Welcome To ET1220 Exploring Instructional Technologies

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http://de-research.com (Resource Site)

ET1220 Exploring Instructional Technologies

PREREQUISITES: *basic computer skills.

Course Description:

Reviews foundational concepts of instructional technology and design. In addition, an overview will be offered of current technologies used in teaching and learning; how to use instructional design competencies and models to integrate technology into the curriculum; various research results; current issues and trends; guidelines on the evaluation process, criteria, and models for evaluating the use of technology and how to analyze the results.

ET1220 Exploring Instructional Technologies

Course Goals & Objectives:

Upon completion of this course, you will have a good knowledge of what instructional technology is. You will also have a technology resource of reference links to current tools & "how-to's" that you can utilize to help you with your teaching and student learning.

Overview of Discussion Topics

A. Instructional Technology (Presentation & Discussion)

I. Instructional Design

II. Learning theories and learning styles

B. Current Technologies (Presentation, Discussion & Hands on)

i. Software & Web Applications

ii. Learning Management System (LMS) – Blackboard/Moodle

iii. Learning Objects

iv. Internet Resources

v. Open Source

vi. Other Issues (Plagiarism)

HANDS ON APPLICATIONS - Note that we will cover an in-depth application for audio recording (Audacity), a screen capture application (Jing) & also be introduced to a new application for organization & sharing called drop box.

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Introduction Activity

Before we get into our discussion topics for the day and also to better serve your course needs, let's first share …….

1. Why are we here today & what are your expectations?
2. The type/s of technology have you used in your classes
3. What have you found helpful/not helpful?
4. Make up of our student generation? – Net Boomers; Net Generation; "Nintendo" generation, adult learners? Are they Digital Immigrants (new/discovering about technology) versus Digital Natives (born into the technology world)

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Discussion - So…..What's happening out there?

Let's view a couple of video captured samples of Pre-K to High Schools levels using Technology & Second Life (Virtual world technologies)

- Demonstration 1 (Handhelds)

  Note the technology lingo that is being used by the students
- Demonstration 2 (3D Virtual World Technologies)

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The next step….

Before we begin planning to use, what type of technology tools for teaching, we must first have a theoretical foundation on why the tools can help with the teaching/learning process. Hence, the next section will introduce a basic overview of some of the theoretical concepts. Note that these concepts are covered in other classes.

A. Instructional Technology

Instructional Design & Learning Theories/Learning Styles

Before we get into what instructional design is, let's review about learning theories & styles, and instructional theory. (Note that these methods are discussed in depth in the pedagogy class)

"*Instructional theory describes a variety of methods of instruction (different ways of facilitating human learning and development) and when to use--and not use--each of those methods.*"

It is about how to help people learn better.

(Reigeluth, 1999)

Instructional Technology = Instructional Design (dependant on Learning theories & Learning Styles) + Technology

Overview of Learning theories

Resource website for Learning Theories
(http://classweb.gmu.edu/ndabbagh/Resources/IDKB/models_theories.htm)

- Behaviorist
- Cognitive
- Constructive
- ETC….

Note: For those who are already familiar with the theoretical concepts, think about how each of these theories relate with technology. Again, the theoretical concepts will be taught in the Theory course and will NOT be covered in this course.

LEARNING STYLES

(Reference: http://www.learning-styles-online.com/overview/)

- Visual (spatial): Diagrams, charts, pictures, images, colors, design and spatial understanding.
- Aural (auditory-musical): Sound and music (pitch & rhythm).
- Verbal (linguistic): Words, both in speech and writing.
- Physical (tactile/kinesthetic): Body, hands and sense of touch (hands on application).
- Logical (mathematical): Logic, reasoning and systems.
- Social (interpersonal): Interact with groups or with other people.
- Solitary (intrapersonal): Work alone and use self-study.

What is Instructional Design?

PROCESS (The ADDIE model)

Analysis -> Design -> Development -> Implementation ->Evaluation

- **ANALYZE** your learner or students' learning goals? What are the objectives?
- **DESIGN** your instruction which focuses on the objectives and goals. What technology tools can you use to enhance learning?
- **DEVELOP** learning material. What type of applications does technology offer?
- **IMPLEMENT** learning material. Is it for onsite, online OR hybrid?
- After delivery, how are you going to **EVALUATE** if the "tool" you used was effective?

