



Discussion Questions Equity in STEM Education: The Connection to Culture Webinar on May 27, 2020

Event Website: <https://ngcproject.org/equity-in-stem-education-the-connection-to-culture> Marisa

Question: What ideas for communal learning could you see being implemented into STEM activities?

Rita Karl: Citizen science comes to mind right away.

Adrienne Provenzano: COVID-19 as a case study and opportunity for problem solving.

Katherine Weber 2: It is important to include things from the community that the students can relate to in the design scenarios. I

Jessica Neely: Finding ways to reach out to smaller community partners to work together to reach more students

Katherine Weber 2: Have the students work with people from the community while working on a community related issue

Timothy Fowler: I like the idea of incorporating communalism as a design principle...how does what we do connect to us, our community, our culture, our world?

Marisa Garcia: student-led learning. give students more ownership over their learning

Jen Watson: Local citizen science studies

Rita Karl: Action research!

Ariana Ehuan: Lab activities! Further ensuring that students understand how real life labs have many scientists working together and how we can simulate that in the classroom. Also encouraging student groups to develop their own ideas for hypotheses they could test

Karla Barraza - Oregon MESA: I think adding a perspective to our students projects as to the impacts that their projects could have on the community would help them understand the weight of what an invention could ultimately do

Adrienne Provenzano: Connect with local non-profit for relevant projects

Marcie Benne: I would like to study the leadership of communal learning.

Jennifer Stancil: I used to design programs for girls with altruism in mind. An example - if a girl balks at math, let her know that there is enough food in the world for end poverty, but we need formulas about how to get it to everyone. It changes the dynamic. Communalism seems to offer that altruism, but in your immediate space. I love this concept and I loved the designs from the students.

Jennifer Stetler: Communal learning overlaps with other teaching strategies and theories. I am not seeing a benefit of this strategy without learning specific frameworks for implementations and tracking student achievement.

Lauren Borer: I hope to incorporate service learning and mitigation/adaptation projects into our current climate change curriculum to give the students ownership of a large, heavy topic.

Cori Roton: Finding ways to show kids how computer science can impact our community...How what they learn can impact them specifically.

Cheri Burch: Agreed, citizen science activities.

Carol Davis: Seek (in our case) tribal knowledge that can be used to build community concepts.

Katie - Iowa: Providing time for the kids to do their own research and making prototypes

Manny Leon: Ensure that students knowledges, skills, and abilities are valued and applicable. Frame challenges and activities to allow them use them in participating in both.

Laura: I think having a share out outside of their usual STEM community of their ideas and learning experiences would be great for the community but also for their skills building

Rebecca Haynes Oliver: connecting with local community projects and organizations

Rita Karl: Empathy for others.

Katherine Weber 2: It is important for the students to take the time to observe human behaviours and the impacts of these behaviours on the solutions they create
William Fee: Citizen science as already mentioned, a survey of kids for community projects; actually setting the kids loose in things like biotechnology, but tying it back to things like food deserts
Rebecca Haynes Oliver: learning how to create and sponsor community events
Joanne M Trombley: Local community projects are key to getting students involved.
LJ: teach team work skills
DaNel Hogan: Use communal learning in our teacher PD.
Jennifer Stancil: I'd love to see another webinar as it relates to culture with research regarding SES and another regarding geographic engagement (esp. rural populations)

What are some specific actions that you will take to make your program or your teaching/facilitating practices more culturally responsive?

Rita Karl: Learn to talk about your own cultural background; learn to invite students to talk about themselves in a safe space.
Timothy Fowler: Assess what we are currently doing to see where we can make improvements
Lauren Borer: making sure the programs are designed for collaborative work that engages all students.
Jenniffer Stetler: Not sure because I am not sure my STEAM curriculum that I curate for class would differ from incorporating the 5 C's of 21st century
Timothy Fowler: Read the articles/learn about the orgs shared today to expand my idea of what is possible
Katie - Iowa: Building meaningful and trusting relationships with the kids in our library.
Manny Leon: Look more into the levels of culture and share with my teachers. Look for best practices that can be modelled and incorporated into PD sessions.
Laura: Maybe the students can identify a household issue they're dealing with (i.ee. plumbing or flooding) and could help design a better method for solving the issue
Cori Roton: I am really going to be looking for ways to make my classroom (computer science) much more collaborative. Not sure yet what that will look like, but am brainstorming ideas.
Rita Karl: Connecting STEM to social justice.
Lydia Katzel: Encourage students to tell the group what they think is most important to learning
Ellie Marois: More icebreakers to start to get to know the students before diving into the activities
Carol Davis: Seek ways to bridge between community, middle and high schools and professors. Shared curriculum, student camps, community speakers.
Carmen Stanton: Understanding cultural background
Cheri Burch: Reach out to a Native American woman raised on a reservation or pueblo to be a part of curriculum development.
William Fee: Working with parents; informally evaluating where the kids are in understanding; letting the kids pick the way to the task and eventually letting them pick the task
LJ: i learned that it is necessary to look beyond the surface level of culture and to try to find commonality, and thus create culturally responsive classrooms
Ali Jackson: partnering!
Joanne M Trombley: Ask for student input for my Engineering Design Challenges. Have students do some research on an issue important to them and that will be their design challenge.
Shelly Hope: I need to research black and brown culture and incorporate as appropriate. Or, better yet, ask kids and families to share their culturally relevant experiences...to be the experts.
Arlene Nededog: Develop a training program for faculty on cultural relevancy
Rita Karl: Inviting role models from cultures that mirror those of your students.
Mary McMahan-Chappell: student led learning that allows them to solve problems they are invested in
Jen Watson: Building rapport with students and focus on activities with cultural or local relevancy
DaNel Hogan: Consider how this fits into our teacher professional development.

Ariana Ehan: Incorporating student choice into assessment activities so they can choose how they are assessed on their knowledge

Maggie: I loved how DeLeon Gray talked about serving the community through the way you work. It is important to not make assumptions and to involve the community in the creation of STEM curriculum that is relevant and celebrates our families cultural knowledge. Making a welcoming space where everyone teaches and everyone learns from each other

Keli Christopher: If you are doing the exact same thing for urban students, poor students, people of color, that you are doing for wealthy white students, then you need to engage some professional advice.