Each QUBES Resource of the Week highlights openly licensed materials shared by QUBES users and partners.

Documenting teaching scholarship among undergraduate biology educators using OER

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Module Description:

This resource is a poster that describes the use, adaptation, and reuse of Educational Resources within the QUBES community. The poster abstract below.
The Quantitative Undergraduate Biology Education and Synthesis (QUBES; qubeshub.org) project is designed to support faculty improving biology students’ quantitative skills. Our primary strategy to this end involves engaging faculty in professional development and teaching activities that build their identities as teaching scholars. An important component of building a scholarly identity involves the production, public sharing, and documentation of educational materials. We have adopted an open publishing framework for capturing diverse examples of faculty scholarship and launched a series of online mentoring communities that support faculty participation. Our platform is a git-like system for managing OER creation within the HubZero scientific gateway infrastructure. It features version tracking, automated attribution for derivative works, license selection, DOI assignment, a suite of communication and collaboration tools around engagement with published materials (e.g., following, commenting, collecting), and tracking of metrics around their use (e.g., comments, views, downloads, forks).

Though few of the technical features in our system are novel, we believe that we have established an important use-case that demonstrates the potential for connecting professional development to participation in the full OER life cycle. Furthermore, we are in the process of collecting data about the use of OER publishing as an important component of documenting scholarly activities for use in evaluation, tenure, and promotion for faculty from diverse institution types. We have had more than 350 submissions representing many different authors. The QUBES teaching-resource collection
includes several adaptations that reflect customization for
different student audiences, use in different teaching contexts,
data localization, and reworking for use with different analysis
tools. We still face challenges communicating the goals, norms,
and ethos of Open Educational Practices to undergraduate-
biology faculty. We also face social and technical difficulties
interfacing with existing education projects and sharing
resources from other collections. Nonetheless, by situating
OER practices within a strong professional network, where
existing expectations and mechanisms of trust are already well
established, we are seeing that many of the traditional
impediments to the realization of a fully fledged OER life-cycle
are either not present or relatively easy to overcome. We
believe that other communities of practice with an interest in
collaborative professional-development activities can learn from
the QUBES example and easily adapt our approach to their
needs.

Teaching Setting:

OER material on QUBES has been designed for a wide variety of teaching
settings. Each resource includes descriptive tags that allow you to find tea
materials based on audience level, instructional setting, and activity length
Workshop material, publications, conference material, and datasets are al
available in the growing QUBES OER collection. You are encouraged to fir
OER materials that are available through QUBES, adapt those materials t
your educational setting, and share back your customized version of the
resource using the QUBES OER platform.
QUBES Citation:


Related Materials and Opportunities:

The authors presented this poster at the 15th Annual Open Education Conference, which was held on October 10 - 12, 2018 in Niagara Falls, New York.

We encourage you to learn more about OER on QUBES, browse material available in the QUBES OER collection, and submit a resource.

If you adopt and adapt this module, you are highly encouraged to share your adaptation back with the QUBES community using the QUBES Resources.
QUBES is a community of math and biology educators who share resources and methods for preparing students to use quantitative approaches to tackle real, complex, biological problems.