Science 2.0: Using Web Tools to Promote Inquiry-Based Science
Course Syllabus

Catalog Description

In this workshop, participants will explore the use of online resources to enhance inquiry-based teaching and learning in science. Over the course of this six session workshop, participants will become familiar with science-themed websites, online collaborative projects, science blogs and wikis, and the mapping applications Google Maps and Google Earth. Considerable attention is paid to helping participants identify ways that they can integrate these tools into their practice, and thus enrich their students' engagement with science content. Promoting scientific inquiry is a central theme, and serves as a lens for this course. Participants consider the issue of assessment, specifically as it relates to inquiry and the use of online tools, later in the course. As a final project, participants develop plans for an inquiry-based science lesson that uses an Internet-based data source.

Prerequisites

This is an introductory course for teachers, technology specialists, curriculum specialists, professional development specialists, or other school personnel. Participants are expected to have regular access to computers. In addition, participants should be proficient with using email, browsing the Internet, and navigating to computer files.

Goals

This workshop will enable participants to:

1. Learn about online technologies, including sources of data, blogs, wikis, and online mapping programs, that can enrich classroom science lessons;
2. Learn about project ideas that are available on the Web to support inquiry in the science classroom;
3. Develop a personal collection of web-based resources for curricular use;
4. Learn how to assess inquiry-based projects;
5. Develop preliminary plans for a science lesson that includes an Internet-based resource.

Assessment and Course Requirements

Each session includes readings, an activity, and a discussion assignment, which participants are required to complete.

Course Products

In Session Three participants apply their new knowledge of science tools with a classroom application. In Session Six, participants will complete their Final Project that includes a student activity that incorporates inquiry and either an online science tool (science website, collaborative project) or collaborative environment (blog, wiki).

Discussion Participation

Participants will be evaluated on the frequency and quality of their discussion board participation. Participants are required to post a minimum of two substantial postings each session, including one that begins a new thread and one that responds to an existing thread. Postings that begin new threads will be reviewed based on their relevance, demonstrated understanding of course concepts, examples cited, and overall quality. Postings that respond to other participants will be evaluated on relevance, degree to which they extend the discussion, and tone.

Session One: Inquiry Learning Using Online Tools
Session Two: Becoming Familiar with Online Collaborative Projects
Session Three: Using Online Mapping Tools for Science Learning
Session Four: Using Blogs and Wikis in Your Science Class
Session Five: Assessment Strategies
Session Six: Developing a Student Activity