

VALE NJ Collaborative Project

Metrics for Promoting Open Educational Resources and Assessing Their Impact

By Richard Kearney and Annie Chatterjee

Overview of Project

The purpose of this toolkit is to provide practical support to academic libraries seeking to play a campus-wide leadership role in Open Educational Resources (OER) advocacy and implementation through engagement with key stakeholder groups at their institutions. Libraries occupy a strategic position on college campuses that can enable them to play a critical role in the success of an OER implementation plan. At the same time, however, the mission of most libraries revolves around service: to institutional mission, to students and faculty, and to their professional standards. Even when libraries take on responsibility for administering campus-wide programs and budgets to support OER implementation, their roles remain primarily service-oriented, particularly with respect to faculty who carry the main responsibility for bring OER into courses and classrooms.

To help maximize the impact of libraries' "service leadership" role, we propose the use of key metrics associated with OER for engagement with any strategic campus constituency - e.g., faculty, students, administrators, academic support units, the campus bookstore, etc. - to help make the case for OER implementation. These metrics, which can be tailored to any specific group, can support both advocacy for the adoption of OER and ongoing assessment of the impact of implementation at the course, departmental, college, or institution-wide level. An additional purpose of using these metrics in conversations with key cohorts on campus is to cultivate non-library advocates and leaders for OER on your campus. A successful OER implementation calls for broad support and active participation from several key cohorts on campus. Library advocacy for OER can help to create this support.

Making effective use of this toolkit will require making decisions about which data categories to use and mapping these to specific cohorts with which a library wishes to engage. Questions to ask include:

- Which campus populations have we identified as important to OER implementation, and why?
- What is important to each specific group in relation to OER?
- How can we map specific metrics to specific cohorts?

Basic Categories for OER Metrics[\[1\]](#)

- **Advocating Usage and Adoption**
 - **Average cost of required textbooks and other required materials by discipline and/or by course** (can usually be obtained from campus bookstore)
 - Additional data and research sources:
 - Anderson, Porter. "AAP Report Finds Students Are Still Spending Less on Course Materials," *Publishing Perspectives*, June 25, 2020, <https://publishingperspectives.com/2020/06/aap-new-report-shows-students-course-material-spend-still-sliding/>[Links to an external site.](#)
 - Hanson, Melanie. "Average Cost of College Textbooks," *Education Data Initiative*, July 15, 2022, <https://educationdata.org/average-cost-of-college-textbooks>[Links to an external site.](#)
 - **Percentage of students who purchase (or do not purchase) required course materials** (can be obtained by survey)
 - Additional data and research sources:
 - Nagle, Cailyn, and Kaitlyn Vitez. *Fixing the Broken Textbook Market*. Third edition. Washington, D.C.: U.S. PIRG Education Fund, 2021), [Links to an external site.](https://studentpirgs.org/2021/02/24/fixing-the-broken-textbook-market-third-edition/)<https://studentpirgs.org/2021/02/24/fixing-the-broken-textbook-market-third-edition/>
 - **Faculty opinion of OER quality** (can be obtained by survey)
 - Additional data and research sources:
 - Georgia Southern University OER Faculty Survey (Summary Report - includes all questions) - <https://georgiasouthern.libguides.com/c.php?g=833726&p=9015139>[Links to an external site.](#)
 - Jung, Eulho, Christine Bauer, and Allan Heaps. "Higher Education Faculty Perceptions of Open Textbook Adoption." *International Review of Research in Open and Distance Learning* 18, no. 4 (2017): 123-141, [Links to an external site.](https://www.irrodl.org/index.php/irrodl/article/view/3120)<https://www.irrodl.org/index.php/irrodl/article/view/3120>
 - [Links to an external site.](#) Martin, Troy, and Royce Kimmons. "Faculty Members' Lived Experiences with Choosing Open Educational Resources." *Open Praxis* 12, no. 1 (2020): 131-144, <https://search.informit.org/doi/abs/10.3316/INFORMIT.219365989249241>[Links to an external site.](#)

