Stone Soup, MERLOT, and Change Management

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Director, CSULB Center for Usability in Design & Accessibility
California State University, Long Beach
INNOVATE 2020 6/23/2020
MERLOT: Putting Innovations Into Practice

• We are all in the business of changing people
  • Learning is all about change
  • Innovation is all about change

• Why is change such a difficult process?
  • Learning is a very complex process
  • Innovation is a very complex process of learning to change

• How do we make a complex process successful?
  • Understand and Act as a complex intervention
Understand and Act as a Complex Intervention

- How do you sequence your actions over time to enable the development of new habits?
  - Prerequisites, Readiness, Maturity

- What actions do you coordinate at the same time to enable the development of new habits?
  - Managing ecosystems, process “big data”, cross functional collaboration, break down silos
Today’s Presentation:

- **Use** the MERLOT-SkillsCommons Affordable Learning Solutions program to illustrate “Putting Innovations Into Practice”.

- **Explain** how to coordinate a complex sequence of activities to understand, respond to, and change the complex higher education environment.

- **Apply** the Stone Soup folktale to make understanding and managing complexity easier.
STONE SOUP

by Marcia Brown
Metaphors, Principles, and Innovations

• Engaging people and opening doors
• Validating needs and recognizing readiness
• Exciting curiosity and “demand”
• Creating the gathering place in the open
• Inviting solutions
• Offering personal contributions
• Encouraging publicity
• Enjoying the fruits of labors
• Celebrating accomplishments
• Saying Thank You
OLC Innovate 2020 Virtual Conference Welcome

We've gone online!
Welcome to our first fully online conference! Advancing education innovation requires continuous, visionary, and interdisciplinary leadership. We invite you to join us.

#OLCInnovate
Validating Needs & Recognizing Readiness

Affordability is not about the price of textbooks.

Affordability is about what students can pay.
Share trusted data that people don’t know…

• 49% of CSU undergraduates have Pell Grants
• 80% of CSU undergraduates receive some form of financial aid
Affordability is a big issue for your students. How can you make this more concrete with more data?

- 11% of CSU students experience homelessness
- 41% of CSU students experience some degree of food insecurity – they are hungry

Textbook Affordability Affects Access to an Excellent CSU Education

2018 Florida students’ responses to costs (survey)

- 64% Not purchase required textbook
- 43% Take fewer courses
- 40% Not register for specific courses
- 36% Earn a poor grade
- 23% Drop a course

Do you have a Graduation Initiative?
WHAT IS ACTIONABLE?

ADD REVENUE or REDUCE EXPENSES

Use Data to ESTIMATE IMPACT OF ACTIONS

With 500,000 students in the CSU, if we saved each student $100 per semester, we would save students $100,000,000 annually.

This is a $100,000,000 financial aid package
Making Change Easier

- Engaging people and opening doors
- Validating needs and recognizing readiness
- *Exciting curiosity and “demand”*

You have to find ways to inspire people to change!

- Help students succeed in learning
- Help faculty succeed in teaching
- Help administrators succeed
Did Thermodynamic Equilibrium Excite Your Curiosity?
The Thermodynamics of Cooking and How Different Cooking Methods Work

By Meathead Goldwyn

You may have thought you left physics and chemistry behind when you left school, but if you want to eat well, you need to understand that cooking is all about physics and chemistry, with a little magic mixed in. Here are some foundation concepts every outdoor cook needs to know.

The three ways heat cooks food. Food gets hot when molecules vibrate so fast that their temperature rises. When cooking outdoors, heat is transferred to food by three methods. Which one you use is crucial. These processes have been described this way:

1. Conduction is when your lover’s body is pressed against yours.
2. Convection is when your lover blows in your ear.
3. Radiation is when you feel the heat of your lover’s body under the covers without touching.

Let’s be a bit more precise:

1) Conduction is when heat is transferred to the food by direct contact with the heat source. Cooking a hot dog in a pan is conduction. Heat from the burner is transferred to the pan whose molecules vibrate, and pass the vibe on to the wiener. As the surface of the meat gets hotter than the interior, the heat transfers to the center through the moisture and fats. That’s also conduction. Grill marks are a good example of conduction. Heat is transferred to the grill grates and the hot metal brands the meat.

