Sustaining an Equitable Online Community for Sensemaking

FRAMING THE WORK:

Establishing a culture of belonging serves as a foundation for equitable and socially-just science classrooms. Research is clear that trusting relationships are needed to support a culture of inquiry, talk, and willingness to share ideas and openness to new thinking. Development of this culture requires time and investment in face-to-face classroom settings, and additional challenges in a virtual classroom. Considering the importance of initiating and sustaining a dynamic learning community, we are offering some considerations to **support you** **(first and foremost)**, your students, and your science community.

ESTABLISHING AND SUSTAINING COMMUNITY

❏ **Relationships - YOU belong!** *You don't have to change who you are to be here.*

   ○ Your voice, experiences and thinking are *assets* to our learning community.

   ○ Participation and presence are not transactional in nature.

   ○ Choose community and connection first over content and correction.

***Equity Matters**: "The diverse customs and orientations that members of different cultural communities bring both to formal and to informal science learning contexts are assets on which to build—both for the benefit of the student and ultimately of science Itself." - *K-12 Science Framework*

More of...	Less of...	Looks like in the Classroom
● Acknowledging the need for student-student interactions (social and academic) ● Flexibility in how students "show up" to our spaces ● Options for students to share science interests	● Synchronous time as lecture ● Framing questions and their responses as wrong or right ● Addressing misconceptions in the moment	● **Forming STEM identities**: Bios from "scientists" of different genders/backgrounds or Who I am… as a scientist? ● **Support for diverse learners:** Allow pre or post chat designated ELD/special needs students ● **Honoring lived experiences:** Schedule regular time for students to make connections to home or culture ● **Sensemaking:** allow for collaborative opportunities online using collaborative whiteboards, online gallery walks, chat, shared documents, whole group sharing

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❏ **Ownership of Learning:** Connecting science to my space, my life, my community.

    ○ Access for student voice, choice, and public displays of thinking.

    ○ Promote a growth mindset to track learning and reflection.

    ○ Encourage goal-setting as an individual, with family, and teachers.
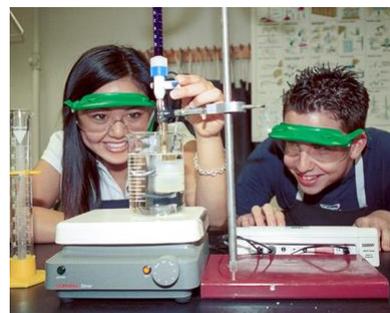
*Equity Matters: "The issue of connecting to students' interests and experiences is particularly important for broadening participation in science." *- K-12 Science Framework*

More of...	Less of...	Looks like in the Classroom
● Student - student conversations ● Choice in investigations, examples, products, evaluation ● Student-generated questions ● Chances to reflect on what I or the class has learned over time	● Less of teacher generated study guide questions ● Students copying notes without interaction or talk ● One-and-done graded assignments ● Teacher-scripted investigations	● **Setting and Tracking Goals:** Learner identifies and tracks progress as to what they want to learn or co-construct goals ● **Communication of Expectations:** Frame lesson by connecting to the phenomenon and driving question ● **Awareness of Thinking**: Allow time for students to reflect on what students already know (I used to think . . . now I think . . . because . . .) ● **Sensemaking:** Students use digital journals/portfolios, choice menus, models [1] [2], and other resources to demonstrate how thinking has changed over time

❏ **Culture of Talk:** Student thinking is revealed and refined through talk and conversation.

    ○ Student-to-student talk *IS* learning.

    ○ All students have something to contribute to discussion.

    ○ Teachers frame the purpose of talk; students drive the conversation.

*Equity Matters: "Conversation is not just for good talkers; everyone has a right and responsibility to contribute" *- Talk Science Primer*

More of...	Less of...	Looks like in the Classroom
● Student-student conversations ● Teachers support active listening, paraphrasing and clarifying ● Language choice in sense-making: gestures, symbols, or code-switching ● Use of academic language in context for efficiency	● Teacher talking ● Focus on academic vocabulary as the outcome ● Recitation, single right answers, and IRE (Initiate - Response - Evaluate). ● Sharing answers to questions posed earlier	● **Teacher as the facilitator:** use questions to help students share, elaborate, and consolidate their thinking. Talk Moves Flow Chart, Talk Moves, Talk Formats ● **Structured Talk**: Socratic Seminars, class presentations with feedback, science article summary, fish bowl ● **Synchronous online talk opportunities**: whole group share, breakout rooms, chat ● **Asynchronous** talk opportunities: comments on shared docs, videos; posts on forums, peer feedback

❑ **Digital Classroom Culture:** Sense-making requires a space where thinking is valued.

- ○ Learning is messy, be patient with each other.
- ○ Developing shared values as a class helps everyone to feel included and know how to participate**.**
- ○ Culture takes time to develop and must be sustained.

*Equity Matters: "Create an atmosphere of civility and personal safety" - *Ambitious Science Teaching*

More of...	Less of...	Looks like in the Classroom
- Inviting diverse and divergent thinking - Develop student generated class norms or working agreements and revisit periodically - Lessons and materials that lend themselves to virtual classrooms - Digital communication can take multiple forms at the same time - Warm-ups about making connections - Use of private chat for addressing student concerns	- Correcting or shutting down "incorrect" thinking - Teacher generated class rules - Trying to fit cookbook lessons into an online format without thoughtful revision for sense-making. "Zoom" fatigue - Expecting all students to interact in the same way(s) - Warm-ups about content	**Clear and over-communicated expectations:** Post expectations/instructions in the presentation, the workspace, the chat, as well as verbally clarify and check for understanding **Student and teacher partnership in creating culture:** - Teachers and students frequently encourage others through verbal affirmation, smiles, and specific words of encouragement. Ex: "I'm so glad you figured out how to add your ideas to the Google doc." - Co-constructed learning using summary walls, rephrasing and elaborating on group's thinking, 5-10 minutes teacher speaks and 2 minutes of **SSWIRL**ing (**S**tudents **S**peaking, **W**riting, **I**nteracting, **R**eading, **L**istening) **Flexibility with meeting students where they are** (see below*)

*Remaining flexible in the virtual setting:

- **Videoconference Overstimulation** - Students may feel over stimulated seeing so many faces at the same time.
  - ○ Try the speaker view, pin video, or minimize the screen.
  - ○ Encourage nonverbal cues, emojis, communication cards or signals to communicate thinking; i.e. thumbs up for agreeing to a question or response, or basic hand signals for quick formative assessments.
- **Videoconference Shame** - Users might feel embarrassed or uncomfortable sharing their surroundings with others.
  - ○ Provide a choice whether the camera is on or off. Clearly communicate when video is recommended or required; i.e. opening-closing class, breakout rooms.
  - ○ Students' surroundings may be too loud or distracting. Try using the chat box or headsets with mics.
  - ○ Model *patience* with interruptions and turn taking - it's hard to gauge when someone is going to speak.
- **Bandwidth and connectivity** - Home internet usage, bandwidth, and quality of connection varies.
  - ○ Survey families and learn their needs, wants and challenges.
  - ○ Train students how to address challenges i.e. turning off cameras, lowering camera resolution or using ethernet versus WiFi. Dig deeper into planning for bandwidth and connectivity issues.