



Closing the Gap in the Open Educational Resources (OER) Life Cycle for Using Research Data in the Ecology Classroom

Kristine Grayson¹, Kaitlin Bonner², Arietta Fleming-Davies³, X. Ben Wu⁴, Raisa Hernández-Pacheco¹

¹University of Richmond, ²St. John Fisher College, ³University of San Diego, ⁴Texas A&M University



Why Data in the Classroom?

The increased availability of research data coincides with calls for undergraduate education reform to provide opportunities for students to develop quantitative competencies in biology.

Examples of OER for Ecological Data in the Classroom



Applying the OER Life Cycle

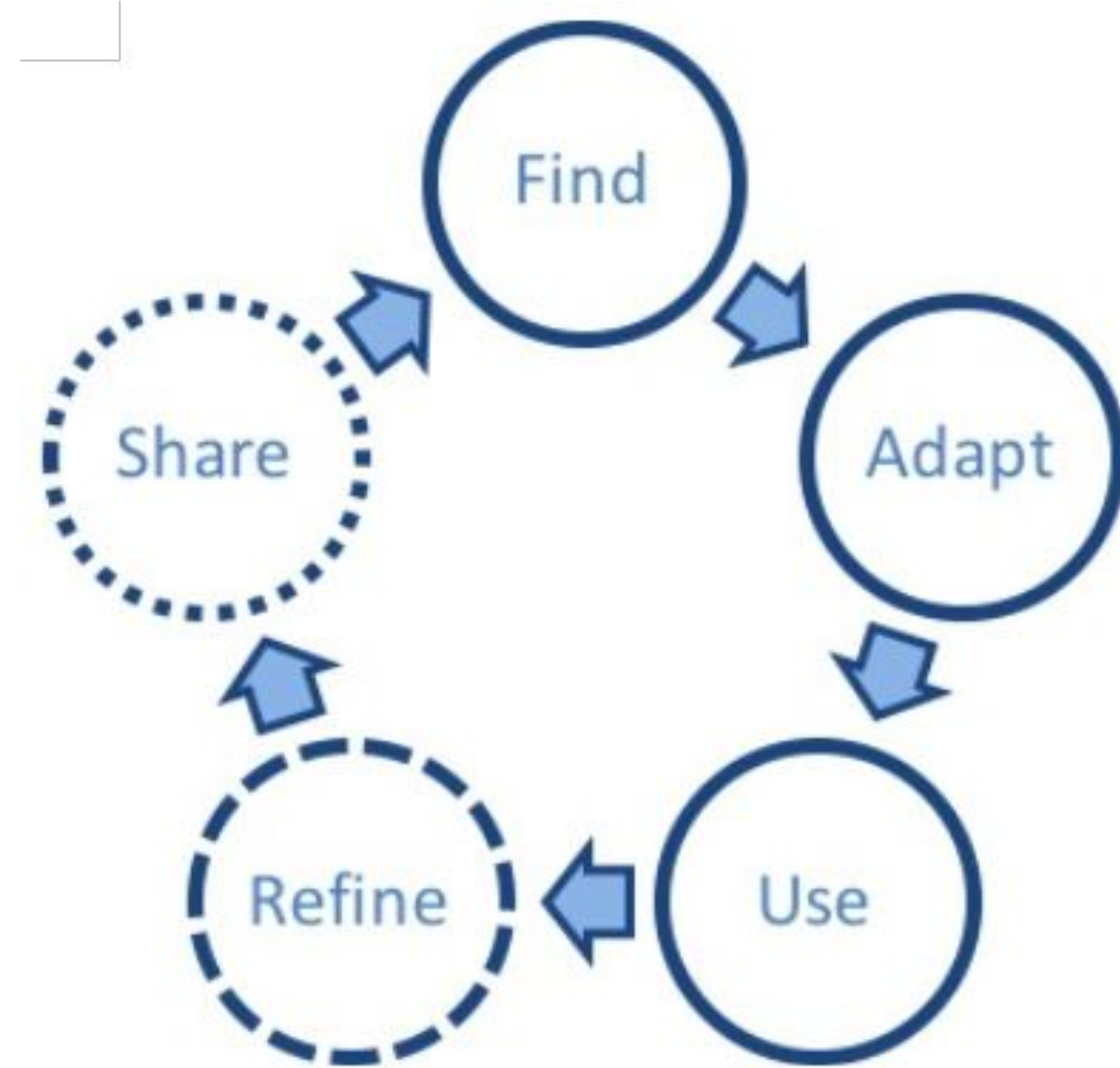
Step 1: Find teaching resources that use ecological data for the classroom

Step 2: Adapt resources to be relevant for your class and students

Step 3: Use adapted teaching resources and assess student learning

Step 4: Refine the resources after implementation for use in future courses

Step 5: Share your refined product on an OER platform so that others can find and use



OER cycle model for education resources
Source: Adapted from Atkins et al. 2007

OER Life Cycle Barriers

While the accessibility of research data and resources to bring data into teaching materials has improved, other barriers remain for its integration in the classroom:

- Resource awareness
- Lack of support and training
- Academic culture and lack of incentives
- Student attitudes and preparedness

DIG Into Data Mission:

Conceptualize and promote a community framework for the large-scale sharing and adaptation of data-centric educational resources

Building Capacity for Finding → Adapting → Using

- ESA organized oral session and Life Discovery workshops
- Faculty Mentoring Networks (FMNs) to build a community of practice and generate innovative educational scholarship
 - New data-centric materials in a special issue of TIEE
 - Next FMN creating and sharing adaptations of published materials



Materials available at:

https://qubeshub.org/groups/data_incubator

Closing the Gap from Refining → Sharing Materials

- Our Incubator network meeting brought together diverse stakeholders (resource providers, resource developers, and OER experts) to discuss OER challenges and solutions to data-centric teaching resources in ecology.
- Current activities include:
 - Framing challenges and potential solutions for dissemination through a white paper
 - Creating a faculty survey to elucidate persistent challenges to sharing materials and building incentives
 - Facilitating Faculty Mentoring Networks to provide training and opportunities to use and share resources
 - Utilize new QUBES system for publishing adaptations of resources
 - Permits citations, versioning, and adapting (forking)
 - Analogous to GitHub for teaching materials

Adaptations (“forking”) and versioning

Climate Change and Phenology: Evaluating Temperature,...

Forked from: Investigating the footprint of climate change on phenology and ecological...

Kristen Genet
Anoka-Ramsey Community College

Citations with DOIs

Orlofske, S. (2018). Parasites -- They're what's for dinner: Investigating the role of parasites in aquatic food webs. DIG into Data FMN (2017), QUBES. doi:10.25334/Q40H41
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Adapt 1

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