Opening Comments/Questions

Who I am
Who I am not
Who you are
Session Goals

- Share CSU faculty and staff development
- Share online resources
- Invite others to participate or benefit

EnACT Ensuring Access through Collaboration and Technology

- 3-yr federal grant for implementation of model demonstration projects that support SWD at the post secondary level
- Partnership between Faculty Development and Disability Support Services across 8 CSUs
- Primary focus on faculty development in support of all students, including SWD, utilizing the principles of UDL
Goals of EnACT

- **Collaboration** to Ensure Access to a Quality Postsecondary Education
- **Technology** to Ensure Access to a Quality Postsecondary Education
- **Dissemination** of EnACT Content and Processes
A Critical Look: Postsecondary SWD

Dramatic ↑ in number of postsecondary SWD
- 1978: 2.3% were identified as disabled
- 1998: 9.8% were identified as disabled

Graduation rates (2 and 4 year institutions)
- 1994: 53% of SWD attained degree/certificate
- 1994: 64% of SWOD attained degree/certificate

Graduation rates (4 year public institutions)
- 1994: 33% of SWD attained a degree
- 1994: 48% of SWOD attained a degree

CSU Enrollment of SWD

Fall 2003

- N=9,809 (8%)
- N=399,137 (92%)

Source: National Center on Education Statistics
CSU Matriculation

Still Enrolled After 6 Years

SSU: Philosophy 101, Spring 2004

Total of 19 sections, 14 sections included SWD.
What is Universal Design?

- Architectural term first coined by R. Mace
- Design of PE toward greater access
- Stairs as an access technology
- Stairs as an access barrier
- Retrofitting with a ramp to increase accessibility still remain a design afterthought

Drawbacks of “After-the-Fact” Modifications

- Typically solves one issue
- Often costly to implement
- Aesthetically inelegant
Universal Design

- Intentional approach to design
- Anticipates a variety of needs
- Broadens usability to public
- More economical
- Respects human diversity

What kind of UD solutions have you seen on your campus?

What is UDL?

Process of making course concepts accessible and skills attainable regardless of learning style, physical or sensory abilities.

ASD Project: Utah State University
Access by design...

...not accommodation
### UDL Analogy for Higher Education

<table>
<thead>
<tr>
<th>UD</th>
<th>UDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Environment</td>
<td>Instructional Environment</td>
</tr>
<tr>
<td>Proactive design of physical space</td>
<td>Proactive design of curriculum, instruction and resource development</td>
</tr>
<tr>
<td>Retrofitting costly and inelegant</td>
<td>Accommodations time consuming and difficult</td>
</tr>
</tbody>
</table>

### Assumptions about Effective Instruction in Higher Education

- Role of a university faculty member is to teach all students as effectively as possible – not weeding out the unqualified
- A proactive approach to designing instruction to meet a diverse student body preferable to making exceptions case-by-case (accommodations)
- Faculty want students to learn the course content in a meaningful way
UDL: Three Key Principles

- Faculty can offer various ways to **REPRESENT** essential course concepts
- Faculty can offer various ways to encourage student **ENGAGEMENT**
- Faculty can offer students various formats for **EXPRESSION** of what they have learned

See Handout [enact.sonoma.edu](enact.sonoma.edu)
Representation: 4 Common Elements

- Offer multiple ways of expressing course content utilizing different modes
- Provide multiple ways of clearly identifying and explaining essential course concepts
- Ensure accessibility in all course content and materials
- Provide examples/illustrations of all major course assignments or activities

REPRESENT Essential Course Concepts

Dr. Fry teaches Cultural Anthropology and is concerned that his students still do not understand the concept of Cultural Reciprocity (CR) after his lecture and subsequent quiz.

By considering UDL, Dr. Fry redesigned how he introduces CR. In addition to having students read about CR, they participate in a cultural awareness activity that serves as a foundation for CR. He also supplemented his lecture on CR with guided notes to highlight the key features of CR and get his students to think more critically.
Engagement: 3 Common Elements

1. I offer varied instructional methods to involve students in the learning process
2. I encourage natural support systems in and outside of class
3. I provide alternatives for how students can participate or complete course activities

Example of Representation/Engagement

- Dr. Rose teaches Mathematics and a student with visual impairments has recently enrolled in her class. She is concerned that this student will not be able to see the examples she provides on the overhead or take class notes on her lectures.

