



# Swimming in Online Teaching: Using Open Educational Resources, Practices, and Pedagogies To Keep You From Drowning

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**Executive Director, MERLOT and SkillsCommons**

**Director, CSULB Center for Usability in Design & Accessibility**

**California State University, Long Beach**

**USDLA webinar: September 25, 2020**

## The Innovative Imperative: Responding to COVID Pandemic

- ▶ COVID pandemic has accelerated moving teaching and learning online.
- ▶ We've all been “thrown in the deep end” of the online swimming pool.
- ▶ How do we not drown with all you need to change?

## Learning to Swim: YWCA/YMCA approach

- ▶ **Polywogs:** new experience – get comfortable in the water
- ▶ **Minnows:** Live in the shallow waters, stay close to shore
- ▶ **Fish** – Capable swimmer at every depth
- ▶ **Flying Fish** – Exceptional swimmers with exciting leaps
- ▶ **Sharks** - Expert and long distance swimmers

## Learning to Teach Online: YWCA/YMCA approach

- ▶ **Polywogs:** Get comfortable with small successes – Keep Innovations Simple and Short
- ▶ **Minnows:** Become familiar with a foundational technology and use it consistently
- ▶ **Fish** – Use a few different technologies to engage students
- ▶ **Flying Fish** – Use technology to have students change roles with you - let them fly...
- ▶ **Sharks** - Excellent online pedagogy with tech



## Whatever your swimming ability

- ▶ How do I change from hands-on to online content?
- ▶ How do I learn to teach online with technologies?
- ▶ How do I help my students learn online?

**Together we can cope with the overwhelming demand & delivery of online education.**

**HOW?**

**Sharing** Open Educational Resources **and**  
Open Educational Practices

## ► **OER: Open Educational Resources.**

- Free & open access to etextbooks, tutorials, presentations, animations, simulations, workshops, and more

## ► **OEP: Open Educational Practices.**

- Free & open access to descriptions & explanations of how you design, deliver, and assess education
- The “know-how” to teaching and learning

# SmartSearch

Search the MERLOT Collection, Other Libraries, and the Web

Search

What is SmartSearch?

Advanced Search by: [ISBN](#) | [Materials](#) | [Members](#)



AUN Thematic Network on Technology-enhanced Personalised Learning (AUN-TEPL)

[Materials from my institution](#) | 
 [Members from my institution](#)

92,460

Learning Resources

175,842

Registered Members

4,352

Member Institutions

626

Recent Contributions

[www.merlot.org](http://www.merlot.org)

# Did Thermodynamic Equilibrium Excite Your Curiosity?

8





# Thermodynamic Equilibrium Can Be Exciting

9



Physlet<sup>®</sup> Physics  
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[Home](#) » [Thermodynamics](#) » [Kinetic Theory & Ideal Gas Law](#)

## Chapter 20: Kinetic Theory & Ideal Gas Law

### + Illustrations

### - Explorations

[20.1: Kinetic Theory, Microscopic and Macroscopic Connections](#)

[20.2: Partial Pressure of Gases](#)

**[20.3: Ideal Gas Law](#)**

[20.4: Equipartition Theorem](#)

[20.5: PV Diagrams and Work](#)

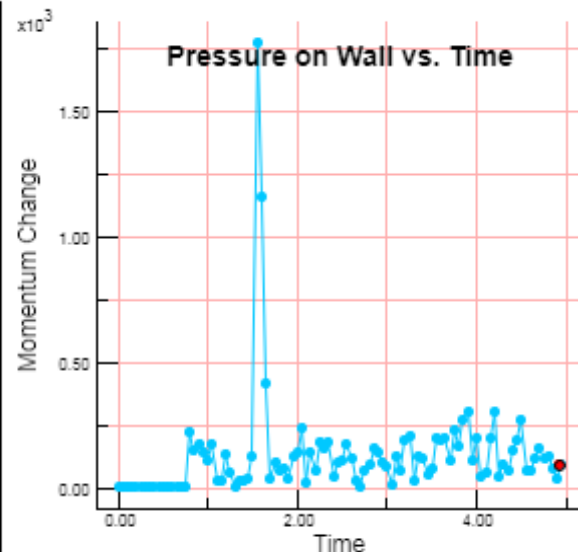
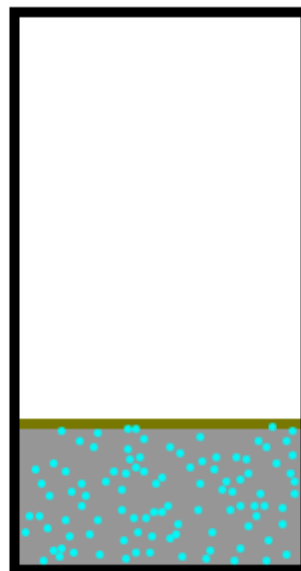
[20.6: Specific Heat at Constant Pressure and Constant Volume](#)

### + Problems

### + Supplements

## Exploration 20.3: Ideal Gas Law

<< - >>



N	V	T	$N \cdot \langle \Delta p \rangle / \Delta t = \langle F \rangle$ for last 5 s
+100.00	+100.00	+100.00	+100.00
			+121.52



N = 100

| T = 100

| V = 100

Set values

# **“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**



# MERLOT Collection

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Browse ▾ Add ▾ Communities ▾ Partner Benefits ▾ News & Info ▾ About MERLOT ▾



Hi Gerry ▾



Search keywords, title, URL, ISBN, or author

Go

Advanced Search Options ▾

MERLOT Collection

Other Libraries

The Web



Sort by Relevance ▾



Show results for

1-24 of 726 results for "dna"

## Materials

Members  
Learning Exercises  
Bookmark Collections  
Course ePortfolios  
Peer Reviews  
Communities

## Filter by

### Discipline

Academic Support Services (6)  
Arts (1)  
Business (4)  
Education (25)  
Humanities (14)  
Mathematics and Statistics (8)  
Science and Technology (687)  
Social Sciences (30)

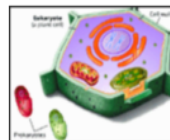
### DNA from the Beginning



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  
Peer Review: ★★★★★

### Biological animations and tutorials



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  
Peer Review: ★★★★★  
User Rating: ★★★★★

### Genetic Science Learning Center



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:** August 16, 2018

### The Virtual Transgenic Fly Lab



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 Review: ★★★★★  
User Rating: ★★★★★

Peer Reviewed, User Reviewed, Member Collections, Recommendations, and more



# Search Other Libraries

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Browse ▾ Add ▾ Communities ▾ Partner Benefits ▾ News & Info ▾ About MERLOT ▾

Hi Gerry ▾ ?

