Title

Using Multimedia to Develop Understanding (formerly Tech130)

Target Audience

This course is intended for pre-service and in-service teachers of grades K-12.

Prerequisites

To successfully participate and complete the assignments in this course, the learner must:

- Have past experience working with slide show software.
- Have past experience working with digital media.
- Have access to a classroom and students to implement a lesson plan.
- Be familiar with taking an online course or have completed the PBS "Practice Learning Online with TeacherLine" course.
- Be familiar with elementary, middle, or high school educational content.

Course Description

Students can use multimedia tools to convey their ideas and demonstrate their understanding of a subject. We must take care, however, not to confuse the medium with the message. A student may package information in a well-designed form, but the actual content of the message could very well be inadequate. The challenge for educators, then, is to use (and encourage students to use) multimedia in such a way as to *further* a student's understanding of the message content.
In this course, learners will explore Bloom's taxonomy—a system that categorizes the different levels of student learning, from basic and cursory knowledge of a subject to analyzing, synthesizing, and evaluating the subject—and consider ways to use a multimedia project to promote higher-level thinking skills. As a final task, learners will develop such a project for their students.

Instructor/Facilitator

See instructor/facilitator sheet

Credits

To be determined by college or university

Goals

The overall goal of this course is for learners to develop a multimedia assignment that will lead to understanding and answer an essential question.
By the end of this course, learners will:

- Understand the difference between developing understanding and developing rote knowledge.
- Understand and be able to use multimedia tools to create a presentation that answers an essential question.
- Understand and be able to create an assessment that identifies students' higher-level understanding of a concept.
- Incorporate the use of multimedia into their professional teaching practice.

Outline of Content and Assignments

After previewing the documents in the Course Information area, learners will proceed to Course Content to complete the following six sessions, working through each session in order. Throughout the sessions, learners are asked to articulate their ideas in various forms: they are encouraged to reflect on their ideas and experiences in their online journal; the discussions in the discussion forum are designed to allow learners to glean information from other learners' experiences. As a final project, learners create a slide show which answers an essential question from their curriculum, incorporate it into a lesson plan, and implement it in their classroom. They also design a multimedia project for their students in which they will answer an essential question in the curriculum. Finally, they will reflect on the lesson implementation.

This course is designed to address ISTE's *Educational Technology Standards and Performance Indicators for All Teachers*. These standards define the fundamental concepts, knowledge, skills, and attitudes for applying technology in educational settings.
This course specifically addresses the following ISTE NETS*T:

I. Technology Operations and Concepts
Teachers demonstrate a sound understanding of technology operations and concepts. Teachers:

A. Demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education
B. Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. Planning and Designing Learning Environments and Experiences
Teachers plan and design effective learning environments and experiences supported by technology. Teachers:

A. Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
B. Apply current research on teaching and learning with technology when planning learning environments and experiences.
C. Identify and locate technology resources and evaluate them for accuracy and suitability

III. Teaching, Learning, and the Curriculum
Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers:

A. Facilitate technology-enhanced experiences that address content standards and student technology standards.
B. Use technology to support learner-centered strategies that address the diverse needs of students.
C. Apply technology to develop students' higher order skills and creativity.
D. Manage student learning activities in a technology-enhanced environment.

IV. Assessment and Evaluation
Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers:

C. Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

V. Productivity and Professional Practice
Teachers use technology to enhance their productivity and professional practice. Teachers:

A. Use technology resources to engage in ongoing professional development and lifelong learning.
B. Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
C. Apply technology to increase productivity.

VI. Social, Ethical, Legal, and Human Issues
Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice. Teachers:

E. Facilitate equitable access to technology resources for all students.

Visit cnets.iste.org for a full list of the ISTE's *Educational Technology Standards and Performance Indicators for All Teachers* and more information about these standards.

Session 1: Multimedia and Higher-Level Thinking

In this session learners will begin to think about ways to identify teaching that emphasizes higher-level thinking and leads to understanding or insight among students. They will also begin to think about ways to use multimedia technology to facilitate this higher-level understanding and insight.

Learners will:
- Define professional goals and expectations.
- Explain prior knowledge and experiences.
- Describe and analyze assignments using Bloom's taxonomy.
- Develop a list of essential questions relevant to curriculum.
- Analyze the dangers of multimedia replacing imagination in the classroom.

Read
- "Major Categories in the Taxonomy of Educational Objectives"
- "From Trivial Pursuit to Essential Questions and Standards-Based Learning"
- "Our Multimedia Future"
- Bloom et al.'s "Taxonomy of the Cognitive Domain" (not required)
- "Writing Performance Objectives" (not required)

Write in online journal
- Reflect on expectations and prior knowledge for the course.
- Reflect on role of technology in viewing multimedia presentations created in the past by teachers or students.
- Brainstorm a list of essential questions that pertain to your curriculum.

Participate in an online discussion
- Introduce themselves to other learners.
- Respond to: "He warned educators not to use technology-based media to replace 'what imaginative minds should do — sensing, visualizing, whispering, picturing, humming' and cautioned against focusing children on 'a digitized world that at best provides a map of reality and at worst an illusion masquerading as reality or as something better than reality.'

  Consider the following questions:
  - Is multimedia in danger of replacing what "imaginative minds should do"?
  - Should we fear the illusion of a "digitized world masquerading as reality"?

Complete activities and assignments
- Analyze an assignment using each level of Bloom's taxonomy.

Session 2: Multimedia and Understanding

In this session learners will explore the role of understanding within a multimedia presentation. They will think about the way understanding can be tied into a multimedia presentation and the ways it can be left out. Learners will view a video of a presentation and consider the role of understanding within the assignment. In addition, learners will explore the resources available to them for their own creation of a multimedia project.