- **Student opinion of OER quality** (can be obtained by survey)
 - Sample surveys include:
 - Bliss, T.J., T. Jared Robinson, John Hilton, and David A. Wiley. "An OER COUP: College Teacher and Student Perceptions of Open Educational Resources," *Journal of Interactive Media in Education*, Volume 2013, Number 1, Article 4. DOI: <http://doi.org/10.5334/2013-04>[Links to an external site.](#) [Annex A contains a 21-question faculty survey, and Annex B contains a 24-question student survey]
 - Georgia Southern University OER Student Survey (Summary of All Responses - includes all questions) - <https://georgiasouthern.libguides.com/c.php?g=833726&p=9014868>[Links to an external site.](#)

- **Assessing Classroom Impact and Student Success**[\[2\]](#)
 - **Student performance in classes using zero-cost materials** (e.g., withdrawal rates, pass rates, final grades, etc. – can also assess satisfaction, engagement, and interest in the subjects) – should be compared with the same data in classes that do not use zero-cost materials (in some cases this can be obtained from an institution’s research office if it uses registrar data, or by survey)
 - Additional data and research sources:
 - Henicks, Christina, Stefan A. Reinsberg, and Georg W. Rieger. "The Adoption of an Open Textbook in a Large Physics Course: An Analysis of Cost, Outcomes, Use, and Perceptions." *International Review of Research in Open and Distributed Learning* 18, no. 4 (2017): 78-99, <https://www.erudit.org/en/journals/irrod/1900-v1-n1-irrod104981/1065993ar/abstract/> [Links to an external site.](#)
 - Rill, Josef. "The Textbook Decision: Purchasing Options Affecting Students in the Classroom." PhD diss., University of South Florida, 2019. ProQuest (AAT 13814972), <https://digitalcommons.usf.edu/etd/7910/> [Links to an external site.](#)
 - Smith, Nathan D., Phillip J. Grimaldi, and Debshila Basu Mallick. "Impact of Zero Cost Books Adoptions on Student Success at a Large, Urban Community College." *Frontiers in Education* 5 (2020): 1-11, <https://doi.org/10.3389/educ.2020.579580> [Links to an external site.](#)
 - Spica, Elizabeth, and J. P. Biddix. "Prices They Pay: Academic Achievement and Progress to Graduation Barriers Experienced by Community College Students Due to the Cost of Course

Materials.” *Innovative Higher Education* 46, no. 6 (2021): 643–662, preprint available at https://trace.tennessee.edu/utk_edleadpubs/2/ [Links to an external site.](#)

- **Faculty perceptions of student performance in classes using zero-cost materials** (can be obtained by survey)
 - Additional data and research sources:
 - Lantrip, Jennifer, and Jacquelyn Ray. “Faculty Perceptions and Usage of OER at Oregon Community Colleges.” *Community College Journal of Research and Practice* 45, no. 12 (2021): 896–910, <https://doi.org/10.1080/10668926.2020.1838967> [Links to an external site.](#)
 - Magro, Juliana, and Sara V Tabaei. “Results from a Psychology OER Pilot Program: Faculty and Student Perceptions, Cost Savings, and Academic Outcomes.” *Open Praxis* 12, no. 1 (2020): 83–99, <https://search.informit.org/doi/10.3316/informit.219310090335466> [Links to an external site.](#)

- **Student perceptions of the role of OER in their learning** (can be obtained by survey)[\[3\]](#)
 - Additional data and research sources:
 - Beile, Penny, Aimee deNoyelles, and John Raible. "Analysis of an Open Textbook Adoption in an American History Course: Impact on Student Academic Outcomes and Behaviors." *College & Research Libraries* 81, no. 4 (2020): 721-736, <https://doi.org/10.5860/crl.81.4.721>[Links to an external site.](#)
 - Johnson, Cynthia, Yan Zong Ding, Sonal Dekhane, Wei Jin, Tacksoo Im, and Hyesung Park. "Using an Open Source Textbook in Programming Class: Exploring Student Perception and Performance." *ACM SE '22: Proceedings of the 2022 ACM Southeast Conference* (April 2022): 25-30, <https://doi.org/10.1145/3476883.3520202>[Links to an external site.](#)
 - Jones, Muffet, and Rob Nyland. “A Case Study in Outcomes on Open-Source Textbook Adoption in an Introduction to Art Class.” *Frontiers in Education* 5 (2020): 1-6, <https://doi.org/10.3389/feduc.2020.00092>[Links to an external site.](#)