Search keywords, title, URL, ISBN, or author

Go

Advanced Search Options ▾

 MERLOT Collection

 Other Libraries

 The Web



Filter by

1-10 of 100 results for "dna" (MERLOT will always display up to 100 results, regardless of filters)

Library

All Libraries ▾

All Libraries

Alison  
Amazon Inspire  
BC Campus OpenEd  
Carnegie Mellon University Open Learning Initiative  
Class Central  
ComPADRE  
Community College Open Textbooks Collaborative  
Cool4Ed  
Curriki  
Digital Commons Network  
Directory of Open Access Books  
EdX  
Edna Online  
Encyclopedia of Life  
European Association of Distance Teaching Universities EADTU  
Flickr  
Free Documentaries  
Global Free Learning

Endometriosis is associated with...

Dan Gibson: How to build synthetic...



Biologist Dan Gibson edits and programs DNA, just like coders program a computer. But his "code" creates life, giving...

Bookmark

More info  
Go to material

DNA | edX



Free DNA courses online. Learn about genetics, DNA sequencing and more to start or advance your science career with free...

Bookmark

More info  
Go to material

Circulating, cell-free DNA as a...





While cell-free DNA (cfDNA) has initially been shown to increase under acute and chronic pathological conditions like...

Bookmark

More info  
Go to material

Simultaneously searches over 75 other OER and Free Collections

[Go](#)[Advanced Search Options](#) ▾ MERLOT Collection Other Libraries The Web

Filter by

Discipline

 ▾

1-10 of 100 results for "dna" (MERLOT will always display up to 100 results, regardless of filters)

DNA Creative: Social  
Media Marketing...

dnacreative.tv

The #1 Choice for Social Media  
Management & Marketing, Video  
Production, Graphic Design &  
Branding, Photography and...

 Bookmark[More info](#)[Go to material](#)DNA Learning Center -  
Cold Spring...


cshl.edu

Thank you for your patience while we  
update our website to better serve  
you. Visit the DNA Learning Center  
website. The...

 Bookmark[More info](#)[Go to material](#)BTS (방탄소년단) 'DNA'  
Official MV -...

youtube.com

BTS (방탄소년단) 'DNA' Official MV  
Credits: Director : YongSeok Choi  
(Lumpens) Assistant Director : WonJu  
Lee (Lumpens)...

 Bookmark[More info](#)[Go to material](#)Sequencing of  
Circulating Cell-free...

nejm.org

Twenty years ago, cfDNA was  
identified as a plasma analyte when Y  
chromosomal "fetal" DNA was  
extracted and amplified...

 Bookmark[More info](#)[Go to material](#)PRS | Bill Track | The  
DNA Technology...

prsindia.org

The DNA Technology (Use and  
Application) Regulation Bill, 2018 was

DNA Resource Core -  
DF/HCC

harvard.edu

The DF/HCC DNA Resource Core  
provides DF/HCC members, Harvard

DNA Learning Center //  
University of...

nd.edu

Summer science camps. The Notre  
Dame DNA Learning Center is a

Your DNA is an open  
book — but can't...

sciencenewsforstudents.org

There are many companies that offer  
to read your DNA. But be prepared:

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## Searches the WWW with “education rubric”

# Finding & Using OER

- ▶ **MERLOT provides you access to just about every free and open teaching resource available.**
  - ▶ 90,000 resources with high level of curation in MERLOT collection
  - ▶ Over 1 million resources in over 70 other open libraries
  - ▶ Millions of resources on the web via special Google app
- ▶ **MERLOT is open to the world community to share their materials to the library** – the world's public library catalog.
  - ▶ All academic disciplines to various degrees
  - ▶ Usable in over 70 languages with Google Translator

# Content without Practices Goes Nowhere

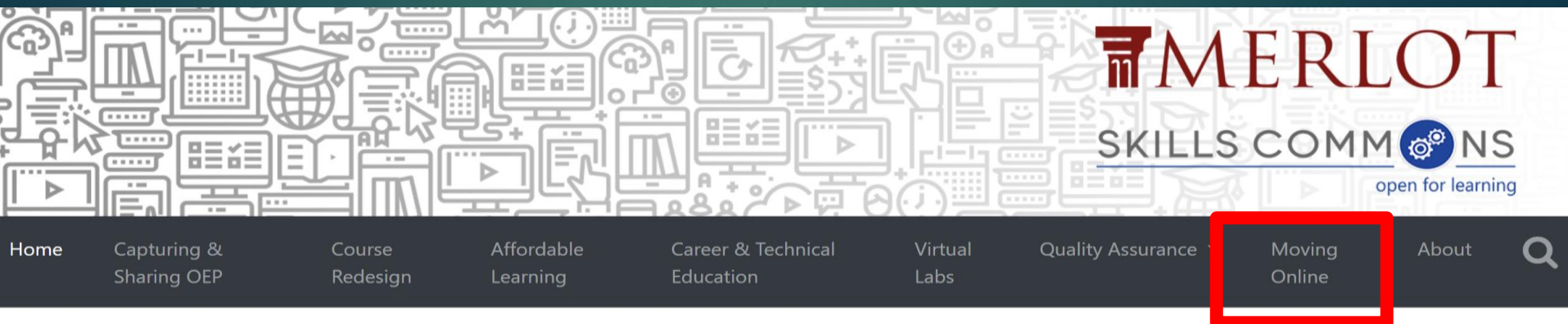
- ▶ How do I move my teaching online?
- ▶ How do I redesign my teaching & curriculum so more students succeed?

