

Equitable and Inclusive STEM Teaching Practices Key Takeaways

On Thursday, March 30th, Boston After School & Beyond and Sociedad Latina hosted a workshop on equitable and inclusive STEM teaching practices. During the workshop, Jenna Nackel of Sociedad Latina presented strategies to support English Language Learners, and participants discussed *But That's Just Good Teaching! The Case for Culturally Relevant Pedagogy*, by Gloria Ladson-Billings, and the article's relationship to STEM Education. See below for key takeaways from the workshop.

- ❖ Click [here](#) to access a compendium of strategies to support English Language Learners created by Sociedad Latina

[But That's Just Good Teaching! The Case for Culturally Relevant Pedagogy Key Takeaways](#)

Gladson-Billings outlines three components to Culturally Relevant Pedagogy:

“(a) Students must experience academic success; (b) students must develop and/or maintain cultural competence; and (c) students must develop a critical consciousness through which they challenge the status quo of the social order.”

- “[S]tudents need to be “centered (Asante, 1991; Tate, 1994) or the subjects rather than the objects of study.”
 - Allow students to *Define Problems/Ask Questions* to launch STEM units. Show an interest in students’ school communities, neighborhoods, and families, and reinforce that STEM is applicable in all of these places.
- “She did not ‘import’ role models with whom the students did not have firsthand experience. She was deliberate in reinforcing that the parents were knowledgeable and capable resources. Her students came to understand the constructed nature of things such as ‘art,’ ‘excellence,’ and ‘knowledge.’ They also learned that what they had and where they came from was of value.”
 - Try identifying local experts, family members, and community leaders to serve as mentors during STEM projects. Think carefully about the impact of “importing” role models from outside communities.
- “In her sixth grade classroom, Lewis encouraged the students to use their home language while they acquired the secondary discourse (Gee, 1989) of ‘standard’ English. Thus, her students were able to express themselves in language (in speaking and writing) with which they were knowledgeable and comfortable.”

- As students *Engage in Argument from Evidence* and *Obtain, Evaluate, and Communicate Evidence*, value discourse patterns, languages, and modes of interaction that students are comfortable with. Be aware of the ways white, middle-class norms can define “acceptable” scientific discourse.
- “Beyond those individual characteristics of academic achievement and cultural competence, students must develop a broader sociopolitical consciousness that allows them to critique the cultural norms, values, mores, and institutions that produce and maintain social inequalities.”
 - STEM practices like *Asking Questions/Defining Problems*, *Analyzing and Interpreting Data*, and *Planning and Carrying out Investigations* can be used as tools to help students examine society, power structures, and inequality critically. Students can also *Design Solutions* to problems they identify based on their investigations, and *Engage in Argument From Evidence* and *Communicate Information* while discussing these issues with others.

**Italics* denote a Science/Engineering Practice