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Grade Level: Graduate Level

Course: CI 513 Instruction & Technology

Lesson Topic: Promoting Inquiry, Problem Solving, Investigation Date: 10/8

Time Allotted: 3.5 hours

UNIT ESSENTIAL QUESTION: How do teachers use technology to address the diverse needs of students within the classroom and develop their students' 21st century skills?

PREPARATION

Purpose/Rationale: The purpose is for teacher candidates to gain familiarity with a variety of technology tools they can use in the classroom to promote K-12 student problem solving and inquiry. Teacher candidates will also begin the unit/lesson planning process to develop skill

Unit Goal: Teacher candidates will explore use of problem-solving tools to facilitate student critical-thinking, decision-making, reflection and metacognition with technology.

Learning Objectives: Teacher candidates will

Explore use of Smart Board, Poll Everywhere, Intel Critical Thinking Tools to gain familiarity with the technology tools and to share ideas about 21st century skills

Discuss significant barriers to technology and brainstorm ways to respond to digital disconnect in classrooms

Brainstorm mini-unit plan topic and curriculum framing questions and explore sample mini-units

Standards:

GSE candidates use technology to enhance learning and development; demonstrate appropriate professional knowledge and skills

NETS: address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources

Prior Knowledge/Background Information:

Teacher candidates have begun to use iPads for research and assignment completion. TC exhibit a range of skills and familiarity with software applications

Materials/Resources Needed:

Resources on Instructor wiki: <http://gtpdx.wikispaces.com>

Teacher Candidate personal page on class wiki: <http://ptsectech13.wikispaces.com>

SmartBoard (word table)

Poll Everywhere survey

Visual Ranking: 21st Century skills activity and directions

Multimedia presentations on Backwards Curriculum Design and Curriculum Framing Questions

PROCEDURES AND ASSESSMENT OF STUDENT LEARNING

Introduction:			
Student's Actions	Teacher's Actions	Resources	Time
As students enter the classroom, they take turns picking up a Smart Pen,	Set up Smart Board with word table (Degree of Impact of Technologies	Smart Board	4:30

selecting a color, and placing a check mark in one of the boxes for each technology tool (major, minor, no impact)			
Body of Lesson:			
Student's Actions	Teacher's Actions	Resources	Time
<p>Launch syllabus on iPad and follow along</p> <ul style="list-style-type: none"> ▪ http://www.polleverywhere.com/multiple_choice_polls/6f8wQqo4aFAroRb <p>Text their response and watch as survey responses are recorded; Discuss any commonalities they notice</p> <p>Small groups discuss and report out</p> <p>Describe what they have seen in classroom observations of the digital disconnect and consider possible responses</p> <p>Students download Intel Visual Ranking App to iPad http://educate.intel.com/en/ThinkingTools/VisualRanking One person reads directions on instructor wiki and launches tool. Other student opens 21st Century Thinking Skills from instructor wiki. Partners discuss the skills and decide how to rank them from highest (top) to lowest). When ranking is completed they save and then compare to other teams.</p> <p>DINNER BREAK</p>	<p>Review instructor wiki (syllabus and lesson plan 1 and resources) Launch Poll Everywhere and direct students to text their choice to survey; Ask how would their K-12 students respond to the survey</p> <p>Ask small groups to discuss two significant barriers to technology and how to overcome them.</p> <p>Ask how schools should respond to the digital disconnect</p> <p>Provide directions for downloading Visual Thinking App to iPad. Divide students into 8 groups of two students. Show them the directions and 21st century skills on instructor wiki. Monitor as teams rank 21st century skills.</p> <p>Show comparisons and ask teams to comment on why they ranked skills as they did. Ask teams to share how they might use the Visual Ranking Tool with their students.</p> <p>Assign Seeing Reason to Humanities TC; Showing Evidence to math/science/health. Remind students USE LAPTOPS to watch the animations/video tutorials. Flash does NOT work on iPad</p>		
Closure/Extensions: (Determining progress toward daily objective.)			
Student's Actions	Teacher's Actions	Resources	Time
<p>Students think of example of one aspect of Meaningful Learning they observed in K-12 classrooms last week</p> <p>Students brainstorm topics and enduring understanding/central ideas</p>	<p>Briefly review Meaningful Learning ppt</p> <p>Present Backwards Curriculum Design ppt Ask students to brainstorm big ideas</p>		

Students explore mini units on instructor wiki LAB TIME: Students work on Intel Seeing Reasons or Showing Evidence	Demo Unit Plan Template : Native American Monitor and assist in MISL lab		
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LESSON ASSESSMENT (Evaluation of Student Learning)

Students will upload today's assignment to their personal page on class wiki: (Read Maloy ch. 2)

1. Respond to the first 2 questions at the bottom of p. 24: key issues for technology-using teachers
2. Which are the two most significant barriers to technology in your view? Why?
3. What are examples of student centered learning in your subject area?
4. How should schools and teachers deal with the "digital disconnect"?

McTighe and Wiggins Ch 1

5. Write four questions for a topic you would like to teach: hook, lead, guide, essential.

LESSON REFLECTION

The introductory activity (filling in the Smart Board table with colored pens) took way too much time so I improvised by asking small groups to discuss some of the homework questions. This was definitely not what I had in mind. It would have been better to bring in a chart and use sticky dots. The purpose was to see if the teacher candidates had common beliefs about the impact of present day technologies on teaching and learning. The reason to use the Smart Board (to save student ratings) seemed insignificant as both the Major/Minor columns were fairly even.

Despite setting up Poll Everywhere ahead of time and getting it to work before class so that teacher candidates could text their response, it did NOT work during class. I still don't know what went wrong, but since it worked perfectly this summer I will try again later because most secondary students have cell-phones and teachers can use this for a quick assessment of students' ideas.

The Visual Ranking Tool was fairly successful after everyone was able to download the application and talk with each other about the 21st century skills they valued. The activity would have been more valuable with additional time for follow-up discussion about who developed these particular 21st century skills and the underlying values and assumptions of the future embedded in the skills. When I have done this activity in the computer lab the technology goes quickly and there has been rich discussion afterwards.

Another technology glitch occurred when I asked students to open the Meaningful Learning ppt on their iPads and the graphics would not show. I need to save ALL documents as pdfs for students to upload on the iPad.

I was more confident that students are making progress on identifying a topic and big idea for their mini unit. The two-minute journal write activity before going into the computer lab to work on Oct 15 homework seemed to fulfill a need for teacher candidates to process and capture their thinking. Everyone was using the note taking feature of their choice on the iPad or laptop and seemed intensely engaged.