Explore our new free and open portal  
for **Open Educational Practices**

# Openly Sharing Educational Innovations

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<http://oep.merlot.org>



## 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 SkillsCommons 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





## Preparing Teachers & Students for Online Learning

In response to the recent developments due to **COVID19**, [SkillsCommons](#) and [MERLOT](#) have created this FREE online resource to help both Teachers and Students prepare to start teaching and learning online.

### Free Teaching and Learning Online Materials

#### Teaching Online



#### Learning Online



#### Career/Technical Ed Resources



OER Portal  
providing  
basics on  
swimming  
online

Free & Open  
from  
**MERLOT**

# Teaching Online

## Learning To Teach Online - Recommendations & Free Courses

Download the latest edition of "[Delivering High-Quality Online Instruction in Response to COVID-19: Faculty Playbook](#)". This playbook is a collaboration between the Online Learning Consortium (OLC), the Association of Public and Land-grant Universities (APLU), and the Every Learner Everywhere Network with support from the Bill & Melinda Gates Foundation. It is designed to serve as a concise guide in addressing faculty needs for online course design, teaching, and continuous improvement.

Download the [Chronicle of Higher Education's free collection of advice guides and opinion pieces](#) on online learning. You'll get the insight and analysis needed to make the adjustment to teaching a full roster of courses online.

Download [The Ten Fundamentals to Teaching Online for Faculty and Instructors](#) by Dr. Tony Bates, 10 pages, September 2016.

Download "[Try This Instead of That](#)" [Recommendations](#) when transitioning to teaching remotely (Calif page quick reference)

### FREE online mini-courses: Learn Teaching Online Basics

Here are two courses developed by higher ed for higher ed funded by federal grants. You can download the course "in the cloud".

1. [Designing and Teaching Online](#) course has six (6) easy-to-review modules to cover the basics created by the University of Alaska Anchorage. Includes FLASH videos so Internet Explorer browser works and have problems.
2. [Introduction to Distance Education](#) course has five (5) easy-to-review modules created by the University of Alaska Anchorage. Includes FLASH videos so Internet Explorer browser works and have problems.

## Virtual Labs for Online Courses

[MERLOT Virtual Labs Portal](#) MERLOT has create a collection of free and open virtual labs across a variety of STEM disciplines that can be very effective in supporting online instruction for laboratory courses.

[Virtual Labs Teaching ePortfolios](#) The Virtual Labs portal also provides a collection of teaching ePortfolios by faculty implementing virtual labs and research on the effectiveness of using virtual labs.

[MERLOT non-STEM Collection of Simulations](#) MERLOT also has collections of simulations that can support laboratory-like experiences in non-STEM disciplines:

[Arts](#) | [Business](#) | [Education](#) | [Humanities](#) | [Social Sciences](#) | [Workforce Development](#)

## Looking for Online Course Content?

[MERLOT](#) is your free and open library of free and open course content across all academic disciplines. In addition to its over 90,000 materials, it also simultaneously searches over 70 other free and open libraries as well as a dynamic, education-aligned searching of the web.

[Affordable Learning Solutions](#) from MERLOT & SkillsCommons provides a FREE and open library of training materials, virtual labs, and general education materials that you can give your students to help them learn.

[SkillsCommons](#) is your free and open library of free and open workforce development and training resources funded by the U.S. Department of Labor. It is a national repository of workforce OER that supported over 700 community colleges creating enhancements and innovations in their workforce curriculum that is now OER available to you.



# Redesigning Courses with Tech

- Explore over 700 open educational practices in ePortfolios

CSU The California State University

## Course Redesign with Technology

Strategies for Student and Faculty Success

### Coherent Statistics with Flipped Instruction

Ji Son, Assistant Professor, Psychology Department

CSU Los Angeles



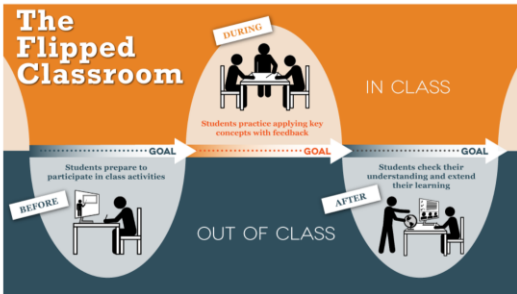
#### About Me

- I am a recently tenured professor at CSULA and enjoy teaching statistics and cognitive science. I am interested in helping students gain skills and perspectives that will continue on with their education. I received my PhD in Cognitive Science and Psychology at Indiana University.

#### About the Course and the Students

Stage 1

#### The Flipped Classroom



#### Background on the Redesign

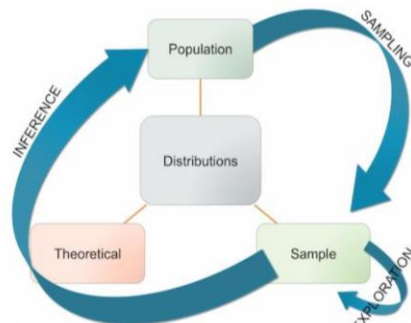
##### Why Redesign Your Course?

- Students come into this statistics course with little experience in quantitative reasoning about data. Also, they come in with much emotional baggage regarding their past experiences with mathematics. Thus, with much trepidation and

- Because of the flipped classroom, more face-to-face time can be devoted to activities that require multiple computers that have the requisite software (e.g., SPSS).

##### Diversity

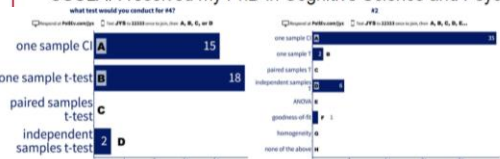
- The pedagogical strategies employed here promote students working together as a diverse community of scholars. Students are encouraged to use multiple representations (e.g., diagrams, gestures, words, equations) and multiple ways of explaining in order to communicate these abstract ideas about statistics.
- The class is designed for students with a wide range of algebra skills.



