ABSTRACT

The NCSU Libraries will explore the need for, and ideal components of, a subject-specific, simple, flexible, and scalable "toolkit" for the creation and adoption of open textbooks. In consultation with stakeholders such as the American Psychological Association (APA), the University of North Carolina Press, Student Public Interest Research Groups (PIRG), the Open Textbook Network (OTN), and the new preprint service PsyArXiv, the NCSU Libraries will design and conduct a nationwide survey, as well as a series of targeted focus groups, interviewing faculty and students working in the domain of psychology. The project will be conducted from July 1, 2017 through June 30, 2018, in the following three phases: (1) a planning and preparation phase; (2) a survey and focus group phase; and (3) an evaluation, reporting, and dissemination phase.

The escalating cost of college textbooks has become a huge barrier to education for students. Textbook costs have outpaced inflation by 300% over the last 30 years, and the average college student spends about $1,200 per year on textbooks. Though studies have shown that students perform as well or better in courses using Open Educational Resources (OERs), instructors at American universities are hesitant to replace their course materials with open resources. The intent of this project is to gather information about the practices and needs of psychology instructors who may be interested in adopting or creating open textbooks and open educational resources (OERs), as well as identifying gaps in support for these experts that make it more difficult to create robust, tailored materials. The project will also explore student needs and desires in learning resources, and to what extent a toolkit approach would serve the needs of psychology educators and their students.

The outcomes of this planning project include a final report with actionable recommendations and research data about the practices and needs of a specific scholarly community (psychology), related to the creation of tailored educational materials, particularly OERs. These findings will form the basis for a future collaboration between the NCSU Libraries and University of North Carolina Press, to create a toolkit based on the recommendations from the data. The project findings and recommendations will also help a broad range of scholars, instructors, librarians, publishers, and the Open community better understand what supports are needed for subject matter experts to create and adopt these resources, which will help to meet a pressing need for students in higher education. Findings of the project will be shared at library and information science, psychology, and open culture conferences through poster and panel presentations, as well as published in peer-reviewed journals. The generated datasets will be anonymized, deposited with an open data repository, and distributed freely along with the preprints of related presentations and publications, so that interested researchers and practitioners can replicate the study, evaluate the validity of the project's outcomes, and/or use them in the development of best practice guides and policies.

NARRATIVE

1. Statement of National Need

The escalating cost of college textbooks has become a huge barrier to education for students. Textbook costs have outpaced inflation by 300% over the last 30 years, and the average college student spends about $1,200 per year on textbooks. According to a recent survey conducted by U.S. Public Interest Research Group (PIRG) Education Fund & The Student PIRGs, *Fixing the Broken Textbook Market: How Students Respond to High Textbook Costs and Demand Alternatives*,[1] 7 out of 10 of college students have forgone buying a textbook because of cost, and 94% of those who have made this decision expressed concern that it would impact their grades. Providing students with access to free, openly licensed educational resources can significantly alleviate the financial burden of textbook costs.

Though studies have shown that students perform as well or better in courses using Open Educational Resources (OERs),[2] instructors at American universities have been hesitant to replace their course materials with open resources. A survey of over 3,000 faculty members found that only 5.3% of courses are using an openly licensed resource as a required textbook. Faculty members cited their biggest barrier to using OERs in their courses as a lack of availability of existing resources. Faculty members who had previous awareness of OERs also expressed concern about the quality of materials. New resources that are both trusted and of high quality are needed.

The intent of this project is to gather information about the practices and needs of instructors in one discipline - psychology - who may be interested in adopting or creating open textbooks and OERs. It will also help identify gaps in support for these experts that make it more difficult to create robust, tailored materials. In addition, the project will explore student needs and desires in learning resources, and whether or not a toolkit approach would serve the needs of psychology educators and their students. This study focuses on the domain of psychology based on demonstrated need in this high-impact discipline and close working relationships with stakeholders at North Carolina State University, the national professional association, and the cutting-edge preprint archiving service PsyArXiv.

