

Session 4: Teaching and Learning

Session Overview

This is the first of the *Designing to Support Learning* sessions where participants consider how to design experiences to support learning. Participants access their prior knowledge about the relationship between teaching and learning by thinking about and experiencing how the design of different activities affects them as learners. Participants rotate through four activity stations focused on salinity and density that illustrate different designs. They discuss the affordances and limitations of each design, and how the design of each individual activity and also the sequence of their rotation through the activities affected their interest and conceptual understanding. The Learning Cycle is introduced as an instructional model to guide participants' thinking about how to design activities and learning experiences to support learning. Participants apply their understanding of the Learning Cycle by designing an activity about sand and/or planning their own activity.

Session Objectives

In this session, participants:

- . Discuss how learning can be supported in different ways
- . Examine the affordances and limitations for learning in the design of different activities and consider how a sequence of activities may take advantage of their affordances
- . Learn about an instructional model known as “The Learning Cycle” and gain the ability to analyze how an informal learning activity can be designed to incorporate the Learning Cycle; and
- . Understand that effective teaching employs a sequence of different teaching approaches to achieve greater learning.

Session Activities at a Glance

Quick Write. Participants reflect on last week's reading.

Activity: Ice Cubes Investigation Stations. Participants engage in an activity to explore how design of experiences support learning in different ways.

Discussion: Design experiences to support learning. Participants reflect on the activity, and discuss how the design in the different stations supported learning.

Science Briefing: Density & Ocean Circulation. Participants learn about

and discuss density and ocean circulation.

Research Discussion: The Learning Cycle. Participants are introduced to the Learning Cycle.

Task: Use the Learning Cycle to design an activity. Participants apply what they learn by designing an activity on sand (or their own activity) using the Learning Cycle.

Homework. Participants are given their homework assignments.