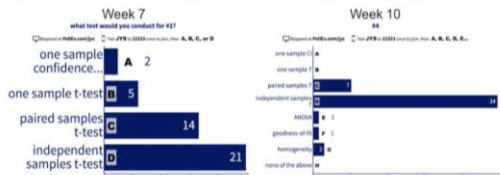
##### Teaching and Learning Resources

The above graphic is the "distribution triad" used to create coherence across the many topics covered in an inferential statistics course.

Check out our freely available materials (in a format importable into campus LMS where questions are embedded into LMS: <http://coursecraft.org>; word doc format for students to fill out with pencil-and-paper: <https://sites.google.com/view/statteach>). Dr. Son also has done research and professional development for

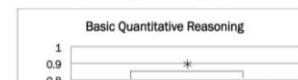


The next two graphs below illustrate students' responses to situations where the most apt statistical analysis was independent samples t-test. Even though they have covered many more statistical tests by Week 10 and thus had many more possible choices, students have improved in being able to apply this analysis appropriately.



##### Basic Quantitative Reasoning

Even though this quantitative reasoning test had no statistics content, nor did the course cover these topics explicitly, students improved on average about 7% ( $SD = 13\%$ ), a statistically significant increase,  $t(47) = 3.57, p = .001$ .



# Learning Online

## How To Learn Online - Resources for Students

Your students need to be prepared to learn online. You can provide them self-assessments about their readiness and easy-to-use tutorials to learn the skills they need to be successful in online learning

1. [Self Assessments on Readiness for Online Learning](#): Explore a collection of these self-assessments on MERLOT and choose ones that are right for your students.
2. [Diagnostic Assessment and Achievement of College Skills](#) includes assessment of self-regulation skills essential for online learning. [Learn more about DAACS...](#)
3. [Tutorial for Online Learning](#): The California Community College's Online Education Initiative created a series of 4 interactive tools to help students learn skills and plan for being a successful online student.
4. [Supporting Students Learning in COVID19 Environments](#): Emerson Collective has created a series of resources to help you develop ways to support students learning online. Emerson Collective is a social enterprise that uses a broad range of tools including philanthropy, impact investing, and policy solutions to create the greatest number of people.

## Competency-Based Tutorial for College Skills including Online Learning

[MERLOT](#), [SkillsCommons](#), and [Gooru](#) have created a self-paced, competency-based tutorial that faculty can use as a supplemental learning activity.

- [College Skills Navigated Learning Curriculum](#) – You can adopt this course curriculum for **Free!**
- Teachers and students can sign up as guests and use the [College Skills Tutorial](#) which provides a self-paced performance for **Free!**
- [Customize the College Skills Course](#) - you can customize this college skills tutorial for your institution

The tutorial is like “Google Maps for Learning”; after a diagnostic to assess the learner’s current knowledge

## Let Students Find & Share Online Learning Resources

[MERLOT](#) and [SkillsCommons](#) are free and open online libraries for everyone to use, including students!

Students can find and share online learning resources that work for them. Over 50,000 students from around the world are MERLOT members (it’s free to join) and have used it to support their own online learning. Students can create their own personal collections of learning resources and easily share them with you and their fellow students. Providing your students an assignment to explore MERLOT and SkillsCommons and share the online resources they find most valuable helps them learn (and develop ICT literacy skills) and reduces faculty workload in finding the “good stuff” on the web.

- Have [students become MERLOT members for FREE](#) so they can participate in the worldwide community of online learning throughout their lives.
- Explore MERLOT’s tools to [build and share personal “bookmark collections”](#).
- Explore [SkillsCommons collection of free online learning materials](#) to prepare for jobs in a variety of industry sectors.
- Reuse/revise a [Class-Assignment.docx](#) for your students at the start of your transition to online learning. Use the pandemic as a topic and have your student create opportunities to contribute to the course as it moves online.
- Students can create and publish their own learning ePortfolios with [MERLOT Content Builder](#). Use [video tutorials](#) so they can learn to use the tool and let them explore an [example of a student’s learning ePortfolio](#) that has already been created and published on the web.

When you adopt any of these activities, you would be practicing “**Open pedagogy** -the practice of engaging with students as creators of information rather than simply consumers of it” ([ref](#)).

## Student Leaders Becoming OER Advocates

[BCCampus Open Education](#) has published guide for your student leaders to support your campus’ OER - Affordable Learning program. The downloadable guide, [OER Student Toolkit](#), is an excellent means to help your student leaders help your students and faculty adopt OER as they move to online learning.

## Supporting Mentoring and Apprenticeships Online

Face-to-face learning is essential for learners in apprenticeship programs and mentors face-to-face teaching is essential for successful learning. There are many ways that online learning and teaching can augment and complement work-based learning.

# Career & Technical Education

## Looking For Free Online Workforce Training Materials?

**RESPONDING TO COVID19 NEEDS:** Healthcare training resources on hygiene, infection control, and workplace safety will continue to be critical to ensure all the stores, restaurants, cruise ships, healthcare offices, school workplaces. SkillsCommons has highlighted free and open training materials in these areas that you wish to support your workplace training needs.