This project is informed by the 2016 Babson Report: *Opening the Textbook: Open Education Resources in U.S. Higher Education, 2015-16*,[3] which identifies motivations for participation and barriers to entry for faculty who may adopt or create OERs. This research addresses the IMLS project category of a National Digital Platform by focusing on the foundational work needed to improve understanding of users' (educators and students) needs in OER creation, adoption, and use. These activities will identify the extent to which such a toolkit is needed, the components of the toolkit, the potential obstacles to its adoption, and the partnerships and promotional activities that would accelerate its use.

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[1] http://www.uspirg.org/reports/usp/fixing-broken-textbook-market
[2] http://sparcopen.org/open-education/
[3] http://www.onlinelearningsurvey.com/oer.html

The outcomes of this planning project include a final report, actionable recommendations, and research data about the practices and needs of a specific scholarly community, related to the creation of tailored educational materials, such as OERs. The project findings and this data will help a broad range of scholars, students, instructors, librarians, publishers, and open advocates better understand what supports are needed for subject-experts to create these resources, which have been endorsed by the Department of Education[4] and meet a pressing need for students.

The project's findings will also form the foundation for a collaboration between the NCSU Libraries and University of North Carolina Press for the creation of a toolkit based on the recommendations from the data. This toolkit could contain all, some, or none of the elements of a traditional textbook. Until we complete our investigation, we cannot definitively choose which tools to include in the toolkit, although the toolkit is likely to include features such as:

- Templates for guiding design of substantive sections of textbooks or OERs, depending upon project findings
- A tool for creating/registering an ISBN/DOI so authors can receive credit for their work and track impact using altmetric services
- Resources on managing copyright and permission for incorporating existing works into the textbooks/OERs
- Other tools to meet needs identified by the survey and focus groups

2. PROJECT DESIGN

2.1 Goals & Outcomes

Within the discipline of psychology, our goals are to understand the practices and needs of instructors and students for the creation and use of tailored educational resources. Through that understanding, we will identify the optimal components of a subject-specific, simple, flexible, and scalable toolkit for the creation and adoption of OERs for psychology, as well as establish what supports are necessary for subject experts to create these resources. The toolkit could contain all, some, or none of the elements of a traditional textbook. Until we hear from the psychology community and complete our analysis, we will consider all options. The outcomes of this project include:

- Quantified measures of use and comfort with OERs among instructors and students in psychology
- New evidence of existing challenges, needs, and potential opportunities for the creation of OERs in the discipline of psychology
- Transferrable information about instructor use and comfort with open education and design of educational resources
- Transferrable information about student use and comfort with OERs
- Useful directions for other organizations, collaborations, and funders to pursue in advancing support for OERs
- A final report with actionable recommendations

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[4] http://tech.ed.gov/open-education/

- Further coordinated and strengthened working relationships between the project's stakeholders and the University of North Carolina Press
- The foundation for the creation of a user friendly and scalable toolkit for psychology

To achieve these goals and outcomes, the project will be conducted in three phases, (1) a planning and preparation phase; (2) a survey and focus group phase; and (3) an evaluation, reporting, and dissemination phase.

2.2 Phase 1 - Planning & Preparation

In consultation with stakeholders such as the American Psychological Association (APA), the University of North Carolina Press, the Open Textbook Network, and Student Public Interest Research Groups (PIRG), the NCSU Libraries will develop the survey questionnaire and manage the creation of the survey instruments, as well as establish preliminary questions, locations, and subjects for the focus groups. The national survey will include instructors and students in psychology, while the focus groups will consist of instructors from five locations including national professional conferences, and universities in diverse locations across the United States. This project will leverage the support of the NCSU Libraries User Research Team, an internal committee established in 2012 dedicated to assessing user needs. The team has expertise in survey design and focus group facilitation, as well as in analyzing the data derived from surveys and focus groups. The User Research Team will consult with us on both study design and data analysis.

We have gathered letters of support (see supplementary materials) from stakeholders with complementary expertise and are well positioned to continue work that would build upon the results of this planning grant.