B. Current Technologies

Tools which can help enhance or assist with the learning process. (NOT REALLY A TOTAL SOLUTION TO LEARNING)

1. Computer & Web Applications (MULTIMEDIA)
2. Learning Management System (Blackboard –BBVista/Moodle)
   - Productivity Tools , Tracking Students , Assignments
   - Communication Tools (Discussion Board, Emails, Podcasting, Blogs, Screen/Video Capture applications)
3. Learning Objects (Digital Resources including online Tutorials, Games)
4. Internet Resources (e-Library; Wikipedia, Google/Yahoo Search)
5. Issues with Plagiarism
6. Miscellaneous applications (Example - Sharing Apps)

DEMO – DROP BOX (http://www.getdropbox.com) -- Application for file organization, sharing and synchronizing.

1. COMPUTER & Web Applications

(Video learning Sources – Lynda.com & VTC.com)

(Total Training – Adobe & Microsoft products)

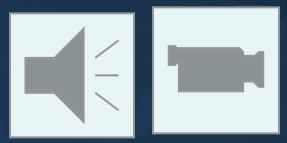
- **Microsoft**
  - Word
  - Excel
  - PowerPoint
  - Photo Editor / Movie Maker
- **Respondus/Hot potatoes /Softchalk**
- **Impatica**
- **Adobe**

- **Audio/Video Applications**

- **Web 2.0 Technologies**

Microsoft Applications

- **Microsoft Word**
  - Converts files into HTML
  - Creates Simple Drawings
  - Text to Speech feature
- **PowerPoint**
  - Creates presentations like the one you are seeing now!
  - Images, diagrams, charts, text, voice, music and just about anything else can be presented in an interactive format for the students review
- **Microsoft Excel**
  - Creates Spreadsheets
  - Creates Graphs
- Microsoft Photo Editor
  - Edit graphic images (similar to Photoshop – a scaled down version)



❑ Impatica

- A program that lets you compress PowerPoint presentations as much as ninety-five percent
- When added to WebCT, students will be able to view your presentations within WebCT but will not be able to download them

❑ Respondus & Hot Potatoes (p1/2)

- A program for creating and managing exams that can be published directly to e-Learning systems such as Blackboard Vista
- Exams can be created offline using a familiar Windows/Mac environment
- Alternative program: Hot Potatoes – Free for educational organization (http://hotpot.uvic.ca/)

  SAMPLE TUTORIAL – Click here
- Completed Hot Potatoes samples done by other institutions

  http://hotpot.uvic.ca/tutorials6.htm

Respondus Web Site

Respondus Movie

Hot Potatoes™ From Half-Baked Software Inc

❑ SoftChalk LessonBuilder (p2/2)

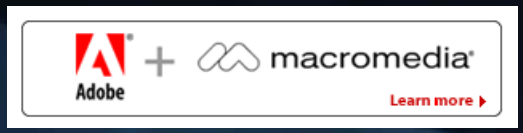
- **SoftChalk LessonBuilder™** is a powerful web lesson editor that lets you easily create engaging, interactive web lessons for your e-learning classroom.
- No programming or HTML required
- With LessonBuilder, you can create professional-looking, interactive content without knowing any HTML, or programming. Spend your time developing course content, not learning how to use complex software
- View Sample Lessons created with softchalk

http://www.softchalk.com/lb_examples.html

- HCC has a site license. Go to HCC>Distance Education>Faculty resources.
- HCC offers training! Sign up for the class with IMC

Adobe Applications

- Design Applications
  - Page Layout – Dreamweaver/GoLive
  - Graphics Design – Fireworks/Photoshop/Image Ready
  - Using PDFs & SnagIt Screen Capture – Sample 1 (Text to Speech)
  - Animation & Interactivity – Flash
    - Sample Zoomify (http://www.zoomify.com)
  - Adobe Connection
- http://www.macromedia.com/special/experience_matters/
- http://www.adobe.com



❑ Audio/Video Applications

- **DEMO & Hands on** **Audio tools** (Free) – Audacity http://audacity.sourceforge.net/
- Screen Captures for building Lectures & Lesson modules – Macromedia Captivate – Sample1; Sample 2; Building Interactivity
- Using Print Screen (SnagIt from Techsmith.com)
- **DEMO & Hands on** The Jing Project (http://www.jingproject.com)
- Camtasia Studio 4 (Good for detail application) by Techsmith
- Premiere, Final Cut Pro for Digital Video, Camtasia
- Podcasting: Utilize Audio/Video applications to help prepare streaming media files. (View Sample from Lynda.com)

❑ Web 2.0 Applications

This section is covered in detail in another class. If you are interested here are some reference links for you to review what the web 2.0 technologies are.

- http://www.youtube.com/watch?v=0LzQIUANnHc&feature=related
- http://www.youtube.com/watch?v=nsa5ZTRJQ5w
- http://www.youtube.com/watch?v=rDqGQ59jw_Y&feature=related

Miscellaneous Applications

- Google applications (Google docs)
- YouTube (Type in the your topic of interest in the search field)

2. Learning Management System

Blackboard Vista (SAMPLE CLASS DEMO)

- Blackboard Vista (formerly WebCT) is the standard course management system for Houston Community College System.
- As provider of e-Learning solutions, it provides a flexible, integrated environment where instructors can use the latest technology to transform their courses.
- Tutorials – for new Blackboard system
  - http://tutorials.webct.com/exploring/interface.htm
  - http://tutorials.webct.com/exploring/design.htm

It offers many organization tools for building the following

1. Assignments, 2. Calendar, 3. Content Module pages, 4. Discussions, 5. Glossary, 6. Goals, 7. Homepage, 8. Mail, 9. Grading forms & My Grades, 10. Organizer 11. Pages, 12. Quizzes/Surveys, 13. References, 14. Self-Test, 15. Take Notes, etc…

❑ BB Vista Productivity Tools

1. **Track Students** - Allows you to monitor which areas of the course students are accessing and how they are progressing through the course material. It maintains a record of the number of times a student accesses these course areas:
   - Evaluation of student participation
     - When course is first and last accessed
     - Number of times a course is accessed
     - Number of times each area of a course is accessed
2. **Assignments**
   - Evaluation of student submissions
     - Allows for additional information through Internet links
     - Grading

❑ Communication Tools (Interactivity)

1. **Discussion Groups** - Allow you and your students to engage in online discussions, divided into different topic areas which allow you to create forums around particular subjects

Advantages to using Discussion Groups Include

- They allow passive students a voice, as they are perceived as less threatening than live discussions
- They compel students to interact with most of the students in a class

❑ Communication Tools (Interactivity)

2. **Chat Rooms** - Allow you and your students to have real-time conversations

These conversations are recorded, but students do not have access to these records

Advantages to using Chat Rooms include

- Allows for student/instructor activity outside the traditional classroom
- Creates an live interactive forum among students

❑ Communication Tools (Interactivity)

3. **Mail** - Allows you and your students to send, receive, reply, and forward mail messages to others in the course

Advantages to using Mail include

- Private messaging between student and instructor or student and another student when needed
- No need for an external mail client

❑ Communication Tools (Interactivity)

4. **Content Based interactivity** (Multimedia interactivity?)

   How can content based activities fit into discussion, chat or email communication?

   i. Web Blogs. Example Digital Journal
   ii. Podcasting
   iii. Video/Web Cam (http://www.youtube.com/)
   iv. Jing Project screencast
   v. GotoMeeting; LogMeIn; GoToMyPC
   vi. YouTube

❑ Communication Tools (Blogging)

- What is a Blog?

  "Blog is the contraction universally used for weblog, a type of website where entries are made (such as in a journal or diary), displayed in a reverse chronological order (Wikipedia, 2006)." Note that it is a PUBLIC JOURNAL. Everyone gets to view your comments/images.
- Is it applicable to your class? Questions?
- To create a free account with Google, log on to http://www.blogger.com/start

  There is additional information about what functionalities for blogging with latest resources
- Alternative: http://www.wordpress.com (You may embed video files) – better functionality

❑ Communication Tools (Podcasting)

- "Podcasting is the method of distributing multimedia files, such as audio or video programs, over the Internet using syndication feeds, for playback on mobile devices and personal computers. The term, coined in 2004, is a portmanteau of iPod and broadcasting.
- The term podcast, like 'radio', can mean both the content and the method of delivery. The host or author of a podcast is often called a podcaster. Though podcasters' web sites may also offer direct download or streaming of their content, a podcast is distinguished from other formats by its ability to be downloaded automatically using software capable of reading feeds like RSS or Atom (Wikipedia, 2006)."
- Resource on how to create PODCAST - http://www.windowsdevcenter.com/pub/a/windows/2005/04/05/create_podcasts_with_pc.html

3. Learning Objects (p.1 of 4)

"Official" definitions

- "modular digital resources, uniquely identified and metatagged, that can be used to support learning." – National Learning Infrastructure Initiative
- "any digital resource that can be reused to support learning" – David A Wiley, "Connecting Learning Objects to Instructional Design Theory"
- "Any entity, digital or non-digital, which can be used, re-used or referenced during technology supported learning" – Learning Object Metadata Working Group of the IEEE Learning Technology Standards Committee (LTSC)

3. Learning Objects (p.2 of 4)

- IN SIMPLE ENGLISH - Learning objects are
- Smaller units of learning
  - They typically range from 2 minutes to 15 minutes or more depending on the course module
- Self-contained
  - Can usually be taken independently
- Reusable
  - A single learning object may be used in multiple contexts for multiple purposes

Hands on - Go to http://www.merlot.org & search for your subject/topic area

MERLOT
Multimedia Educational Resource for Learning and Online Teaching

3. Learning Objects (p.3 of 4)

- ESL Class - ESL LAB SAMPLES
  with audio & interactivity exercises
- Artist Toolkit (Interactive)
- Music Skills (Simulations)
- DNA Animation & interactive
- Protein Molecules
- American History
- http://www.internet4classrooms.com/index.htm
- http://www.starfall.com

New updates & Other resources can be found de-research.com (Click on learning objects located on left menu)

3. Learning Objects (p.4 of 4)

Digital tutorials, Game Based Learning (DGBL)

Programs for creating Games

- Hot Potatoes
- Captivate

Website Links:

- Math4Kids
- Virtual Chemistry Lab (Simulation)
- Geometry & Algorithm Game
- Games on History
- Games (& Quizzes) about Art
- The Education Arcade (MIT) - Click on the Games resources
- http://www.icdc.org.uk/vmule/
- Physics - Projectile Mission

4. Internet Resources

- **Internet Browsers**
  - Used as an interface to access the Internet
    - Firefox
    - Internet Explorer
    - Safari
    - Google Chrome

- **Wikipedia**

- **Search Tools**
  - Used to explore the Internet
    - Google (Google Docs)
    - e-Library

4. Internet/Online Resources (MISC)

- Digital Library (HCC library)
- e-Books (http://www.Prenhall.com) for instructors
- WordWeb (Desktop dictionary for PCs)
  http://wordweb.info/
- Spell checker for Internet Explorer http://www.iespell.com/
- Google site – http://www.google.com/intl/en/options/
- Other Free Learning Management Systems

- De-research

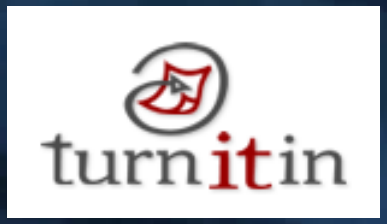
5. Plagiarism

How technologies have opened doors to increased plagiarism?

- Here is a site that might help explain copyright issues for students (http://www.cyberbee.com/cb_copyright.swf)

- Here are some sites that helps prevent Internet plagiarism:

  Contact Don.White@hccs.edu to find out how you can use turnitin.com
- Sample TurnItIn Report
- Sample of Individual Student Report



Web Sites (cont.)

Microsoft
http://www.microsoft.com
Impatica
http://www.impatica.com
Respondus
http://www.respondus.com/
MERLOT
http://www.merlot.org/Home.po
Action Resource
http://www.scu.edu.au/schools/gcm/ar/arhome.html
Learning Objects
http://www.uwm.edu/Dept/CIE/AOP/LO_what.html

Open Source
http://www.opensource.org/
Redhat
http://www.redhat.com
Netscape
http://home.netscape.com/
Apple
http://www.apple.com
Google
http://www.google.com

Web Sites

What Is Instructional Technology?
http://www.gsu.edu/~mstswh/courses/it7000/papers/whatis.htm
Instructional Technology Online
http://www.gsu.edu/~wwwitr/
International Society for Technology in Education
http://www.iste.org/
Instructional Methods Information
http://www.adprima.com/teachmeth.htm
Funderstanding
http://www.funderstanding.com/index.html
Learning Theories
http://www.cloudnet.com/~edrbsass/edlea.htm
Educational Psychology Tutorials
http://facultyweb.cortland.edu/andersmd/edpsy.html
Learning Rating Scale
http://www.employees.csbsju.edu/esass/learningratingscale.htm

Web Sites (cont.)

World Wide Web Consortium
http://www.w3.org
WebAim
http://www.webaim.org/
MAGpie
http://ncam.wgbh.org/webaccess/magpie/
Web Accessibility Checklist
http://www.utexas.edu/learn/accessibility/testing.html
Designing Accessible Websites
http://www.utexas.edu/learn/accessibility/
Cyberbee
http://www.cyberbee.com
Second Life
http://www.secondlife.com

END OF PRESENTATION

Thank you for your VALUABLE participation!

Any Questions?

CLASS COMPLETION REQUIREMENT

Go to http://ww.hccs.edu/

Click on Faculty & Staff > Instructional Media Center (IMC) > Certificates in Technology

Select New Classes Completed Database link

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