2) Convection is when heat is carried to the food by a fluid such as air, water, or oil. Cooking a hot dog in your kitchen oven where it is surrounded by hot air is convection cooking. So is boiling it in water, or deep frying it in oil (you really need to try a deep fried hot dog).
Give faculty *choices of resources* that they can use to achieve their goals without overwhelming them and/or costing time!
“OPEN” DOORS TO NEW EDUCATIONAL CONTENT

- Open Educational Resources (OER)
- OpenCourseWare (OCW)
- Open TextBooks
- Open Access Journals

OPEN = Free of Cost

= Permissions to Use

= Free to Choose How to Use In Your Context
No and Low Cost Textbook Alternatives

• **Open Educational Resources:** Find over millions of FREE online instructional materials

• **CSU Library Resources:** Our electronic library collections provide students FREE access to extensive resources

• **Faculty Customized and Authored Materials:** Published and distributed in a variety of ways

• **Lower Cost Publisher Content:** Partner with your bookstores for digital and hard copy formats.
Helping Administrators Succeed in Achieving Institutional Goals

Give a Gift and Not a Burden

- Give Resources: FUNDING and “tools”
- Give Expertise to support good decisions
- Give Management Strategies to implement projects successfully
- Give Recognition for successful programs and lessons learned
CSU’s “Gifts” to Administrators…

• Designed legislation for tools and funding
  • Created the California Open Online Library
  • $3M to support faculty adoption of AL$
  • $2M in grant support for AL$
  • Require course schedules to identify courses with Zero Cost Course Materials

• Provided professional development for campus leaders, consulting, and guidelines

• Required campus coordinators, academic senate resolutions and approvals of AL$ plans

• Required recognition events within RFPs, communications, Board of Trustees reports
Creating Convenience

- Engaging people and opening doors
- Validating needs and recognizing readiness
- Exciting curiosity
- Creating the gathering place in the open

- We needed to cook for 114 California Community Colleges, 23 Cal State Universities, and 10 Universities of California serving over 110,000 faculty and 3 million students
- An Open Digital Library is the Pot and Water for our OER Stone Soup
Welcome to Affordable Learning Solutions (AL$)

www.affordablelearningsolutions.org
In response to COVID-19, we have organized free resources to help teach and learn online.

HBCU Affordable Learning Solutions (AL$) Community Portal

With the essential support from the William and Flora Hewlett Foundation, the California State University and MERLOT (www.merlot.org) welcomes the collaboration and community of Historically Black Colleges and Universities (HBCUs) to implement strategies to make college more affordable by reducing the cost of course materials.
Leveraging a worldwide community and collection

The MERLOT system provides access to curated online learning and support materials and content creation tools, led by an international community of educators, learners and researchers.
Gift of Smart Search

MERLOT Collection

1-24 of 726 results for "dna"

DNA from the Beginning

DNA from the Beginning is an animated tutorial on DNA, genes and heredity. The science behind each concept is explained... see more

Material Type: Simulation
Author: Cold Spring Harbor Laboratory
Date Created: April 11, 2000
Date Modified: August 16, 2018

Key biological concepts animated as narrated and stepped tutorials, along with quizzes.

Material Type: Animation
Author: Sumanas, Inc.
Date Created: June 23, 2005
Date Modified: August 8, 2018

An educational site focused on modern human genetics analysis. Has both on-line activities and instructions for labs and... see more

Material Type: Reference Material
Author: Eccles Institute of Human Genetics, Utah Museum of Natural History
Date Created: April 18, 2000
Date Modified: July 21, 2018

The lab will familiarize you with the science and techniques used to make transgenic flies. Transgenic organisms, which... see more

Material Type: Tutorial
Author: Donna Messersmith
Date Created: April 6, 2005
Date Modified: July 21, 2018

Peer Reviewed, User Reviewed, Member Collections, Recommendations, and more
Gift of Smart Search

Simultaneously searches over 75 other OER and Free Collections
Gift of Smart Search

Searches the WWW with "education rubric"
Leveraging a $2B Dept. of Labor Investment

Affordable Learning Solutions

Welcome to SkillsCommons Affordable Learning Solutions
## Financial Accounting

<table>
<thead>
<tr>
<th>eTextbook</th>
<th>Evaluations of eTextbooks</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Accounting Principles: A Business Perspective</em></td>
<td><em>Quality Evaluations:</em></td>
</tr>
<tr>
<td></td>
<td>Solveg Cooper, CCC Faculty</td>
</tr>
<tr>
<td></td>
<td>Sy Pearlman, CSU Faculty</td>
</tr>
<tr>
<td></td>
<td>Vincent Turner, CSU Faculty</td>
</tr>
<tr>
<td></td>
<td><em>Accessibility Evaluations</em></td>
</tr>
</tbody>
</table>

| *Boundless Accounting*                        | *Quality Evaluations:*  |
|                                               | Solveg Cooper, CCC Faculty                      |
|                                               | Sy Pearlman, CSU Faculty                        |
|                                               | Vincent Turner, CSU Faculty                     |
|                                               | *Accessibility Evaluations*                     |

| *Financial Accounting*                       | *Quality Evaluations:*  |
|                                               | Solveg Cooper, CCC Faculty                      |
|                                               | Sy Pearlman, CSU Faculty                        |
|                                               | Vincent Turner, CSU Faculty                     |
|                                               | *Accessibility Evaluations*                     |

| *Introduction to Financial Accounting*       | *Quality Evaluations:*  |
|                                               | Solveg Cooper, CCC Faculty                      |
|                                               | Sy Pearlman, CSU Faculty                        |
|                                               | Vincent Turner, CSU Faculty                     |
|                                               | *Accessibility Evaluations*                     |
Leveraging a $2B Dept. of Labor Investment
Starting A Collective Impact Process

• Engaging people and opening doors
• Validating needs and recognizing readiness
• Exciting curiosity
• Creating the gathering place in the open

• Inviting solutions
  • With motivated people focused on solving the affordability problem, you have to get them to “own” the solution.
  • Campus members understand best what solutions would work within their campus so invite their leadership and provide support for their leadership.
<table>
<thead>
<tr>
<th>Types of Services</th>
<th>Strategies for Campus Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication and Outreach</td>
<td>Presentations at standing meetings, memos, emails and webinars</td>
</tr>
<tr>
<td>Training &amp; Professional Development</td>
<td>Empower the people who do training already. AL$ provides online services including webinars, “how-to” videos</td>
</tr>
<tr>
<td>Help &amp; Support Services</td>
<td>Enlist support from your reference librarians and campus technology support.</td>
</tr>
<tr>
<td>Providing Print Copies</td>
<td>Work with your bookstore. OpenStax has print copies ready.</td>
</tr>
<tr>
<td>Library, Discovery, Curation</td>
<td>Leverage your library, SkillsCommons, MERLOT, Your faculty &amp; students can curate &amp; share collections.</td>
</tr>
<tr>
<td>Technology Services</td>
<td>Add links in your Library Management Systems (LMSs) and LMSs-Learning.</td>
</tr>
</tbody>
</table>
Engaging people and opening doors
Validating needs and recognizing readiness
Exciting curiosity
Creating the gathering place in the open
Inviting solutions

Offering personal contributions
Encouraging publicity

If you enable intrinsic commitment, augmented with extrinsic incentives, and create convenient ways to participate…
People will take sustainable actions
Openly Sharing Educational Innovations

Open Education Practices: Sharing Through ePortfolios

To advance open educational practices (OEP), MERLOT and SkillsCommons have designed this OEP portal to enable easy discovery and sharing of free, open, and exemplary collections of ePortfolios along with tools, templates, and guidelines that showcase open practices in higher education.

- **Moving Online**
  The COVID-19 pandemic required higher education to quickly transform their instruction to online modalities. MERLOT and SkillCommons created OEP portals to

- **Course Redesign with Technology**
  Over 700 faculty have authored open teaching ePortfolios on how they redesigned their courses with technology to improve student success. They captured

- **Affordable Learning**
  Over 100 faculty have authored open ePortfolios about how and why they’ve adopted and taught with free and open textbooks and resources to improve
## Course Redesign ePortfolio Showcase

### Kinesiology

Explore the open teaching ePortfolios that capture faculty’s course redesign experiences and accomplishments. Each ePortfolio opens the faculty’s and institution’s practices for others to learn, adopt, and adapt for their own instructional needs.

<table>
<thead>
<tr>
<th>e-Portfolio Title</th>
<th>Author</th>
<th>Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise Physiology and Laboratory Redesign</td>
<td>Bernard, Jeffrey</td>
<td>CSU Stanislaus</td>
</tr>
<tr>
<td>The relationship between metabolism and physical activity is difficult for many Exercise Physiology students to grasp. This is especially true when students are expected to apply basic scientific concepts to the body in motion. Therefore, the purpose of this course redesign is to provide the technology needed for students to measure physiological variables during exercise and how this information can be applied to understanding the relationship between metabolism and physical activity.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flipping, Mastery and Data Based Decision Making</td>
<td>Kressler, Jochen</td>
<td>San Diego State</td>
</tr>
<tr>
<td>The course will be redesigned to use I) a flipped format, II) a mastery learning progression approach and III) data based decision making to target instruction. Technologies used to facilitate these changes are I) lecture capture technology; II) computer based testing using data gathering and lock down browser technology, and III) learning analytics software, wireless classroom response systems (i.e. “clickers”), and video messaging.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength and Conditioning Flipped and Blended/Hybrid Class</td>
<td>Galpin, Andrew</td>
<td>CSU Fullerton</td>
</tr>
<tr>
<td>This proposal is centered on student success, accessibility, and job-readiness. It also functions as a &quot;proof of concept&quot; for</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Teaching ePortfolios on Adopting OER