2.3 Phase 2 - Survey and Focus Groups

Next, we will conduct the nationwide survey, administered through Qualtrics, of instructors and students in psychology with focus on needs assessment and gap analysis of use and development of OERs. The instructor portion of the survey will be focused on gathering information about the practices and needs of instructors around the adoption or creation of OERs, as well as identifying gaps in support for these experts around creating robust open learning materials. The student-centered section of the survey will explore student needs and desires in learning resources. We will conduct ongoing analysis of incoming survey results so that preliminary findings can be used to inform our work with focus groups.

The first focus group will be held in late October at the Society for the Teaching of Psychology's (STP) 16th Conference on Teaching in San Antonio, Texas. The STP is a division of the American Psychological Association (APA). The next four focus groups will be held in the following geographical locations: Berkeley, California; Champaign-Urbana, Illinois; New York, New York; and Raleigh, North Carolina. These preliminary focus group locations were chosen based on their proximity to academic institutions with top psychology programs in conjunction with their geographic diversity. Locations and questions for the focus groups will be further informed and adjusted based upon early findings from the survey. Focus group discussions will be transcribed as they are completed, with preliminary analysis conducted as soon as possible.

The 2016 Babson survey findings cited above will provide a baseline for verifying the progress made and needs remaining with relation to adoption and use of OERs. The results should also illuminate why instructors are or are not creating their own OERs for teaching and learning, and the extent to which some instructors are engaged in those activities.

The findings from the project survey and focus groups will identify the extent to which a toolkit is needed, the components of the toolkit, the potential obstacles to its adoption, and the partnerships and promotional activities that would accelerate its use.

Additionally, the survey will show how the availability and use of existing and proposed resources and support mechanisms - such as training programs, collaboration on workflow processes, and innovative use of technology - impact the motivation and ability to create OERs. Finally, the survey will inventory existing relationships between instructors and support institutions such as libraries and university presses that could help increase the creation, use, and sustainability of OERs.

2.4 Phase 3 - Evaluation, Reporting, and Dissemination
Finally, the NCSU Libraries will complete data analysis of the survey and focus groups. The project team will then establish summary findings and develop recommendations based on those findings. The NCSU Libraries, with input from stakeholders, will produce a public‑facing paper to share the summary findings and resulting recommendations. These findings will form the foundation for a future collaboration between the NCSU Libraries and University of North Carolina Press to develop a toolkit based on the recommendations from the data. The project findings and recommendations will also help a broad range of scholars, students, instructors, librarians, and publishers better understand what supports are needed for subject-experts to create these resources and meet a pressing need for students in higher education worldwide.

The success of this planning project will be defined by researcher and practitioner communities' evaluation and recognition of the importance and value of the results of the proposed research. Ultimately, the success of the project will be evaluated based on the reuse of the project's outcomes (i.e., methodology, data collection instruments, and findings) and measured by its impact on adoption and creation of OERs in psychology and possibly other disciplines.

Findings of the project will be distributed at library and information science, psychology, and open culture conferences in 2018 through poster and panel presentations. In addition, findings of the project and design recommendations based on those findings will be published in peer-reviewed journals. The generated datasets will be anonymized and deposited with the open Inter-university Consortium for Political and Social Research (ICPSR). The datasets will also be distributed freely together with the preprints of related presentations and publications so that interested researchers and practitioners could replicate the study, evaluate the validity of the project's outcomes, and/or use them in the development of best practice guides and policies.

2.5 Diversity
The project team will ensure a broad diversity of participant samples for the survey within the limits of the target population of psychology students and instructors, and the amount of information available about the demographic characteristics of potential participants. The focus groups will be held at geographically diverse locations and subjects will be invited from a diverse set of academic institutions.

2.6 Project Resources: Personnel, Time, Budget

Key Personnel/ Project Leads:

William Cross (Principal Investigator) is the Director of the Copyright and Digital Scholarship Center in the NCSU Libraries where he provides guidance to campus stakeholders on legal issues and open access to scholarship, data, and educational resources. Since 2014, Will has led the NCSU Alt-Textbook project, a nationally-recognized, grant-funded program that supports open pedagogy and student success. Will serves as an instructor in the UNC School of Information & Library Science and lectures nationally on copyright, scholarly communication, and open education.

