email: mc2@digitalpromise.org

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