

## Using Technology to Help Students Become Better Researchers

### Workshop Syllabus

#### Workshop Overview

In this workshop, participants will learn about an inquiry-based framework that helps engage students in research, and explore how technology can support this in the classroom. Through readings and hands-on exploration, participants will consider how to safely use a variety of tools—both established technologies, such as Inspiration and Google, as well as some Web 2.0 technologies such as blogging and social bookmarking—to support brainstorming and concept mapping, locating and evaluating relevant information, organizing and analyzing information, and preparing presentations and reports. By the end of the course, participants will have created a technology-rich curriculum for a research unit around a theme of their choice.

#### Goals

During this workshop, participants will learn skills and strategies to:

- Use a research framework that helps to engage students in inquiry and analysis;
- Consider safety issues of Web 2.0 technologies and how to balance the strengths and risks of these tools in the classroom;
- Use blogging as a tool to support process and product;
- Use concept mapping tools to develop research questions;
- Gain improved strategies for finding and evaluating information on the Internet; and
- Use social bookmarking and digital notetaking tools to organize relevant information and prevent “copy and paste” plagiarism.

#### Alignment to Standards

This workshop meets the standards for Content, Instructional Design, and Technology as defined in the [National Standards of Quality for Online Courses](#), published by the [North American Council for Online Learning](#) (NACOL).

This workshop provides teachers with an opportunity to meet the Engage in Professional Growth and Leadership standard as defined in the [National Educational Technology Standards and Performance Indicators for Teachers](#), published by the [International Society for Technology in Education](#)

#### Intended Audience

This workshop is designed for teachers, curriculum specialists, professional development specialists, or other school personnel. Participants are expected to have regular access to computers, and proficiency with email and current web-browsers. Several of the sessions include video resources from YouTube, and in a few instances, there are no alternative sites

like TeacherTube to view the same videos. Participants should plan to view these videos outside of school.

## **Workshop Outline**

### **Session One: Introduction to the Research Process**

In this first session, participants will read about the I-Search framework, an alternative to the traditional research paper, that is designed to engage students of all ages in the research process, help them think critically about their topics, and produce written and oral demonstrations of their understanding. Technology has become central to student research projects and the I-Search framework, with a student-centered, inquiry-based approach to learning, has a natural affinity for a variety of tools. Participants will familiarize themselves with the different steps of the I-Search process and learn about one tool, web-logging or blogging, as a way for students to brainstorm ideas, develop a research question, receive peer and teacher feedback, and reflect upon the research process. Finally, they will share their previous experiences teaching students how to write research papers.

### **Session Two: Defining Research Questions**

This session's readings highlight the importance of using focused questions to define classroom research and how concept mapping software and web-based tools can support this process. Participants will begin concept maps for their research projects using Inspiration or Mind42, and explore how Exploratree, a Web 2.0 tool, might be used to help students collaboratively define their research questions. They will post their maps in their blogs, and discuss strategies for using visual learning as a tool to help students immerse themselves in the theme and develop good research questions.

### **Session Three: Locating Relevant Resources on the Internet**

Developing a good search plan is a key step in the research process; students need to articulate what they are going to read, watch, ask, and do to find potential resources. This session will focus on using the Internet, specifically search engines and social bookmarking tools, to locate relevant material for research projects. Participants will begin by exploring Google in order to understand its limitations as a research tool and to develop strategies for using it more effectively. Participants will also learn about social bookmarking and how it works, and then explore how to use delicious, a popular social bookmarking tool, to find and organize web-based resources. Finally, they will discuss and evaluate social bookmarking's usefulness as a tool to support students' research projects.

### **Session Four: Evaluating Web-Based Information**

As presented in "Teens are Tech Wizards? Not!" in Session Three, adolescents can have a difficult time reading through online text and making sense of what they read. Recent literacy research suggests that online reading is different than print-based reading, and therefore requires different comprehension strategies. In this session, participants will read about the importance of teaching digital literacy. They will review strategies to help students understand and evaluate the information they find online, including Wikipedia, the web-based encyclopedia that most students use. They will also explore how to create a Google Custom Search Engine as a way to scaffold finding and evaluating web-based information for their students. Finally, participants will discuss their preferences for using an open search engine like Google or a more restricted one like Google Custom Search with their students.

## Session Five: Using Technology to Support Meaning Making

After students gather and evaluate resources for their research, they begin to engage in a meaning making process. In this session, participants will read about instructional strategies for helping students extract relevant information from their resources, as well as analyze and synthesize from their notes, to come to a deeper understanding about their research question. Participants will explore how teacher-student conferences, peer conferences, and journaling can be also be used to help students see how their research fits together. In particular, participants will think about how blogging can be used to support these strategies. Participants will use the Edublogs tool to engage in a peer conference about the final projects that they and the other participants are developing. Finally, they will discuss and evaluate your experience of using blogs throughout this workshop.

## Session Six: Implementing a Technology-Rich Research Project

In this workshop, participants learned about the I-Search framework for student research projects and explored how a variety of tools—blogging (Edublogs), concept mapping (Inspiration and Exploratree), social bookmarking (delicious), and Internet searching (Google and Google Custom Search Engine)—can be used to support this process. In this final session, participants will read about Phase IV of the I-Search framework, when students represent their knowledge through a final paper or other kind of performance. Finally, they will draw from their blogs to develop unit plans for technology-rich I-Search projects.