Mira Waller (Co-Investigator) is the Associate Head of Collections & Research Strategy in the NCSU Libraries. She shares responsibility for overseeing the collections budget and articulating the Libraries' collection development vision. She also provides guidance, direction, and support for current initiatives aimed at re-envisioning the role of subject specialist librarians and advances the Libraries' efforts in research engagement and student success. Previously, Mira was the Director of Publishing Services for Project Euclid, an online community and platform for mathematics and statistics scholarship, managed jointly by Duke University Press and Cornell University Library.

Lillian Rigling is an NCSU Libraries Fellow, cross-appointed in the Copyright and Digital Scholarship Center and the User Experience Department. She coordinates outreach, instruction, and engagement around issues of author's rights, open education, open access, and open culture at NCSU for students and faculty. She is also a member of the NCSU Libraries User Research Team, where she serves as an investigator on multiple internal user studies, including leading focus groups, running usability testing, and surveying users. Previously, she worked as a Graduate Assistant in the Scholarly Communications and Copyright Office at the University of Toronto Libraries.

As Project Leads, Cross and Waller will be responsible for overall project management, supervision of the graduate student assigned to the project, and completion and dissemination of the project's summary finding and recommendation report. Rigling will also be a key stakeholder and contribute to the project work.

Budget: Total amount requested for the planning project is $49,958. The proposed budget includes salaries and fringe benefits for William Cross, Lead Principal Investigator; Mira Waller,

Co-Principal Investigator; and Lillian Rigling, NCSU Libraries Fellow for 5% of their time over the course of the project year. Graduate student time to assist with the design and administration of the survey and focus groups is budgeted for 360 hours. This level of staffing is needed to guarantee our deliverables, including oversight of the program activities and production of the deliverables: planning, creation and implementation of the survey and focus groups, data analysis and interpretation, and a summary and report.

Also included is travel funding for two people to conduct focus groups at a national conference related to psychology and at three geographically diverse academic institutions, as well as for two people to present the project findings at a domestic conference. A fifth focus group will be conducted in Raleigh, NC; however, grant funding will not be requested since this will be held locally. Each budgeted trip includes funding for airfare, hotel, meals per diem, conference registrations when necessary, and local transportation. Travel is budgeted for 10 trips in total. A small amount is also requested to fund refreshments and incentives for focus group and survey participants. The indirect costs of NCSU are assessed at 33.6%. Cost details for all budget components are provided in our budget and explained in more detail in our budget justification document.

Timeline: The project will be conducted during the timeframe of July 1, 2017 through June 30, 2018. The project will be be conducted in three phases. The first phase, planning and preparation, will take place from July to August. The second phase, survey and focus groups, will take place from September to March. The third phase, evaluation, reporting, and dissemination, will take from place from April to June. Dissemination and communication of the project findings and data will continue past the project completion date. Details for the project phases are provided earlier in the project design section.

3. NATIONAL IMPACT

The proposed project addresses a deep need to understand barriers to adoption and creation of open resources. Textbook affordability and open education are growing issues in higher education, and yet current research focuses primarily on awareness of and willingness to use open resources. The data and reports generated from this project will help to bridge the gap between awareness of OERs and creation and/or use of OERs. The outcomes of this exploratory research will include but not be limited to datasets of survey results, transcripts of focus groups, and a final open report on our findings, all of which will be made openly available for the benefit of librarians, instructors, presses, and others, as described in the digital product form. Further, the key project staff will seek opportunities to speak and publish on the results of this planning grant in order to disseminate the results of the project as widely as possible. By presenting the project findings at conferences such as the annual Open Education conference, we will be able to more widely disseminate our results, as well as publicize and direct other practitioners to the open datasets, final report, and other outputs the project generates.

This research will be especially impactful because psychology has consistently been one of the most popular undergraduate majors. Approximately 117,000 undergraduate degrees were

conferred with a psychology major in 2013-14,[5] and this number has been consistently rising since the 1970s. Understanding the tools and supports psychology experts need to create and adopt OERs has the potential to have a broad impact on undergraduate education and student success.

This project will also provide insight into how discipline-specific knowledge may drive creation of OERs. Each discipline is unique in its practices and norms around teaching, learning, research, and information sharing, and OERs should be grounded in this context. Additionally, this project will identify specific areas in which subject expertise may shape the creation of OERs, and specific opportunities for library and press expertise to contribute to the creation of OERs.