Business

Abbas P. Grammy, Ph.D. from California State University, Bakersfield

eTextbook: Principles of Economics from OpenStax College

Course Description:
Introduction to economic analysis. Topics covered include microeconomic theory and application and macroeconomic theory and policy. Also, an in-depth study of into selected topics and current events.

Quote
"Because most of my students come from low-income families, I wanted to help save them money on the textbook. My department chair recommended the textbook to me. The faculty at my institution are adopting a policy of using e-textbooks in introductory and principles of economics courses."

Learn How I Use This Open Textbook in My Course

Daniel MacDonald, Ph.D. from California State University, San Bernardino

eTextbook: Principles of Microeconomics by OpenStax College
Teaching ePortfolios on Adopting OER

Principles of Economics
CSU Instructor Open Textbook Adoption Portrait

Abstract: This open textbook is being utilized in an economics course for high school students who seek college credit by Abbas P. Grammy, Ph.D. at California State University Bakersfield. The open textbook provides a large number of brief chapters covering both economic theory and applications. The application section covers many social issues such as poverty, inequality, discrimination, immigration, globalization, unemployment, and inflation. The main motivation to adopt an open textbook was to save money for students. Most students access the open textbook online.

COOLforED is a service of the California State University-MERLOT program. Partial funding provided by the State of California, the William and Flora Hewlett Foundation, and the Bill and Melinda Gates Foundation. Questions? Email cool4ed@cdl.edu

About the Textbook
Principles of Economics
Description:
Principles of Economics covers the scope and sequence for a two-semester principles of economics course. The text also includes many current examples, including discussions on the great recession, the controversy among economists over the Affordable Care Act...

ECON 100: The Economic Way of Thinking
Description:
Introduction to economic analysis. Topics covered include microeconomic theory and application and macroeconomic theory and policy. Also, an in-depth study of into selected topics and current events.

About the Course

OER Adoption Process
Because most of my students come from low-income families, I wanted to help save them money on the textbook. My department chair recommended the textbook to me. The faculty at my institution are adopting a policy of using e-textbooks in introductory and principles of economics courses. The textbook comes with an excellent test bank. I brought a selection of chapter questions to the class to have students practice and learn what to expect in
MERLOT Content Builder has TEMPLATES so YOU CAN AUTHOR YOUR OWN Teaching ePortfolio

[Textbook Name]

Common Course ID: [Course name/number linked to descriptor]

[UC/CSU/CC] Instructor Open Textbook Adoption Portrait

**Abstract**: This open textbook is being utilized in a [discipline] course for undergraduate [description if any] students by [Instructor's name] at [Educational Institution name]. The open textbook provides [brief description of highlights and any instructor supplements]. The main motivation to adopt an open textbook was [supply reason]. Most student access the open textbook in [format and/or access method].

**Reviews**: The book has been reviewed by faculty[link to COERC reviews] from within the three segments (CCC, CSU, and UC) of the California higher education systems.

COOLforED is a service of the California State University-MERLOT program.
Partial funding provided by the State of California, the William and Flora Hewlett Foundation, and the Bill and Melinda Gates Foundation.
Questions? Email cool4ed@cdl.edu

**Textbook Title**: [linked to table of contents or website]

**Description**: Provide a brief description of the textbook including concepts, pedagogical approach.

**Course Number**: Name

**Description**: Give description of course utilizing the course catalog at the educational institution if available.

**Prerequisites**: [courses, test scores]

**OER Adoption Process**
Describe the main motivation for adopting the open textbook e.g. saving students money, better control over instructional materials, ability to customize for students needs, etc.

