The Online Course Revolution

Building Online and Blended Learning Environments with Free, Open Resources

Structures to Improve Online Staff Development

ONLINE learning

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Open Educational Resources

OER "Building Blocks"

WPClipArt
www.wpclipart.com
Public domain clip art collection

Flickr
www.flickr.com/creativecommons
Photos and video; do an advanced search to find Creative Commons-licensed content

Curriki
www.curriki.org
A repository of educational resources covering all subjects (K-12)

Khan Academy
www.khanacademy.org
(also available in Curriki)
Over 2,100 videos and 100 exercises in math and other topics

PhET
phet.colorado.edu
Interactive math and science simulations (middle and high school)

Kids Open Dictionary
dictionary.k12opened.com
Accessible definitions and glossaries that can be imported into lessons or online courses

OER Textbooks and Curriculum

CK-12 FlexBooks
www.ck12.org/flexbook
Open textbooks that can be flexibly configured (high school)

FreeReading
www.freereading.net
A research-based reading intervention program (elementary)

OER Online Courses

NROC and Hippocampus
www.hippocampus.org
Online courses in a variety of subjects (high school)

Open High School of Utah
www.ocw.openhighschool.org
Downloadable Moodle courses in a variety of subjects (high school)

A more complete list of resources is available at www.livebinders.com/play/play/117659

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Online and blended learning offer incredible new opportunities for teachers and students. Carefully constructed, student-centered online environments provide the ability to differentiate and personalize learning in ways that are hard to do in regular face-to-face classrooms.

Creating online environments with a large selection of rich learning resources and highly interactive experiences is critical to maximizing this potential, but doing so is not trivial. We need new paradigms and new content—the same old static textbooks won't work. With current budget challenges, it is difficult to fund the purchase of commercial solutions. As a result, teachers are often tasked with creating their own course content. Open educational resources (OER) are a great boon to educators given this challenge.

OERs are free, open resources published under sharing licenses like Creative Commons. (See <www.creativecommons.org> for more information.) These resources can be remixed, modified, and redistributed by anyone. And unlike many free, but proprietary, resources, you can store them on your own computer, host them on your own network, modify them, and know that they will always be available for your use.

OERs include everything from individual photos to videos and interactives, and even full-blown courses. Teachers involved in online learning can incorporate OER "building blocks," such as clip art, photos, tutorials, and text passages into their courses. There are also open-licensed online textbooks that can be utilized. Or teachers can pull from already-available, open-licensed online course modules, adapting them as appropriate for their own students and classrooms.

The Open High School of Utah uses open tools and open content for a variety of courses, such as this one on Earth Systems.

Laurel, Delmar, and Seaford Public School Districts in Delaware have tapped into OER as a part of their Learning-Focused Strategies-DIGITAL program. Through this initiative, teachers identify high-priority learning units into which they want to integrate technology to deepen students' learning experiences. They specify the unit objectives, their project and activity ideas, and how technology might enhance students' achievement.

After that, curriculum alignment specialists review a wide variety of OERs and identify those that best support the unit standards and objectives, as well as other criteria. Those OERs are catalogued and made available to teachers so that they can adapt them for their own use.

Over two years, nearly 200 units in grades 5-12 in language arts, math, science, and social studies have been correlated to over 1,200 high quality, open resources. These have included videos, interactives, maps, textbook chapters, online course modules, graphic organizers, handouts, ebooks, speeches, and more—all free and open-licensed.

According to Seaford Public Schools Director of Accountability, Assessment, and Technology Dr. Steve Garner, "The high quality of the OER resources makes them attractive to teachers to use in the classroom. In the course

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of identifying and aligning them to curricular materials, teachers learn about the Creative Commons licensing process. They also see the power of the co-op model in that not only can they find quality materials, but they can also create and contribute their own content."

One unique type of resource that has been developed as a part of this project is media sets. These are collections of images, diagrams, maps, video clips, and audio that are organized around themes and unit topics. Teachers and students can use these open resources to create their own multimedia projects, from reports and websites to movies and podcasts. This facilitates rich, hands-on, project-based learning experiences without concerns about copyright infringement or lengthy and sometimes distracting searches for high quality content. To date, over 40 of these media sets have been created, and teachers are now learning how to create and share even more. Topics include everything from ancient civilizations and World War I to weather and genetics. (See <goo.gl/Rf6hc> for a list of these resources.)

Here are a few tips for getting started with OERs and using them for blended and online learning:

- Begin with your standards and learning objectives—not the technology.

- Make sure the resources you choose are truly open and not just free. (The easiest way to verify this is to look for a Creative Commons license.) This will allow you to modify and build on the content and to know that it will always be freely available.

- Carefully evaluate the quality of the resources you choose to make sure they are superior and support deeper learning strategies. (One tool for this is the set of rubrics recently published by Achieve, which are available at <www.achieve.org/oer-rubrics>.)

- Include a wide selection of resources, including multiple media, ones at different reading levels, those with foreign language support, etc. Differentiating instruction effectively requires many resources so that students can choose those most appropriate to them.

- Provide teachers with ample professional development and support on using OERs to advance best learning practices.

- Use a learning management system to organize your resources and track student use of them. (One free and open-licensed learning management system is Moodle.)

- Keep building your collection of resources. There are many new high quality OERs for K-12 coming out every day.

- Share what you learn and create by putting a Creative Commons license on your own work and sharing it on a site like Curriki. Sharing is good, and the more we share, the richer we'll all be!

Karen Fasimpaur works with schools to integrate technology with the curriculum to enhance learning. She is an evangelist for open education, an award-winning author, a blogger, and a carpenter.