This project will establish a foundation for successful collaboration between NCSU Libraries and UNC Press. The white paper *Across the Great Divide: Findings and Possibilities for Action from the 2016 Summit Meeting of Academic Libraries and University Presses with Administrative Relationships*[6] made several preliminary recommendations for collaborations between academic libraries and university presses, including collaboration on the creation of OERs. Libraries have pedagogical expertise and insight into university structure and policy that presses may lack, while presses have experience working with faculty to develop projects, as well as expertise in promotion and peer review that may add more credibility and/or appeal to OERs. NCSU Libraries and UNC Press will take these and other recommendations from this summit meeting into account when collaborating throughout this project, and the final report will more concretely identify opportunities for university presses to be involved in OERs. NCSU Libraries and UNC Press plan to move forward with the creation of the toolkit for psychology OERs described in sections 1 and 2 of the narrative. A follow-up, two-year, full project proposal is expected to be developed and submitted to the IMLS in the 2018-19 grant cycle, grounded in the outcomes and recommendations of this planning grant.

4. BIBLIOGRAPHY

Abelson, H. (2008). The Creation of OpenCourseWare at MIT. Journal of Science Education and Technology, Vol. 17, No. 2, April 2008 DOI: 10.1007/s10956-007-9060-8

Alpi, K, Cross, W., Raschke, G., Sullivan, M., and Thompson, S. (2017). The NCSU Libraries Alt-Textbook Project: Open Education That Opens a Door to the Library. In Diaz, C. (ed.) Textbooks in Academic Libraries. Association for Library Collections & Technical Services.

Anew, S. A. (2011). OER Commons. Choice: Current Reviews For Academic Libraries, 49(3), 567.

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[5] http://nces.ed.gov/programs/digest/d15/tables/dt15_322.10.asp?current=yes
[6]http://www.arl.org/component/content/article/6-publications-a-resources/4163-across-the-great-divide-findings-and-possibilities-for-action-from-the-2016-summit-meeting-of-academic-libraries-and-university-presses-with-administrative-relationships-p2l

Bell, SJ. (2012). Coming in the Back Door: Leveraging Open Textbooks To Promote Scholarly Communications on Campus. Journal of Librarianship and Scholarly Communication 1(1):eP1040. http://dx.doi.org/10.7710/2162-3309.1040

Billings, M. S., Hutton, S. C., Schafer, J., Schweik, C. M., & Sheridan, M. (2012). Open Educational Resources as Learning Materials: Prospects and Strategies for University Libraries. Research Library Issues, (280), 2-10.

Clements, K.I. and Pawlowski, J.M. (2012), User-oriented quality for OER: understanding teachers' views on re-use, quality, and trust. Journal of Computer Assisted Learning, 28: 4–14. doi: 10.1111/j.1365-2729.2011.00450.x

Cormier, D. and Siemens, G. (2010). Through the Open Door: Open Courses as Research, Learning, and Engagement. EDUCAUSE Review. Available at: http://er.educause.edu/articles/2010/8/through-the-open-door-open-courses-as-research-learning-and-engagement

Cross, W., Library Expertise Driving Pedagogical Innovation: The Role of Libraries in Bringing "Open" to the Classroom and to the World, in Smith, K. (ed.) (2016) The Future of Academic Libraries.

ELI Webinar: Searching for "Free and Better": Evaluating the Efficacy of Open Educational Resources. Available at: http://www.educause.edu/eli/events/eli-annual-meeting/2015/searching-free-and-better-evaluating-efficacy-open-educational-resources

Frydenberg, J. and Matkin, G. (2007). Open Textbooks: What? Why? How? When?. Available at: http://wwwstaging.hewlett.org/uploads/files/OpenTextbooks.pdf

Gallant, Jeff (2015) "Librarians Transforming Textbooks: The Past, Present, and Future of the Affordable Learning Georgia Initiative," Georgia Library Quarterly: Vol. 52: Iss. 2, Article 8. Available at: http://digitalcommons.kennesaw.edu/glq/vol52/iss2/8

Gallaway, T. O., & Hobbs, J. B. (2015). Open Access for Student Success. Enhancing Teaching and Learning in the 21st-Century Academic Library: Successful Innovations That Make a Difference, 2, 1.

