Active Listening Pair Work

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Host Organization:
SEMI Foundation

ETP Type:
Classroom, in-person

Subject/Grade:
STEM 6/7/8

Published ETPs
Active STEM Learning and 21st Century Skills

Abstract (~150 words)

The goal of this ETP is to have students practice "Active Listening Skills." It is part of a unit meant to train students in mentorship skills and with the goal of eventually beginning mentoring younger students to increase participation in STEM classes. Other lessons in this unit include many of the "soft skills" (presentations, collaboration, constructive feedback; appreciative inquiry and using open-ended questions. etc.) mentioned by the Industry Experts we were lucky enough to interview in our work at SEMI.org.

Given the current shortage of semiconductor chips and dearth of materials scientists, electrical and chemical engineers and other positions, our goal is to do outreach within our own student communities and increase the participation in STEM programs by those typically under-represented student groups, as this industry is actively seeking to hire them in the future. By teaching our students mentorship and presentation skills we will be hopefully preparing them to enter this essential industry.

This lesson uses a short video clip, class discussion and partner work with sentence frames.

Focal Content & Supporting Practices

CCSS.ELA-LITERACY.SL.7.1
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6/7/8 topics, texts, and issues, building on others' ideas and expressing their own clearly.

Supporting Practices

LEADERSHIP AND RESPONSIBILITY Guide and Lead Others • Use interpersonal and problem-solving skills to influence and guide others toward a goal • Leverage strengths of others to accomplish a common goal • Inspire others to reach their very best via example and selflessness • Demonstrate integrity and ethical behavior in using influence and power Be Responsible to Others • Act responsibly with the interests of the larger community in mind.

STEM students who will be involved in our community action project to increase the diversity, equity and inclusion in our district would likely be the Robotics Team as well as girls who have been involved in our STEM program, including the manufacturing and computer science electives. We will focus on mentorship skills but will also support those with public speaking opportunities, group-problem-solving workshops, social action training if possible.

21st Century Skills and Applications (1 - 2 bullets)

Communication and Collaboration
Problem Solving

Measurable Objective(s)

Students will use sentence frames to practice with their classroom partners the Mentorship Skills of: Active Listening.
(Constructive Feedback; Appreciative Inquiry and Using Open-ended Questions in other lessons in this unit.)

Formative Assessment(s)

Students will answer the class poll: "How do you know when someone is actually listening to you?"

Students will participate in Elbow Partner reflections after each skill is practiced.

Students will each demonstrate and model best / worst practices for specific mentor skills to show that they are developing as mentors.

Summative Assessment(s)

Students will answer an Exit Ticket: What they were more comfortable doing, sharing or listening to their partner? What skills they feel like they need more practice with and what was most difficult skill they practiced in the lesson.

Fellowship Description (300-500 words)

My fellowship involved working for SEMI.org. SEMI is an industry organization that has members all the way up and down the supply chain of the semiconductor industry. Their stated mission is "To advance the growth and prosperity of our member companies' ecosystems by constantly conceptualizing, developing and providing high-value products, services and solutions." As summer fellows, we had the privilege of interviewing many semiconductor industry experts who very generously shared their experiences of how they entered the industry, how they ended up in their current position, what their normal day looks like, who they considered to be important mentors and what they felt should be going on in classrooms to encourage more kids to go into engineering fields. We worked collaboratively as fellows and had to use communication and presentation skills.

After several weeks of interviews, the fellows then worked on creating a curriculum that could hopefully be used by SEMI's "High Tech University," their outreach group that visits high schools and universities to encourage students to enter the engineering fields and go into the semiconductor industry. As previously mentioned, the semiconductor industry is experiencing a shortage not only of the chips that they need to produce 24 hours a day, but more importantly they're experiencing a shortage of physical and chemical engineers to continue improving the manufacturing and marketing of these chips. What we heard repeatedly from the experts we interviewed was the importance of people having a particular skill-set beyond their engineering abilities. These skills, known as "soft skills" came up over and over, such as communication skills, the ability to present ideas and defend them in a collegial manner, the ability to collaborate and work with a variety of personality types and the ability to persevere against all odds.

I was specifically working on the "Diversity, Equity and Inclusion" piece of our curriculum to actively encourage more traditionally underrepresented students to not only take STEM classes but eventually consider the engineering field as a major in college and then hopefully as a career. In creating a mentorship program for STEM students, our goal is to do outreach where younger kids can hopefully see themselves as middle-schoolers in STEM classes or extracurriculars such as our Robotics Team. We believe strongly that if a student "can see it they can be it," so we want to create a community of role models that will create excitement in their younger peers about participating in our STEM programs.

Fellowship Connection to School/Classroom (300-500 words)

A 6th grade student recently told me that this year was her first exposure to a STEM class and she felt that other kids already understood coding and had been exposed to it and it was frustrating to "be the one who always needed the teacher's help." While there were as many girls as boys in her class, kids coming from certain feeder schools felt themselves "already behind" in their knowledge base.

I'd like to create a mentorship program for our students so they could try to address some of our district's particular inequities by encouraging coding clubs and doing outreach visits, maybe by presenting their robotics work.

At the end of this mentorship unit, I'd like students to do some reflection on where they felt most successful, how they would change their work if they got to do the process again etc. Ideally, they'll be seeing their mentees in a year or two on campus and feel some pride in being role models, along with creating a community and having confidence in their efforts. By participating in this project, my goal is to instill in students the ability to collaborate, be helpful, speak publicly and be able to illustrate many of the real-world skills that the industry experts we interviewed at SEMI.org spoke of as the necessary “soft-skills” for future engineers coming into the semiconductor field. I feel that the industry experts who gave their time so generously to us were a model that I’d like to see our STEM students emulate. They care about more equity in education, and they want to do something to improve our community, so my hope is that with the mentorship program we will be mirroring the kind members from SEMI.org who worked with us to share their ideas about how to improve education and ultimately their industry with our students in the future.

Instructional Plan (This is the bulk of your ETP and may take several pages.)
Plan something that can be done in-person.

Link to Lesson Plan

Additional Supports
Tools to meet the needs of all learners (SEL, distance learning, ELL, SPED)

See slides 8 & 9 in Materials Slide Deck for Sentence Frames/Rubric for scaffolding to meet needs of all learners.

Active Listening Slide Deck

Materials
Include links to all files within this ETP

Active Listening Slide Deck

References

https://www.youtube.com/watch?v=3_dAkDsBQyk
https://www.calmsage.com/how-to-practice-active-listening/

Keywords

Mentors
Active Listening