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Tools to Promote Open Pedagogy in the Classroom

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Definitions of *open pedagogy* continue to evolve. The concept of *open pedagogy* initially emerged in the first wave of open education in the 1960s and 1970s, reflecting the educational mind-set and wider political movements of that time. The concept has re-emerged in the context of the current open education movement. th

Open pedagogy is a philosophical shift for both faculty and students. Any time we branch off from traditional methods of teaching and learning, students may feel some discomfort.

Here are some thoughts and advice from students who have been through several open pedagogy courses, offered to other students:

-Keep an Open Mind: We are used to slides and lecturing, so when this stops there is a fear that no learning will happen. Be open to new ways of teaching and learning.

-Be Accountable: With open pedagogy students have more control about topics, how research is done, and how knowledge is shared with other students and even the community. This means you have a voice in what you learn, so give consideration and then do the work.

Many OER materials—whether they are open textbooks, websites, videos, or other resources—lack the traditional test bank that comes with published textbooks.

The simple act of adding multiple choice questions,

TIPS FOR SUCCESS: Students were given the following guidelines for writing multiple choice questions:

1. Write plausible distractors

Each of the incorrect response options should be plausible, at least on the surface. Selecting the correct response should require a clear (and ideally deep) understanding of the material.

Teach your students how to edit Wikipedia articles. By adding new content, revising existing content, adding citations, or adding images, students can (with the support of the [Wiki Education Foundation](#)^[20]) make direct contributions to one of the most popular public repositories for information. Indeed, more than 22,000 students already have, including [medical students at the University of California San Francisco](#).^[21] More than developing digital literacy and learning how to synthesize, articulate, and share information, students engage with and understand the politics of editing tools that shape it.

In reality, many students (and, if we are honest, faculty too) use Wikipedia as a reference both in and out of the classroom. Students appreciate learning skills they can use in real life, and editing articles they use is one way to teach this skill.

Here are some details on the benefits of this method:

1. Students understand course concepts in a real-world context.

When students learn how to improve Wikipedia as a classroom assignment, they not only gain a deeper understanding of a resource they use all the time, but they must also delve deep into course concepts to be able to succinctly transmit them to a worldwide audience. Students are excited by the prospects that millions will have access to their work, motivating them to present high quality research and writing.

2. Students learn skills that will be relevant to their future careers.

For students, a Wikipedia assignment offers skills for articulating academic topics to a lay audience. Through this articulation process, the student must understand complex course concepts in order to translate them for a public audience.

3. Students come to understand that every student must

Facilitate student-created and student-

Engage students in public chats with authors or experts. Platforms such as Twitter can help engage students in scholarly and professional conversations with practitioners in their fields. This is another way that students can contribute to not just consume knowledge, and it shifts learning into a dialogic experience. In addition, if students are sharing work publicly, they can also use social media channels to drive mentors, teachers, peers, critics, experts, friends, family, and the public to their work for comment. Opening conversations about academic and transdisciplinary work both student work and the work of established scholars and practitioners is, like contributing to OERs, a way to grow a thriving knowledge commons.

Build course policies, outcomes, assignments, rubrics, and schedules of

Students (or groups of students) can create websites on topics they themselves have deemed important to society. The websites are designed to take the place of a course textbook, and are completely written, designed, and edited by students. In the spirit of Open Pedagogy, the websites are renewable, with a new cohort of students adding and editing to the current websites each semester.

The goal of this project was to give students agency in their own learning being able to choose topics they are interested in learning about.

Here are some tips for how one professor has used this method in a science course:

(Source: <https://openpedagogy.org/course-level/non-majors-science-students-as-content-creators/>)

At the beginning of the semester, we start by talking about the privacy issues and risks associated with posting materials online this is especially important because some of our topics can be conceived as controversial by some people in the public sphere, like climate change and evolution. Students choose topics based on their interests using a Google Forms [survey](#). After they chosen a topic, we spend a class [reviewing](#) the website in its current form evaluating its coherence, organization, design, etc.. Students then develop a [plan](#) for proposed changes to the website. Some groups decide to add whole new subsections of content. For example, the current DNA page has three well organized subsections covering CRISPR, DNA fingerprinting and analysis, and Cloning, each created by three different cohorts (semesters) of students. Other groups choose to enhance existing sections and add new sub-pages.

Once the plan is developed, students work collaboratively using Google Docs to create rough drafts of the new sections, or they take a current section that needs major edits and begin to add edits using the suggesting tool. These drafts are then shared with other students in the class, who are given commenting (not editing) privileges to peer review the sections that are being added. From there, the students then take the content from Google Docs and transfer it to their websites using Google Sites, incorporating openly licensed images and media.