Grant, S. (2015). Are Savvy Students Sabotaging Big Textbook? College kids are studying smarter—and cheaper—threatening the textbook industry's high prices. Bloomberg Business, Aug. 26, 2015. Available at: http://www.bloomberg.com/news/articles/2015-08-26/are-savvy-students-sabotaging-big-textbook-

Hickman, H. and Porfilio, B. (Eds.). (2012). The New Politics of the Textbook: Critical Analysis in the Core Content Areas. Rotterdam, The Netherlands: Sense.

Hilton III, J. & Laman, C. (2012). One college's use of an open psychology textbook. Open Learning: The Journal of Open, Distance and e-Learning 27(3) p. 265-272.

Jenson, K. & West, Q. (2015). Open educational resources and the higher education environment: A leadership opportunity for libraries. Available at: http://crln.acrl.org/content/76/4/215.full

Kasakoff-Lane, C. (2014) Environmental Scan and Assessment of OERs, MOOCs and Libraries: What Effectiveness and Sustainability Means for Libraries' Impact on Open Education. Available at: http://0-www.ala.org.librarycatalogs.nnu.edu/acrl/sites/ala.org.acrl/files/content/publications/whitepapers/Environmental%20Scan%20and%20Assessment.pdf

Lippincott, J., Vedantham, A., and Duckett, K. (2014). Libraries as Enablers of Pedagogical and Curricular Change. Educause Review. Available at: http://er.educause.edu/articles/2014/10/libraries-as-enablers-of-pedagogical-and-curricular-change

Lyons, C. and Hendrix, D. (2014). Textbook Affordability: Is There a Role for the Library?. The Serials Librarian. 66() p. 262-267 DOI:10.1080/0361526X.2014.877282

Martin, R. (2010). Finding Free and Open Access Resources: A Value-Added Service for Patrons. Journal of Interlibrary Loan, Document Delivery & Electronic Reserve, 20:189–200. DOI: 10.1080/15228959.2012.730415

McNichol, S. (2015). Digital literacy and the challenges of Open Educational Resources. Figshare. http://dx.doi.org/10.6084/m9.figshare.1512333

Mulhere, K. (2015). Is this the solution to crazy high textbook prices? Time, Sept. 1, 2015. available at: http://time.com/money/4017003/high-text-book-prices-solution/

Okamoto, K. (2013). Making Higher Education More Affordable, One Course Reading at a Time: Academic Libraries as Key Advocates for Open Access Textbooks and Educational Resources. Public Services Quarterly, 9:267–283

Pawlyshyn, N., Braddlee, Casper, L., & Miller, H. (2013). Adopting OER: A Case Study of Cross-Institutional Collaboration and Innovation. EDUCAUSE Review. Available at: http://er.educause.edu/articles/2013/11/adopting-oer-a-case-study-of-crossinstitutional-collaboration-and-innovation

Peek, R. (2012, May). Textbooks in turmoil. Information Today, 29(5), 26.

Petrides, L., Jimes, C., Middleton-Detzner, C., Walling, J., & Shenandoah, W. (2011). Open textbook adoption and use: implications for teachers and learners. Open Learning: The Journal of Open, Distance and e-Learning 26(1). p. 39-49. DOI:10.1080/02680513.2011.538563

Raschke, G., & Shanks, S. (2011). Water on a hot skillet: Textbooks, open educational resources, and the role of the library. In S. Polanka (Ed.), The no shelf required guide to e-book purchasing (pp. 52–57). Chicago, IL: ALA TechSource.

Richter, T. and McPherson, M. (2012). Open educational resources: education for the world? Distance Education Vol. 33, Iss. 2.

Robinson, T., Fischer, L., Wiley, D., & Hilton, J. (2014). The Impact of Open Textbooks on Secondary Science Learning Outcomes. Education & Educational Research 43(7). p. 341-351

Senack, E. (2015). Textbooks Cost a Lot. Here's Why. The Huffington Post. