Session Objectives

- What are Real World Learning Objects (RWLOs)?
- How are they being used in community colleges?
- Who are developing RWLOs?
- How can you learn to develop and use RWLOs in your courses?
Real World Learning Objects (RWLOs)

- Concise core instructional activities focused on **discrete topics** in higher education
- Engage students in authentic activities possible only through use of the **Internet**
- Provide compelling **real world** learning experiences
- **Reusable** in similar courses at other institutions
Earthquakes and Plate Tectonics

Project Overview

Earthquakes, a scientific and physical phenomenon, affect our lives in many ways. In this project, students use real-time global earthquake data from the Internet to explore the relationship between earthquakes and plate tectonics.

Through first-hand data analysis, students will be able to determine if there is any pattern to earthquake events and speculate on the causes of earthquakes.

This RWLO intended to be used as an opening exercise to a unit of study on earthquakes.

(Note: this RWLO is based on the Musical Plates Project)
Internet-based Applications

- Publishing Student Lab Reports online
- Finding Lesson Plans
- e-Pal Exchanges, Telecollaborative projects
- Publishing Student Stories to the Web
- WebQuests
- Simulations
- Historical Diaries
- Virtual Labs (Interactive Frog Dissection)
- Weather Satellite images
- Online Textbook
- Real-time data
- Using Online Quizzes
- Finding Lesson Plans
- e-Pal Exchanges, Telecollaborative projects
- Publishing Student Stories to the Web
- WebQuests
- Simulations
- Historical Diaries
- Virtual Labs (Interactive Frog Dissection)
- Weather Satellite images
- Online Textbook
- Real-time data
- Using Online Quizzes
Internet-based Applications

21st Century Workforce Skills

Basic

2nd Century Workforce Skills

Advanced

Partially Proficient

Proficient

Advanced Proficient

Skill Level

Online Quizzes

Lesson Plans

Online Textbook

Simulations

Virtual Labs

Web Quests

Historical Diary

Student Web Page

E-Pal / Telecollaborative

Real-time Data

Unique and Compelling

Innovative

Traditional

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Center for Innovation in Engineering and Science Education
Unique & Compelling Applications

**Unique**
Cannot be done without Internet technology

**Compelling**
Provides students with real world learning experiences

*Internet applications can provide a revolutionary new instructional tool that can create opportunities for students to engage in more authentic learning.*
Unique & Compelling Applications

- Real Time Data
- Telecollaborative Projects
- Student Publishing
- Primary Source Data
Real World Learning Objects
Internet-based Activities for Higher Education
Mathematics

Logarithms and Car Payments

Project Overview

Is there a new car you are interested in? Do you know its approximate price? Do you know how much of a car payment you could afford each month? Based on the payment you can afford, is this car within your reach? In this project, students will use a formula to calculate the number of months it will take them to pay off a car loan based on the amount of the loan, the amount of the monthly car payment, and an interest rate which they will get from an internet resource.

This problem-solving based RWLO is intended for use in an Intermediate Algebra, College Algebra, or Business Math course after students have been exposed to exponential equations and logarithms.
Understanding the Writing Process through Walt Whitman’s notebooks

Project Overview

Walt Whitman (1819-1892) was one of America’s most well known and influential writers of his time. Born in New York, Whitman wrote extensively throughout his life although he is most famous for his poems, particularly his collection published under the title of *Leaves of Grass*.

Students will investigate the writing process by reviewing how Whitman revised and refined his ideas and poems as he wrote by comparing the published version of his poem "Quicksand Years" to two early drafts written in one of his original notebooks digitally archived in the Library of Congress’ American Memory collection.
Who are developing RWLOs?
Pathways Project Goal

“…to strengthen community college math, science, language arts and educational technology courses to ensure that they prepare preservice P-12 teachers to make effective use of innovative Internet-based tools and curriculum resources in the classroom.”
Vehicles to Achieve Goal

- Library of Real World Learning Objects (RWLOs)
- 26-hour, 8-session, blended mode faculty professional development program: *Savvy Cyber Professor*
- 3 year program involving faculty from 33 community colleges
Developed PD program

The Savvy Cyber Professor
Internet-Based Activities for Higher Education

Participating faculty create library of …

Real World Learning Objects
Authentic Investigations Using Internet-Based Applications
Savvy Cyber Professor Outcomes

- Learn & Incorporate New Strategies for Teaching
- Create a RWLO for Use in Community College Courses
- Access to library of 200+ RWLOs (by end of year 3)
- Ultimately: Model New Teaching Strategies to Pre-service Teachers
Online RWLO Library

- Developed by CC faculty for CC faculty
- Peer-reviewed for acceptance in Library
- Growing number of RWLOs in a wide range of courses and levels
How to Get Involved

- 30 CC’s selected by competitive application process to participate in Savvy Cyber Professor program (4 faculty per CC)
- More information available by registering on Pathways web site
- 12 CC – Fall 2005
- 18 CC – Fall 2006
For More Information

Pathways Project Web Site

http://www.stevens.edu/ciese/pathways/

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