Selecting Anchoring Phenomena for Equitable Three-Dimensional Teaching

Design of Module:

- This module provides a process that could be used in identifying phenomena that could be used to anchor a unit of instruction that supports three-dimensional student learning.
- This module is divided into five sessions. Each session builds upon one another to provide a scaffolding in understanding and identifying phenomena.
- This module is designed to be administered in 45 min PLC sessions. However, the timeline and work sessions can be adjusted to best fit the systems schools and districts already have in place.
- Module facilitators might be a department chair, teacher leader or curriculum specialist, etc. With that in mind, the facilitator notes include content information and potential talking points intended to provide support to a facilitator who does not have extensive science experience.
- Pre-service teacher faculty may wish to utilize this module as pre-service teachers are thinking about unit and lesson development.

Goals of Module:

- Explain to a peer the role of phenomena and design challenges in science teaching, with a particular focus on equity and justice.
- Generate working definitions of phenomena, design challenges and disciplinary core ideas.
- Identify phenomena related to a bundle of performance expectations.
- Experience how phenomena can be introduced at the start of a unit in order to launch a student-driven series of questions.

Session A: Experiencing an Anchoring Phenomenon

- Experience how phenomena can be introduced at the start of the unit, in order to launch a student driven series of questions.

Session B: What are Phenomena?

- Generate working definitions of phenomena, design challenges and disciplinary core ideas.
    - Participants participate in the Phenomenon Game to uncover principles that distinguish between these three ideas.
- Explain to a peer the role of phenomena and design challenges in science teaching—with a particular focus on equity and justice.

Session C: Analyzing Performance Expectations

- Analyze a bundle of performance expectations for each of the three dimensions.
- Brainstorm phenomena related to the bundle of performance expectations.

Session D: Selecting Phenomena

- Select a phenomenon related to a bundle of three-dimensional standards we have analyzed.
- Use tools to elicit student interest and related experiences to help select a phenomenon.

Session E: Taking Stock

- Experience on way to introduce phenomena.
- Build an initial sequence for a unit that is based on student questions.
- Help students make connections to their own ideas and experiences.

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