- A typical accommodation would be to hire a note taker that could also explain the overheads.

- By considering UDL, Dr. Rose embeds examples within a class handout and posts these notes 24 hrs before each class on her website so everyone can preview them and the student with visual impairments can enlarge as needed. Several students later report that her notes with examples helped them better understand her lectures.
Expression: 4 Common Elements

1. I offer clear and specific feedback on assignments & encourage re-submission as appropriate
2. I allow students to demonstrate their knowledge through varied means
3. I encourage my students to use assistive technologies
4. I provide clear guidelines and rubrics for all major course assignments/activities

EXPRESSION of What They Have Learned

Dr. Lopez teaches Environmental Studies and after presenting mid-term project (campus-based field trip to document the use of building vs. green space) one student privately expresses concern that they will not be able to complete the requirement as expected due to the walking involved (pregnancy)

By considering UDL, Dr. Lopez re-evaluates the need for a physical field trip and offers the class the option of either a campus based or virtual exploration of a campus via webcams posted at various universities. Several students take advantage of the option and Dr. Lopez does not note any change in their understanding of the key concepts assessed.
The Principles of UDL Can Help You

Meet the needs of diverse learners
Remove barriers to the learning process
Offer flexibility in delivering course content, assignments and activities
Provide alternatives that allow students to access and engage in learning process
Reduce the need for individualized accommodations

UDL is not...

• Specialized privileges for a few students
  It is not about special accommodations
• Watering down your academic expectations
  It is not about making courses easier – school is supposed to be challenging if learning occurs
• A “magic bullet” or “fix” for all students
  It is not going to solve all your curricular or pedagogical problems
• A prescriptive formula
  No checklist will offer the “UDL solution”
UDL Benefits for Students

- Greater access to your course content
- Removing barriers to the learning process ensures that more students will have a greater chance of understanding what you are teaching them
- Greater opportunities for achievement
- Multiple ways of expressing what they know ensures that students can accurately show you what they have learned
- Greater satisfaction with the learning process
- Varying how you engage students in the learning process encourages active participation and student satisfaction

UDL Benefits to Faculty

- Enables you to improve your instructional effectiveness
- Provides you the tools to consider how and what you teach in a structured and systematic manner
- Offers you an opportunity to critically examine your Teaching Effectiveness in light of the Reappointment, Tenure and Promotion process
- Ties directly to your Course Evaluations (SETE’s)
- UDL training is encouraged by your Provost’s office
Critical Friends Group

- What is a UDL Critical Friends Group (CFG)?
- A CFG is a professional learning community consisting of approximately 5-7 faculty who come together on a voluntarily basis 1/mo
- Group members are committed to improving their professional practice through collaborative dialogue and discussion focused on supporting student achievement utilizing the principles of UDL.
How will a CFG Help Me?

- While faculty may consider how to support student achievement in higher education, rarely do we have the opportunity to collaborate with each other on how to refine our practice.
- A CFG brings faculty together in a facilitated monthly meeting to look at their syllabus, coursework and assignments in a structured way and explore how they can improve their own teaching practices.
- While talking with peers about instructional issues is rare, once faculty experience it, they realize the significant value it offers.

Critical Friends Group

- How does it work?
- CFG meeting are held on a monthly basis.
- Faculty prepare via format provided in Preparing for a Critical Friends Group Meeting.
- Remaining CFG faculty participants follow the Guided Protocol during the course of the CFG meeting.
- Faculty support each other to adapt and revise their course syllabi, teaching strategies and/or course assignments within the context of UDL.
Critical Friends Group

The Guided Protocol

1. Select Facilitator
2. Faculty Presentation (5m)
3. Clarifying Questions (5m)
4. Probing Questions (10m)
5. Warm and Cool Feedback (10m)
6. Reflection (5m)
7. Debriefing/Final Comments (5m)
8. Feedback from Previous Sessions (5m)

Goals of EnACT

- Collaboration to Ensure Access to a Quality Postsecondary Education
- Technology to Ensure Access to a Quality Postsecondary Education
- Dissemination of EnACT Content and Processes
Accessible Instructional Multimedia Authoring

1. Propose
2. Review
3. Author
4. Assess

MERLOT • EnACT • voila

enact.sonoma.edu

RTP • Faculty • Students

Support Materials • Links

Develop • Edit • Upload
AIM Authoring via Breeze Presenter

- Works as a set of tools in PPT
- 90% of development same as normal show
- Additional steps:
  - Add audio per slide
  - Add slide captions/transcripts
  - Quiz slides
  - Publish to Breeze server
  - Post/distribute url
- Final product is full-screen, high-res, small file
- Viewer only needs a browser