Explain any external materials that you used to supplement the textbook.
# Open ePortfolios on Virtual Labs

**CHEMISTRY**

<table>
<thead>
<tr>
<th>Link to ePortfolio and Description</th>
<th>Author</th>
<th>Author's Narrative</th>
<th>Subject</th>
<th>Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Embedding Virtual Content into Physical Chemistry</strong></td>
<td>Wolcott, Abraham</td>
<td>Video</td>
<td>Chemistry</td>
<td>San Jose State</td>
</tr>
<tr>
<td>Chemistry 160: Physical Chemistry; P-Chem covers fundamental topics in Thermodynamics, Kinetics, Quantum Mechanics and Spectroscopy: Redesigning of Physical Chemistry at San Jose State University with virtual and augmented reality is needed to decrease DFW rates and increase learner outcomes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Developing Novel Hardware Controllers for Hands-on Virtual and Augmented Reality Science Labs</strong></td>
<td>Hamadani, Kambiz M.</td>
<td>Video</td>
<td>Chemistry</td>
<td>CSU San Marcos</td>
</tr>
<tr>
<td>CHEM 105/105L (General, Organic, and Biochemistry) and CHEM 341 (General Biochemistry): The present project seeks to provide students with realistic tactile feedback in virtual, mixed, or augmented reality lab experiments. We are designing and testing a series of prototype hardware tools which augment the functionality of standard laboratory equipment and allow them to pass into the virtual environment while still allowing students to manipulate and sense them as they would in a traditional hands-on lab.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>General Biochemistry with Labster Virtual Lab Modules</strong></td>
<td>Kambiz, Hamadani</td>
<td>-</td>
<td>Biochemistry</td>
<td>CSU San Marcos</td>
</tr>
<tr>
<td>We will use virtual labs created by Labster Inc to provide students with virtual exposure to key concepts in biochemistry including enzyme kinetics, metabolism, bioenergetics, regulation, and protein/nucleic acid structure-function.</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
AL$ Cycle Ends and Begins

• Engaging people and opening doors
• Validating needs and recognizing readiness
• Exciting curiosity
• Creating the gathering place in the open
• Inviting solutions
• Offering personal contributions
• Encouraging publicity

• Enjoying the fruits of labors
• Celebrating accomplishments

PARTY TIME! Recognition of individual contributions and celebration of collective impact
Accomplishments

The California State University
Affordable Learning Solutions

AL$ Reports
Reducing Financial Barriers and Increasing Student Completion in Support of the Graduation Initiative 2025

The expanding implementation of affordable learning solutions is contributing to many CSU students having equitable access to course materials on the first day of class. Low or no cost course materials are also supporting the retention and completion of coursework enabling more faculty and students to experience the positive impact of affordable learning solutions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Bookstore Rentals</th>
<th>OER, Library, Faculty Authored</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-2018</td>
<td>$26,490,213</td>
<td>$18,706,687</td>
</tr>
<tr>
<td>2016-2017</td>
<td>$28,233,147</td>
<td>$11,251,194</td>
</tr>
<tr>
<td>2015-2016</td>
<td>$29,186,547</td>
<td>$10,121,762</td>
</tr>
<tr>
<td>2014-2015</td>
<td>$30,004,680</td>
<td>$4,663,932</td>
</tr>
<tr>
<td>2013-2014</td>
<td>$25,001,477</td>
<td>$2,932,818</td>
</tr>
</tbody>
</table>
Accomplishments

429 of about 750 CSUDH faculty have participated in the 2018-19 AL$ program!
ALL GENERAL EDUCATION COURSES HAVE NO COSTS FOR STUDENTS’ COURSE MATERIALS (except a bio lab and they are working on that one)
Understand and Act as a Complex Intervention

• How do you sequence your actions over time to enable the development of new habits?
  • Prerequisites, Readiness, Maturity

• What actions do you coordinate at the same time to enable the development of new habits?
  • Managing ecosystems, process “big data”, cross functional collaboration, break down silos
Enabling Ecosystems with policies, leadership, business models

Developing Demand with communications, training, & professional development

Creating Capabilities with convenient & affordable access to content through technologies

Building Bridges between siloed groups that need to collaborate

Aggregating Assets Identify all the resources and organizations that can be part of the solution
How to Sequence

• Raise Awareness and Relate to Current Habits
• Develop Demand for Change by Motivating Mindsets and Actions
• Educate and Enable Actions with Convenient Capabilities to “Get What They Want”
• Support Success and Resolve Problems Encountered In Implementation
• Celebrate Measureable Outcomes
Shall We Make Stone Soup?
And Move the World With Innovations?

Mass = Educational Innovations

Mass = MERLOT-SkillsCommons/AL$ Community
THANK YOU

Gerry Hanley
gerry.hanley@csulb.edu