A Framework for Democratic Science Teaching: Theory in Operation

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Understanding Democratic Science Teaching	Student Voice	Shared and Transformational Authority	Critical Science Literacy
Democracy applied to science pedagogy	Students have a right to free speech: the right to debate and question competing ideas, using evidence	Teachers acknowledge and leverage student intellectual property - "funds of knowledge" and prior science knowledge. Students have choice in what they learn and how they extend and apply their science knowledge	Marginalized students move towards the center of science classrooms and engage in critical subject agency – becoming subject matter experts who leverage their knowledge for small- and large-scale change
Operationalizing democratic science teaching in classrooms	How, when, how often and why students express voice, especially as evidence-based opinion, and how and when teachers leverage this voice	When, how and how often curriculum is situated in students' life experiences, home life, background and cultural/social identities. Numbers and types of choices available to students in their science classrooms	How, when and how often students investigate science and science education from a "critical" lens, demonstrate subject-matter expertise and engagement and leverage these to reflect and act on injustice in their lives

Applying the Framework to Your Practice

Applying Democratic Science Teaching	Student Voice	Shared and Transformational Authority	Critical Science Literacy
Examples from your classroom			
Barriers to implementing these principles			
Strategies for overcoming barriers			

Reflections on the Framework

1. What do you not completely understand about the Democratic Teaching Framework (as described by Edna Tan and the readings)? Discuss as a group to clarify.

2. Are there aspects of the Framework that you don't agree with? What are they and why do you think that (cite evidence)?

3. Are there additional principles that you use in your practice that enhance or enrich this Framework? Give examples of them and how you apply them.

4. What will you do differently because of what you now know about the Framework?

5. Describe three different students you know and how this Framework would help you differentiate learning experiences to help them engage in science? Use real examples if you have them.