

Objective:

For this assignment, I imagined Cynthia Oakes was on Al Bodzin's team developing the Environmental Literacy & Inquiry (ELI) Climate Change curriculum, which has many similar features as the one described in Case Study 2. The ELI curriculum was developed for middle school science teachers to present science in an authentic manner and is often disseminated by teachers not trained in the sciences. Since the problem identified in the case study stated that using content to deliver the professional development was unimportant, I figured using a completed curriculum with which I was familiar would make the process of designing the professional development much easier. (And I think it was.)

From the main concept map, participants can link to the actual curriculum, which includes the Instructional Framework, the Instructional Sequence, Student Resources, Assessments, Instructional Resources, and Support Materials, where they will familiarize themselves with the content to successfully complete the training. Teachers will act as the students to construct a working knowledge of the content and design their own activities for students to use.

Constructivist Theory:

The training is based on the constructivist theory of learning and will use a problem-based learning approach to deliver instruction and assess understandings of the curriculum materials, allow the "students" to solve problems and tasks related to the materials, and encourage them to use this learning theory when instructing their own students. Constructivist theory is known for embedding learning in complex, realistic environments; providing social negotiation; supporting multiple perspectives; encouraging ownership in learning; and nurturing self-awareness of knowledge construction and building understanding of a subject. Participants can visit the "message board" at any time and post a question or review those that other members have posted to help them through the training (also a constructivist approach). Cynthia Oakes, the curriculum designer, will also be participating in the online discussions to help clear up any misunderstandings participants may have throughout the training.

Instructional Design Model:

Again, I chose to use a condensed version of Dick and Carey's Model of Instructional Design called the ICARE Model. I included an image of the design within the concept map under the Goals of the Professional Development Series link. Participants can then click the link at the bottom of the screen to view the goals, objectives, and strategy for completing the series. There I used the Dick and Carey Model to map the three goals Cynthia identified, which all led to the objective of developing students' problem-solving skills by teaching teachers about constructivism by using a problem-based learning approach.

Problem-Based Learning:

"Problem-based learning is a student-centered pedagogy in which students learn about a subject in the context of complex, multifaceted, and realistic problems" (Wikipedia). In this training, teachers will serve as the students and the subject they are learning will be the Climate Change Curriculum. As the students, they will participate in several "tasks" (hence, the Professional Development Series - but I only made one). They will then follow the steps of problem-based learning depicted in a separate concept map that makes use of the observation videos and curriculum to serve as their research materials. Upon completion of the first task, they will move on to the next, and the next, until they complete the professional development training. They will share their completed assignments with others for review and comments by clicking the "Submit Link" on the main map or within each problem-based learning task's concept map.