Intentionally Aligned to SEEd Standards

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BACKGROUND

Intentionality is key to successfully facilitating three-dimensional learning in a student-centered classroom. Intentionality means that the planning for and facilitation of instruction provides both teacher and student clarity regarding learning expectations framed in each of the three dimensions (i.e., SEPs, CCCs, and DCIs). The benefits of intentionality are (1) teachers become more focused on the expectations of the standards and (2) students become more deeply engaged in the learning goal. The ultimate objective is for students to make sense of phenomena using the three dimensions.

Ensuring that the curriculum intentionally aligns to the SEEd Standards requires more than just writing the standard into a lesson plan. Intentional, three-dimensional instruction starts with students observing accessible and culturally relevant phenomena.

Intentional planning ensures that students are able to make sense of science concepts by engaging in scaffolded tasks that contain science and engineering practices, using crosscutting concepts to frame their thinking, and learning and applying disciplinary core ideas to explain phenomena.

While a given SEEd standard identifies a specific SEP and CCC, instruction for the standard should utilize multiple SEPs and CCCs as needed to support student sensemaking of the phenomena. However, the three dimensions identified in the standard should be the focus of assessment.

CLASSROOM APPLICATION

When observing a classroom in which the instruction is intentionally aligned to the SEEd standards, the following **student actions** should be visible:

- Actively making sense of a phenomenon or solving a problem.
- Engaging in the science and engineering practices.
- Framing thinking through the crosscutting concepts.
- Student discourse centered around disciplinary core ideas and sensemaking.
- Applying science concepts to real-world situations.

To support instruction that is intentionally aligned to the SEEd standards, **teachers** plan using backward design by:

1. Using the USBE core guides to unpack the learning intentions of the standard.
    a. Determine the learning expectations of the SEPs, CCCs, and DCIs.
2. Identifying a student accessible and DCI-aligned phenomenon.
    a. Write an explanation for the phenomenon to ensure it aligns to the DCI.
3. Identifying the conceptual understandings needed for students to reason about the phenomenon.
    a. Select tasks that organize and scaffold the conceptual understandings to promote student sensemaking.
    b. Ensure every student learning objective and task has intentionally chosen SEPs, CCCs, and DCIs.
4. Evaluating student learning using three-dimensional assessment.
    a. Include formative assessments within the learning sequence.
    b. Consider using a new phenomenon as a summative assessment.

IMPLEMENTATION RUBRIC

Basic	Emerging	Effective	Exceptional
Teacher focuses on direct instruction and confirmation lab experiences not connected to the student exploration of a phenomena.	**Teacher** focuses on direct instruction and confirmation lab experiences, which may be directly connected to a phenomena.	**Teacher** focuses on student discourse to learn science concepts, which may not be directly connected to a phenomena.	**Teacher** focuses on students exploring phenomena using practices and student discourse to learn science concepts.
Student activities do not contain SEPs and CCCs with the DCIs and are not present within the learning objectives.	**Student** activities use either the SEPs or CCCs with the DCIs and are not present within the learning objectives.	**Student** activities integrate the SEPs and CCCs with the DCIs and are present within the learning objectives.	**Student** activities integrate the SEPs and CCCs with the DCIs, are present within the learning objectives, and are communicated to the students.

RESOURCES

Core Guides
SEEd Standards
3D Science Observation Rubric
Science Communication Rubric