- **Assessing OER Use on Instructor Open Practices**^[4]
 - **Degree to which the use of OER led to instructor practice of “openness”** (e.g., linking open textbook content to other online resources, other practices enabled by the online format of open resources)
 - **Degree to which the use of OER led to instructor practice of adaptation and revision of course materials** (enabled by open licenses permitting this)
 - **Degree to which the use of OER led to instructor practice of collaboration with other instructors on selection, revision, or adaptation of materials** (enabled by online format and open licenses)
 - **Degree to which the use of OER led to instructor practice of collaboration with other students on course content, themes, assignments, and organization** (enabled by online format and open licenses)

- **Measuring User Engagement with OER Resources You Maintain and/or Host**
 - **Collect/analyze quantitative data about the usage of OER from your institutional website and other sources:**
 - Hit Counts / Clicks / Record Views (e.g., for OER LibGuides, web pages, catalog records)
 - Downloads (for materials you host in an OER repository or similar resource)
 - **Collect data about faculty perception of using OER through one or more surveys conducted at the institution level**

- **Measuring Cost Savings**
 - **Collect quantitative data about the cost savings for the students from using OER, e.g.:**
 - Student income attributes (available from institutional data collection)
 - Student financial aid status (available from institutional data collection, e.g., data on financial aid programs and awards reported by your institution)
 - Average cost of required textbooks and other required materials by discipline and/or by course (can usually be obtained from campus bookstore) used to calculate savings based on enrollment in zero-cost course sections

[1] Categories adopted from “Tracking Your OER’s Impact” (from VCU “Creating Open Educational Resources” LibGuide), <https://guides.library.vcu.edu/create-oer/impact> (Links to an external site.)
[Links to an external site.](#)

[2] If possible, disaggregate student data based on federally determined financial need (Federal Pell Grant status), ethnicity, and registration status (part-time vs. full-time). See Nicholas B. Colvard, C. Edward Watson, and Hyojin Park. "The Impact of Open Educational Resources on various Student Success Metrics." *International Journal of Teaching and Learning in Higher Education* 30, no. 2 (2018): 262-76, <https://eric.ed.gov/?id=EJ1184998> (Links to an external site.)[Links to an external site.](#)

[3] Examples of questionnaires used to gather student perceptions of OER can be found in Thahomina Jahan Nipa and Sharareh Kermanshachi. "Assessment of Open Educational Resources (OER) Developed in Interactive Learning Environments." *Education and Information Technologies* 25, no. 4 (2020): 2521-47, and in Gary D. Grossman and Troy N. Simon. "Student Perceptions of Open Educational Resources Video-Based Active Learning in University-Level Biology Classes: A Multi-Class Evaluation." *Journal of College Science Teaching* 49, no. 6 (2020): 36-44.

[4] The measures for this category are taken from Mason, Stacie L. and Royce Kimmons. "Effects of Open Textbook Adoption on Teachers' Open Practices." *International Review of Research in Open and Distributed Learning* 19, no. 3 (2018): 128-50, <https://www.irrodl.org/index.php/irrodl/article/view/3517/4694>[Links to an external site.](#)

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**Project Evaluation Rubric: Standards for Performance in Project Assessment
(Single-Point Rubric)**

Concerns

Criteria

Advanced

Areas that Need Work

Standards for This Performance

Evidence of Exceeding Standards

Adequacy of the data categories

The data categories provided are sufficiently comprehensive to speak to the interests of the campus populations the library is seeking to inform about the benefits of OER and to assess the impact of OER after it has been implemented

Adequacy and clarity of the measures defined in the toolkit

The measures provided are sufficiently comprehensive and relevant to offer convincing evidence of the potential value of OER to key campus populations and to be used in assessing the impact of OER after it has been implemented

Availability or potential for collecting data for each measure

The data defined by the measures are reasonably attainable either through existing sources or by means of data collection instruments that can be deployed across campus for satisfactory results

pus populations and to be used in assessing the impact of OER after it has been implemented

[For advocacy:] Suitability of measures mapped to specific populations

The measures provided can be mapped to specific campus populations for use in either advocacy or assessment of OER

**[For assessment:] Suitability
of measures to general
institutional assessment
framework and mission**

The measures provided are
consistent with other
assessment measures used at
the institutional level and
appropriate for assessment
purposes