Making your PPT Accessible

- Add text equivalents to all images
- Limit use of animations and builds
- Use the notes panel to include text transcripts of audio tracks.
AIM Authoring using VOILÀ

- Video-oriented instructional lesson authoring
  - Authoring is browser based
  - Six simple steps
  - Used for emphasis on content delivery
  - May include other types of video:
    - Screencasting
    - Flash movies
  - Transcripts function has evolved
Hello. My name is Dr. Carlos Ayala and I am an Assistant Professor of Science Education and Assessment at Sonoma State University.

While there has been a big push towards including inquiry and “hand-on” activities in the science classroom we must keep in mind that the purpose of these activities is to provide our students with the opportunity to take their current understanding of a concept and to increase that understanding. For example we start with a student’s understanding of the relationship between heart-rate and exercise and then build on that...
# Video Oriented Instructional Lesson Authoring System

## Lesson Overview

**Lesson Name:**
Understanding and investigating heart rate and exercise for Life science Fifth Grade.

**Brief Description:**
In order for students to gain an understanding of the effects of physical exercise on heart health, students will:
- Determine their resting heart rates.
- Determine their resting heart rates after exercise and monitor it for 10 minutes.

**Detailed Description (50 words or less):**

**Grade Level(s):** For which the Lesson is Relevant
- All K-2
- Second (2)
- Sixth (6)
- Tenth (10)
- All K-12

## Next Step: Topic and Standards

**About the Topic:**

- **Add to Topic:** Science Education
- **Description:** None

**About the Standard(s):**

**Classification CSTP**
- Standard: Standard for understanding and organizing subject matter for student learning
- Substandard:
  - Organizing curriculum to support student understanding of subject matter
  - Developing student understanding through instructional strategies that are appropriate to the subject matter
  - Demonstrating knowledge of subject matter content and student development
  - Using materials, resources, and technologies to make subject matter accessible to students

**Classification TPE**
Lesson Clips

Below is a list of the demonstrations and associated clips for this lesson. To change an existing demonstration, click on the title for that associated clip. To add a new demonstration, click the button Add Demonstration!

Note: The Lesson Clips must contain an Introduction, which is your first demonstration below.

<table>
<thead>
<tr>
<th>ID</th>
<th>Demonstration Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introductory Video</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Reading Into Student Knowledge</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Heartbeat Recovery</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Finding Resting Heart Rate</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sharing Students’ Hypotheses</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Preparing Students To Run</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Monitoring Students Learning</td>
<td></td>
</tr>
</tbody>
</table>

Supporting Materials

You may specify additional information or documents to be included in the "Supporting Materials" section of the lesson.

<table>
<thead>
<tr>
<th>ID</th>
<th>Supporting Screen</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Follow up Question</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Science Content Standards</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>Unrelated Document</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lesson Plan (on spec)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>NASA offers a good heart rate recovery lesson plan</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Heart Beat Recovery Table (on spec)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>Related Links</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A well thought out heart rate recovery lab</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>National Science Teachers Association</td>
<td></td>
</tr>
</tbody>
</table>
Lightbridge Video Oriented Instructional Lesson Authoring System

Lesson Publishing Options

"Heart Beat Recovery" was last Published on:
- Submit for Review and Publish on: http://lightbridge.sonoma.edu
- Comments to Reviewers (Optional):
- Create a "Pack & Go" lesson package:

Download a copy of the computed lesson to your computer.

Publish This Lesson?
- Proceed to Publish Lesson
- Save and Return to Workspace

EnaCT Topic: Physical Education
Lesson 12: Orienteering

Assess this Lesson

1. Assess this lesson

Resources

1. Orienteering Task Sheet (jwks) *
   This task sheet provides a series of checkpoints to which students must navigate using their baseplate compass.
2. Designing an Orienteering Course (jwks) *
   This task sheet requires students to design a land navigation map with checkpoints using bearings and step counts.
3. Baseplate Compass (jwks) *
   This Powerpoint presentation includes a photograph of a baseplate compass. It is a supplement to the compass reading clip.
4. Topographic Maps (jwks) *
   This Powerpoint presentation includes various topographic photographs. It is a supplement to the map reading clip.