Learners will:

- Explain and discuss the elements that define multimedia that promote higher-level thinking skills.
- Evaluate and critique the role of understanding in the assignment shown in the “Multimedia” video.
- List and describe the multimedia resources available in your school.
- Describe and discuss the way multimedia is being used by colleagues.

Read

- "Developing Understanding with Multimedia" (pdf)

View video

- “Using the Computer for Student Multimedia Presentations”

Write in online journal (not required)

- Do the multimedia presentations shown in the video lead students to an understanding of the topic they have been assigned?

Participate in an online discussion

- Respond to the following: “Multimedia presentations promote higher-level thinking skills among students.”

Complete activities and assignments

- Write a critique of the multimedia presentation you viewed in the video.
- Research the multimedia tools you have available to you for use in this course and then interview three or four colleagues who are using multimedia in their classroom to discover what tools they are using and how they are using them.

Additional activities (not required)

- Slide Show Resources Page
- AppleWorks Slide Show WalkThrough
- Inspiration Template WalkThrough
- Inspiration Free Trial
- Microsoft PowerPoint WalkThrough
- Microsoft PowerPoint WalkThrough 2
- Microsoft PowerPoint X for Mac WalkThrough

Session 3: Evaluating Multimedia Presentations

In this session learners will begin to identify the specific criteria they will use to evaluate a multimedia presentation and envision ways to use multimedia to answer an essential question.

Learners will:

- Develop a rubric to evaluate a multimedia presentation.
- Evaluate multimedia presentations through online discussion.
- Describe the way they could use multimedia to answer the question “Who Am I?”

Read
- "Designing Assessments for Student Multimedia Projects" (pdf)

Write in online journal
- Describe the sounds, video, photographs, art, music, and words you would use in your own multimedia presentation to respond to the question "Who Am I?" Then explain how your project addresses the criteria you developed to evaluate the use of higher-level thinking in a multimedia presentation.

Participate in an online discussion
- View a sample PowerPoint slide show (ppt) and respond to the following:
  - In what ways does the slide show meet your criteria for developing understanding?
  - In what ways does the slide show present knowledge and not understanding?
  - How should the student revise this project to better meet your criteria?

Complete activities and assignments
- Develop a list of criteria you would use to assess the quality of a multi-media project, use the list of criteria to create a rubric to evaluate a multimedia presentation's use of higher-level thinking skills, and then write a paragraph answering the following questions:
  - How will you define multimedia?
  - How will you define understanding?
  - How will you identify higher-level thinking skills?

Session 4: Essential Questions

In this session learners will create their own multimedia presentation which addresses an essential question from their own curriculum.

Learners will:
- Define and describe an essential question within their curriculum.
- Create a multimedia slideshow answering an essential question in their curriculum.
- Design and implement a lesson plan that integrates multimedia to answer an essential question in their curriculum.

Read
- "Framing Essential Questions"

Final project (Part 1)

Learners will complete the following section of their final project:
- Create a slide show based on an essential question from your curriculum, and then develop and implement a lesson plan that integrates your multimedia presentation. (Lesson needs to be implemented by Session 6).

Session 5: Design and Assess a Multimedia Assignment

In this session learners will design an assignment for their students which requires them to use multimedia to answer an essential question from the curriculum. In addition to designing the project, learners will also design several "along the way" assessments to check that students are on track as they work towards their final presentations.

Learners will:
- Design a multimedia task for students which answers an essential question from their curriculum.
- Create an "along the way" rubric to assess students' work.
- Brainstorm and discuss ideas with colleagues for essential questions and tasks.

Read
- "Rubrics, Portfolios, and Tests, Oh My! Assessing Understanding in Project –Based Learning" (pdf)

Participate in an online discussion
- Share your ideas for essential questions and the rubric to assess your students' work and then provide feedback for two other learners.

Final project (Parts 2 and 3)

Learners will submit the following sections of their final project:
  - Design a multimedia assignment in which their students answer an essential question.
  - Create "Along the Way" assessments for the multimedia assignment.

Session 6: Assess and Reflect

In this session learners will complete their final projects by creating a rubric to assess students' final projects and share their rubrics with peers for feedback. Learners will also reflect on how this course has impacted their professional practice.

Learners will:
- Evaluate their multimedia presentations and reflect on what changes they would make.
- Provide feedback for two multimedia project rubrics.
- Reflect on the knowledge they have gained in this course.
- Evaluate how their new knowledge will be incorporated into their teaching practice.

Participate in an online discussion
- Share your final project rubric and provide peer review feedback.

Final project (Part 4 and 5)

Learners will submit the final sections of their final project:
- Write a reflection paper which answers the following questions:
  - How did your students respond to your presentation?
  - In what ways did your presentation meet your criteria for developing understanding?
  - In what ways did your presentation present knowledge and not understanding?
  - What changes, if any, would you like to make to your presentation?
- Create the rubric that you will use to assess your students' final projects.

Write in online journal
- Reflect on acquired knowledge.
- Reflect on professional goals.

Schedule

This course is scheduled to take approximately 30 hours to complete readings, activities, video, assignments, reflections and a final project.

Requirements

Learners are expected to:
- Complete all assignments.
- Maintain an online journal.
- Participate and actively engage in discussions with fellow learners while contributing to the social construction of knowledge.

- Be self-directed and self-motivated.
- Ask for assistance when they need it.

Materials (hardware, software, plug-ins)

Technical Requirements

- Word processor
- Internet service provider
- E-mail

Academic Dishonesty Policy

To be inserted by university institution only

Evaluation

This course can be taken for graduate credit on a pass/fail basis, or for a letter grade and graduate credit. See graduate credit details pertaining to specific graduate credit institutions.

Last Update: May 13, 2005