- [Hygiene](#)
- [Workplace Safety](#)
- [Infection Control](#)

## Online Teaching Resources by Hands-on Industries

Welding	Machining	Plumbing
<a href="#">Safety for Welders</a>	<a href="#">Machine Tool Theory</a>	<a href="#">Installing Electronic Controls</a>
<a href="#">Shielded Metal Arc Welding Prep</a>	<a href="#">CNC Milling Machine Videos</a>	<a href="#">Installing Energy Efficient Systems</a>
<a href="#">Gas Metal Arc Welding Prep</a>	<a href="#">Lathe Videos</a>	<a href="#">Design, Construction and Maintenance of Piping Systems</a>
<a href="#">Flux Cored Arc Welding</a>	<a href="#">Surface Grinder Videos</a>	
	<a href="#">Edge Finder/Tramming a Head/Squaring a Vice Videos</a>	
Automotive	Construction/Woodworking/Carpentry	Culinary
<a href="#">Introduction to Automotive Maintenance</a>	<a href="#">Sustainable Design and Construction</a>	<a href="#">Value-Added Culinary</a>
<a href="#">Electric Vehicle Technology Certificate Program</a>	<a href="#">Energy Modeling of Buildings</a>	<a href="#">Local Food Systems</a>
<a href="#">Entry Level Tech Engine Components &amp; Theory</a>	<a href="#">Revised Construction Core Course</a>	

## Free and Affordable Learning Resources

Work-based learners and students in CTE programs need learning resources that are affordable (even FREE), aligned with industry needs, and connected with their prospective careers.

### [Affordable Learning Solutions from SkillsCommons](#)

SkillsCommons provides a FREE and open library of training materials, virtual labs, and general education materials that you can give your students to help them learn.

### [Career and Technical Education Course Showcase](#)

Explore the collection of Free online course curriculum organized by Standard Occupational Classification (SOC) codes, highlighted health care and facilities management resources to support responses to COVID19, and complete online certificate programs in various industry sectors.

## Helping Industry Experts Become Better Instructors Online

Industry experts in healthcare and facilities management have the extensive content expertise that will be critical in training a large workforce in techniques to lower the risks of a contagion in hotels, cruise ships, restaurants, stores, and more. A significant challenge for workforce development is that the industry experts can benefit from guidance on being an effective instructor.

SkillsCommons offers three, FREE, self-paced, online mini-courses with the first course providing thirteen (13) 20-30 minute interactive modules to help jumpstart industry expertise as effective instructors. Whether you are teaching face-to-face or online, these guidelines can help you teach your students and help learners acquire the skills that are critical for today's workforce.

### [Overview of Jumpstart to Successful Instruction \(IE2EI\)](#)

- [IE2EI 101: The Basics on Becoming a Good Instructor](#)
- [IE2EI 102: Diving Deeper to Become a Better Instructor](#)
- [IE2EI 103: Refining Your Teaching Skills](#)

## Supporting Women in Sustainable Employment

The [WISE \(Women in Sustainable Employment\) Pathways](#) is a career exploration course designed for women to explore non-traditional, in-demand jobs in the energy / utilities, construction, manufacturing, public safety, information technology and



# Career & Technical Education



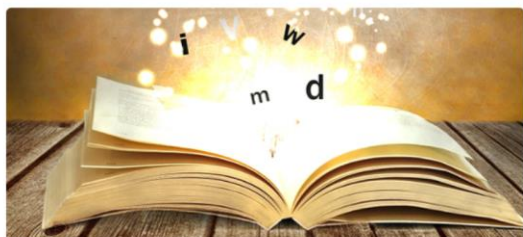
**Aligning Workforce Development Programs with Industry Sector Needs**



**Strengthening Student Support Services to Improve Student & Worker Outcomes**



**Programmatic and Pedagogical Innovations to Improve Student Outcomes**

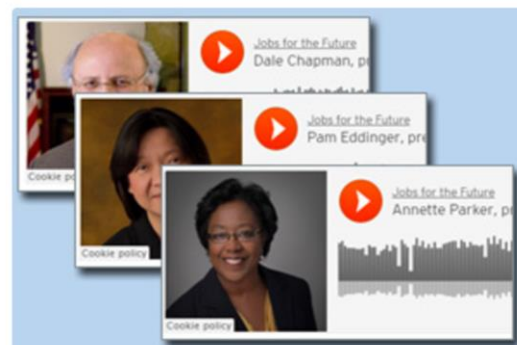


**Story Telling: Effectively Communicating the Impact of CTE Programs**

Learn how to turn your dry reports into communications that will engage your



**Workbased-Learning & Apprenticeship Projects: Sharing Program Strategies and Successes**

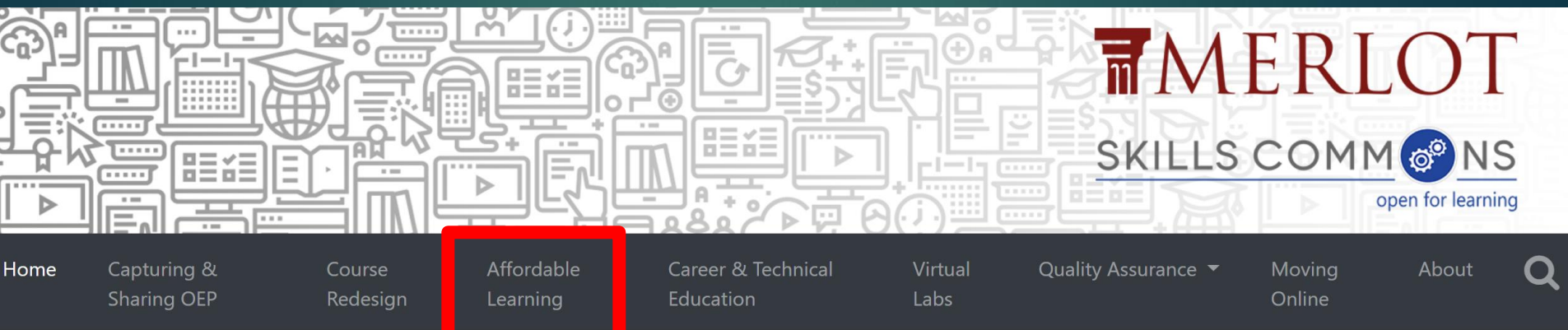


**Campus Presidents' Showcase**

In this podcast series, community college

# Openly Sharing Educational Innovations

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## Open Education Practices: Sharing Through ePortfolios

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### Affordable Learning

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# Teaching ePortfolios on Adopting OER

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## 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](mailto:cool4ed@cdl.edu)

#### About the Textbook

#### About the Course

#### Textbook Adoption

#### 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.



#### 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 to AUTHOR YOUR OWN Teaching ePortfolio

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**[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.