Offsite Links

1. United States Orienteering Federation
   This site shows orienteering clubs and events across the nation. It also links to ski, mountain bike, trail, backpack, canoe, and radio orientation sites.
Next Steps

Learn more about UDL
www.cast.org
enact.sonoma.edu

Join the EnACT Team at your campus
Further professional training and support on UDL
(UDL-HE: Applied Principles in Higher Education)
Accessibility Workshops/Trainings
Critical Friends Group
EnACT Summer Institutes
Publication/Scholarship opportunities
Stipends
Special recognition by the Office of the Provost

UDL Resources

Sonoma State University: Ensuring Access through Collaboration and Technology (EnACT)
https://www.sonoma.edu/act

Ohio State University: Faculty and Administrator Modules in Higher Education (FAME)
https://fame.osu.edu

University of Washington: Disabilities, Opportunities, Intermingling, and Technology (DO-IT)
https://www.washington.edu/doit

Center for Applied Special Technology
https://www.cast.org

Teaching Solutions Mentor Solutions
https://teachingsolutions.org

Creating a More Accessible Course Syllabus:
https://www.cast.org/articles/creating-more-accessible-course-syllabus

Example of Critical Friends Group
The Accessible Technology Initiative of the California State University

Mary Cheng, Director
Accessible Technology Initiative
California State University
mary.cheng@csueastbay.edu

Presentation Outline

- Background
- Users’ Perspectives: A Video
- ATI Priorities, Challenges, Roadmap

Accessible Technology Initiative (ATI) Background

- Established January 2006
- Immediate Driver: compliance with federal and state mandates regarding access to IT and IT resources for persons with disabilities
- Vision: To create a culture of access within the CSU for a barrier-free learning and working environment
- Outcome: Persons with disabilities have an equal opportunity to participate and to excel
- Motivation: It’s the right thing and the smart thing to do

“Accessible technology” means …

- Eliminating barriers that impede participation of persons with disabilities in the virtual environment
- Building the “electronic ramp” or “electronic curb cut” to the virtual environment enabling persons with disabilities to effectively use IT resources with or without the help of assistive devices
Users’ Perspectives

- A video created by WebAim (Web Accessibility in Mind), Utah State University
- http://www.webaim.org/intro/#video

ATI Implementation Priorities

1. Accessibility of Instructional Materials
2. Web Accessibility
3. Procurement of Accessible IT Products and Services

The Challenge of Making Content Accessible

- Digital Materials
  - Lack of awareness and knowledge by faculty and instructional designers to create materials employing accessible or universal design concepts
  - Purchased materials (i.e. electronic journal holdings) may come in formats that are not accessible or with DRM that does not allow for alternate media specialist to convert the material to a usable format

The Challenge of Web Accessibility

- Distributed authoring, varying skillset of authors
- Lack of central oversight
- Pervasive:
  - Instruction
  - Communication
  - Business
  - Student Services
  - Repository
The Challenge of Emerging Technology – One Example

- Podcasting of courses, iTunes U (several CSU campuses are looking to launch in the fall)
- Currently this technology is not accessible to deaf students nor to blind students
- What does wide-scale implementation mean? What are the resource (time, tools, personnel) implications to making it accessible?? What are the accessibility implications and possible workarounds?? How do we work with the vendor to make this very valuable tool accessible??

ATI Roadmap

- Define compliance requirements, milestones, accountability process
- Measure baseline, identify gaps, set priorities and goals
- Embed accessibility workflow within established procurement processes, e-learning design processes, etc.
- Supply tools, training, resources and support to make implementation simple
- Establish a research team to test emerging technologies and develop accessibility best practices
- Develop communities of practice & enable sharing of resources
- Influence the market with purchase decisions (i.e. buy IT products and services that are accessible)
- Collaborate with current accessibility efforts

Resources

ATRC (Adaptive Technology Resource Centre) http://www.utoronto.ca/atrc/
CATEA (Center for Assistive Technology and Environmental Access): http://catea.org/
NCAM (National Center for Accessible Media) http://ncam.wgbh.org/
Section 508 homepage http://www.access-board.gov/508.htm
Usability: http://www.usability.gov
Web Accessibility Initiative of the World Wide Web Consortium (W3C): http://www.w3.org/WAI
WebAIM (Web Accessibility in Mind): http://www.webaim.org/