As students work on projects and writing assignments during the course, they locate resources that they might just cite in a paper, yet other students are not aware of these resources.

A model promoting open pedagogy is for students to share these resources with each other, making them available for all to learn from and use in their work.

Zotero is a free tool that helps to organize, collect, annotate, and share bibliographic resources.

Here is an example of how this was used in a literature course:

https://www.zotero.org/groups/2244541/itw101_immigration_and_refugee_crises_in_europe/library

You will see how the collection of resources can build from semester to semester, becoming more robust over time.

Source: <https://openpedagogy.org/assignment/students-creating-a-shared-annotated-bibliography/>

All departments and faculty are in various stages of working with OER and open pedagogy. Most departments have courses that are taught in multiple sections by different faculty members.

It may be worth the effort for these faculty to work together to try to offer one or two assignments that are based on open pedagogy across these sections of the course.

This approach can be a useful way to infuse open pedagogy across the curriculum for faculty who are less familiar with the methods.

Many websites are robust sources of information, but can be overwhelming in the amount of information found on them. One approach is to have students search out specific information from the website and summarize it, along with some questions for discussion. Each student then posts their summary and questions to a class page (such as on Google Docs, the LMS, or a Wiki page). Then the summaries and questions can be used in class for an in-class discussion of the material.

Here is an example of how this worked in a Genetics course:

- Students first look up a genetic condition in Genetics Home Reference (which is a public domain site maintained by the National Institute of Health).

- Then they give a description in the Google document of the condition and

Robin DeRosa described a well-known example of working with her
found here:

<https://openamlit.pressbooks.com/>

What started as an effort to save students money turned into a robust work that was built upon by many semesters of students and other faculty.

She realized that her students were spending \$85-90 for an anthology of literature that was mostly in the public domain. For a full description of the project please see her blog post at:

<http://robinderosa.net/uncategorized/my-open-textbook-pedagogy-and->

DeRosa noted that in 16 years of teaching the course, no student had ever told her that they loved the traditional anthology text. However, once students became invested in creating the course open textbook, they became connected to the material and engaged with it. She summarizes this method as a transition from a banking model where the teacher
-based model,

As students learn new material, they often have questions about the meaning of new terms and concepts. When open resources are digital,

material. It is analogous to embedding a discussion board into the textbook and turns note-taking into a social process where students can help each other understand the material and the professor can see where students have questions about the content.

take notes on the text digitally.

For details on how to integrate Hypothesis (which is free) into your course, please see:

<https://web.hypothes.is/about/>

Note that for students t

Here is an example of what Hypothesis looks like when integrated with an open literature textbook:

<https://via.hypothes.is/https://openamlit.pressbooks.com/chapter/annodom-1642/>

Source: <http://robinderosa.net/uncategorized/my-open-textbook-pedagogy-and-practice/>

The following resources are helpful for those who wish to explore more information about using open pedagogy:

<https://iastate.pressbooks.pub/oerstarterkit/chapter/open-pedagogy/>

<https://www.utrgv.edu/textbook-affordability-project/resources-and-support/teaching-with-open-pedagogy/index.htm>

<https://www.colorado.edu/center/teaching-learning/teaching-resources/open-education/open-educational-practices-and-pedagogies>

There are many articles and papers about the *concept* of open pedagogy, but a theory-practice gap clearly remains for how to operationalize these ideas. The primary purpose of this guide was to cull various methods that use open pedagogy in the classroom and put them in one place for faculty to review and have resources to learn more details about each method.

Werth and Williams (2022) state that once a faculty member is interested in the attributes of open pedagogy. This section will briefly outline that process; for full details the reader is referred to the article (available as an open-access article).

Figure 1 illustrates the four components of open pedagogy that are instructor-centric.



Figure 1. Visualizing teacher-centric elements of open pedagogy (Werth & Williams, 2022).

Faculty can consider how their teaching philosophy aligns with each of these four categories. The following table (summarized from Werth & Williams, 2022) provides some sample characteristics and techniques:

<u>Category</u>	<u>Sample Characteristics / Techniques</u>
Open design	Use of: <ul style="list-style-type: none"> -freely available software and materials -educational technology to increase access -encouraging others in developing learning outcomes, teaching and learning resources and activities, and student assessment/evaluation -Iterative approach to course design -Practices including the sharing, reuse, and remix of materials -Methods to be communicative with students and peers in the course design process
Open content	Open content that could be used by faculty include: <ul style="list-style-type: none"> -learning modules -courseware items -teacher resources (curricula, videos, images, syllabi, assignments) -Open textbooks
Open assessment	<ul style="list-style-type: none"> -Focus on the use of formative assessments -Collaborate with students in achieving learning goals -Develop assessment tools in collaboration with students -