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and the [Bill and Melinda Gates Foundation](#).  
Questions? Email [cool4ed@csl.edu](mailto:cool4ed@csl.edu)

About the Textbook

About the Course

Textbook Adoption

**Textbook Title:** [\[linked to table of contents or website\]](#)

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

Upload  
Textbook  
Image  
(200 w by 260 h)

**Course Number:  
Name**

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

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

Institutional Logo  
( 200 w)

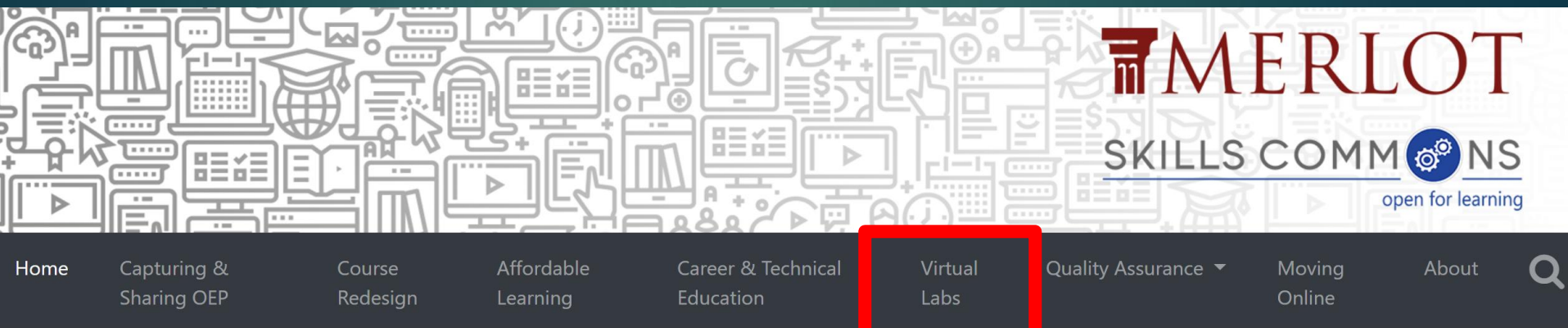
**OER Adoption Process**

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

# Openly Sharing Educational Innovations

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## 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 SkillsCommons 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

## Welcome MERLOT

Science faculty  
passive observa  
viable part of th

## Labs by mons, and Partners!

Virtual labs to engage students in learning through active participation rather than  
ed with bandwidth maturity and mobile access make virtual labs an increasingly

We invite you through this site to learn about current and innovative virtual labs technologies, lab experiments, and simulations used in teaching the science, technology, engineering, and math disciplines in higher education.

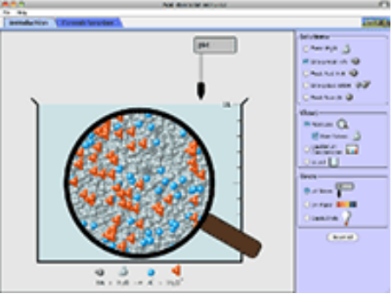

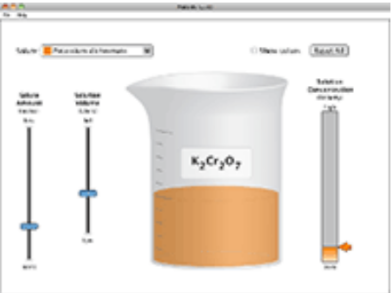

### OLC Ideate Labs for Online STEM: Innovating STEM Education



The Online Learning Consortium and MERLOT would like to invite you to our **OLC Ideate Labs for Online STEM: Innovating STEM Education 2020 on August 19-21, 2020**. This **free** virtual expo will showcase a wide range of virtual and distance labs designed to support online STEM education, offered by both commercial and open educational resource (OER) providers. This event brings educators and providers together, not only offering expert guidance on how best to deploy the



There are 53 simulations in the [PhET Chemistry Collection](#). Here are some highlights:

<b>Online Activity Labs:</b>	<b>Topics:</b>
<b>Acid-Base Solutions</b> 	<p>How do strong and weak acids differ? Use lab tools on your computer to find out! Dip the paper or the probe into solution to measure the pH, or put in the electrodes to measure the conductivity. Then see how concentration and strength affect pH. Can a weak acid solution have the same pH as a strong acid solution?</p> <p><a href="#">Details and get access to <i>Acid-Base Solutions</i></a></p> <p><a href="#">Check out <i>Acid-Base Solutions</i></a></p>
<b>Build a Molecule</b> 	<p>Starting from atoms, see how many molecules you can build. Collect your molecules and see them in 3D!</p> <p><a href="#">Details and get access to <i>Build a Molecule</i></a></p> <p><a href="#">Check out <i>Build a Molecule</i></a></p>
<b>Molarity</b> 	<p>What determines the concentration of a solution? Learn about the relationships between moles, liters, and molarity by adjusting the amount of solute and solution volume. Change solutes to compare different chemical compounds in water.</p> <p><a href="#">Details and get access to <i>Molarity</i></a></p> <p><a href="#">Check out <i>Molarity</i></a></p>
<b>Molecule Shapes</b> 	<p>Explore molecule shapes by building molecules in 3D! How does molecule shape change with different numbers of bonds and electron pairs? Find out by adding single, double or triple</p>

# Open ePortfolios on Virtual Labs

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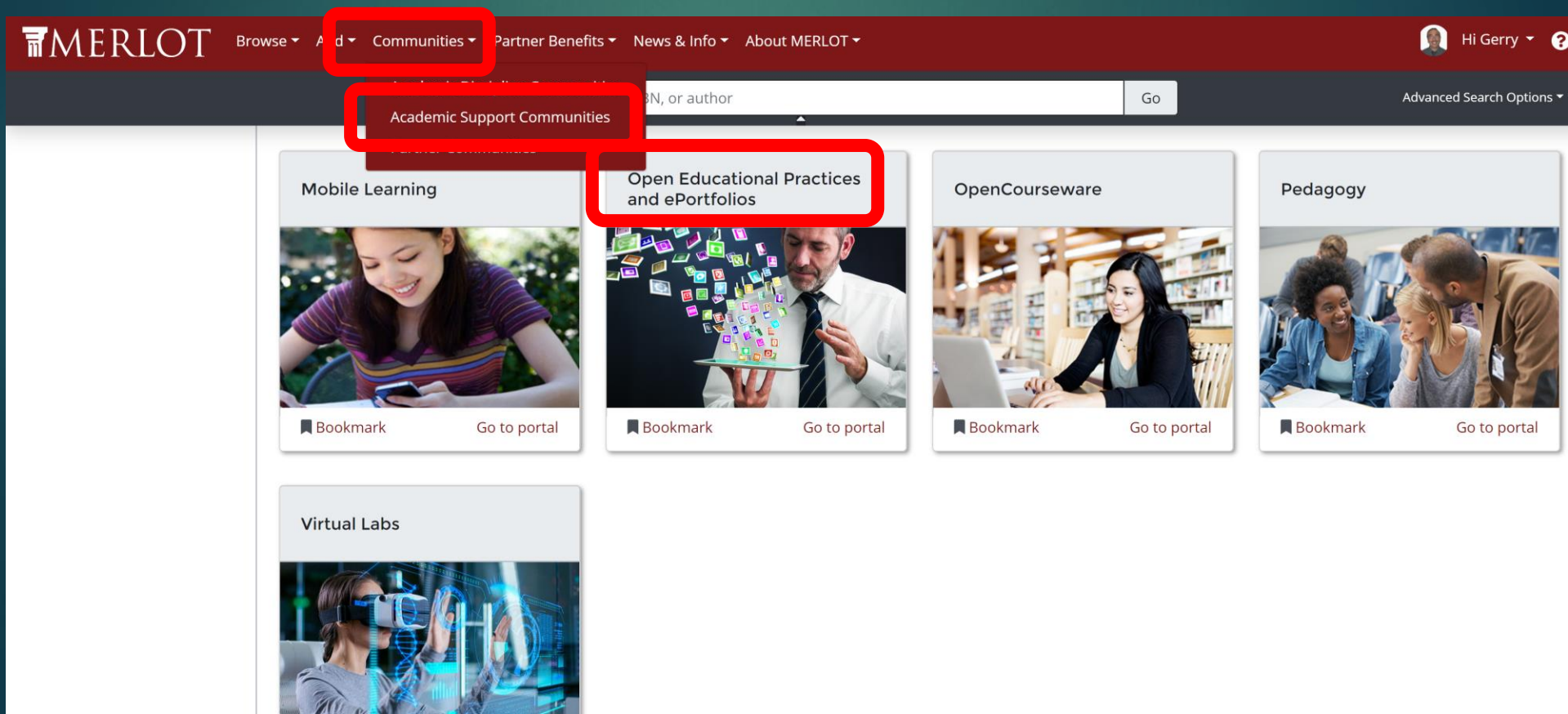


## CHEMISTRY

Link to ePortfolio and Description	Author	Author's Narrative	Subject	Campus
<a href="#">Embedding Virtual Content into Physical Chemistry</a> 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.	Wolcott, Abraham	<a href="#">Video</a>	Chemistry	San Jose State
<a href="#">Developing Novel Hardware Controllers for Hands-on Virtual and Augmented Reality Science Labs</a> 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.	Hamadani, Kambiz M.	<a href="#">Video</a>	Chemistry	CSU San Marcos
<a href="#">General Biochemistry with Labster Virtual Lab Modules</a> 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.	Kambiz, Hamadani	-	Biochemistry	CSU San Marcos

# Where do you find OER & OEP?

## <http://oep.merlot.org>



The screenshot shows the MERLOT website interface. The top navigation bar includes the MERLOT logo, a search bar, and links for Browse, Add, Communities, Partner Benefits, News & Info, and About MERLOT. The 'Communities' link is highlighted with a red box. Below the navigation bar, a search bar contains the text 'N, or author' and a 'Go' button. To the right of the search bar is a link for 'Advanced Search Options'. Below the search bar, a grid of educational resources is displayed. The resources are: Mobile Learning, Open Educational Practices and ePortfolios, OpenCourseware, Pedagogy, and Virtual Labs. The 'Open Educational Practices and ePortfolios' resource is highlighted with a red box. Each resource card includes a title, a thumbnail image, a 'Bookmark' button, and a 'Go to portal' button.

MERLOT

Browse ▾ Add ▾ Communities ▾ Partner Benefits ▾ News & Info ▾ About MERLOT ▾

Hi Gerry ▾ ?

Search N, or author Go

Advanced Search Options ▾

Academic Support Communities

Mobile Learning

Open Educational Practices and ePortfolios

OpenCourseware

Pedagogy

Virtual Labs

Bookmark Go to portal

Bookmark Go to portal

Bookmark Go to portal

Bookmark Go to portal

# You and Your Students Can Create A Curated Shared Collection

- ▶ You and your students can **contribute free online teaching and learning resources** in MERLOT when you find online materials that help learning.
- ▶ You and your students can create and share their **own personal curated collection** of materials using **MERLOT's Bookmark Collection** tool.

**OPEN PEDAGOGY**



# Contribute to the MERLOT Collection

**MERLOT** Browse ▾ Add ▾ Communities ▾ Partner Benefits ▾ News & Info ▾ About MERLOT ▾ Hi Gerry

Search keywords, title, URL, ISBN, or author Search Advanced Search Op

## Add a Material

Submitting a material to MERLOT is easy! Simply enter as many details about the material as you can. The more information you enter, the easier it will be for others to find the material in MERLOT. Keep in mind that MERLOT only stores the metadata for the material and links out to it with the URL you provide.

URL \*

Or

Title \*

☐ Visible to MERLOT partners only; not the entire MERLOT community.

Disciplines \* Use selector below to choose a discipline.

Select a discipline... ▾

Description \*

B I U S 
 [List Icons] 
 [Quote Icon] 
 [Table Icon]

[Undo] [Redo] [Cut] [Copy] [Paste] [Indent Left] [Indent Right] 
 Ω x<sub>2</sub> x² 
 [Link] [Unlink]

Enter multiple keywords, separating them with a comma or semicolon. Click Add when all words are entered. (200 character limit per keyword)

Keywords  Add

# Become a MERLOT member – it is FREE

## ADD materials to MERLOT

## Catalog the materials by filling out the form

# Creating & Sharing Your MERLOT Bookmark Collection

[Home](#) / [MERLOT Materials](#) / [Material Detail: DNA from the Beginning](#)

## Material Detail

### DNA from the Beginning




**DNA from the Beginning** is an animated tutorial on DNA, genes and herec behind each concept is explained using animations related to DNA topics, a video interviews, problems, biographies, and links related to DNA. There ar Classical Genetics, Molecules of Genetics and Organization of Genetic Mate are the clear explanations of classical experiments and the...

[Show More](#)

**Keywords:** genetics, genes, DNA, DNA models, History about DNA

**Disciplines:**

Science and Technology / Agriculture and Environmental Sciences / Anima  
More...

[Go to Material](#) 
[Bookmark / Add to Course ePortfolio](#)
[Create a Learning Exercise](#)
[Add Accessibility Information](#)

Rate    

Share    

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## Create a new Bookmark Collection



Create a new Bookmark Collection and add this material.

Title \*

Description \*

☒ Notify me by email when a discussion is started about any of the materials in this Collection

[Create and Add this Material](#)
[Cancel](#)

# Bookmark Collection

## Linguistics

Material I want to look at in my free time

**Date Added to MERLOT:** June 24, 2020
















**Created by:** Gerry Hanley

**License:**   Derived from

Share



### ▼ Collection Content

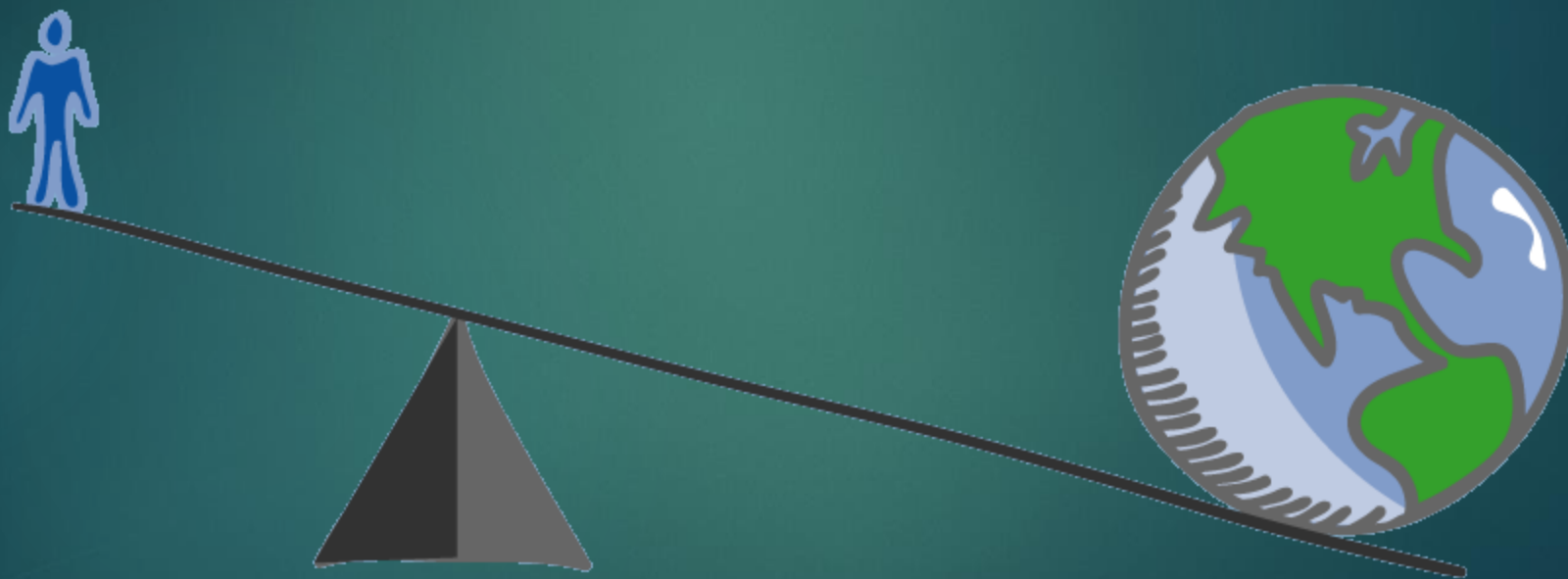
- |        |   |   |   |
|--------|---|---|---|
| ▼      |    | Linguistics (Open (Access) Textbook)<br>kfa;lkdfja;lkdfj                                |       |
| ^<br>▼ |    | The Linguistics Virtual Campus (VLC) (Collection)                                       |       |
| ^<br>▼ |  | Glossa: A Journal of General Linguistics (Collection)                                   |   |
| ^<br>▼ |  | 24.942 Grammar of a Less Familiar Language   Linguistics and Philosophy (Online Course) |   |
| ^<br>▼ |  | 24.900 Introduction to Linguistics (MIT) (Online Course)                                |   |

# Invitation to Action!

- ▶ **Use OER and OEP** to empower people to become better educators and educated!
- ▶ **We can do better by growing the collections of OER and OEP** so all have greater access to humanity's knowledge and skills.
- ▶ **Invite people to share their knowledge, skills, and wisdom for the betterment of humanity.**
  - ▶ Use MERLOT and SkillsCommons to share your teaching resources and know-how.



# Shall We Change the World as It Changes Us?



# By Being Better Together?

Mass = Educational Innovations



Mass = MERLOT & USDLA Community



# THANK YOU

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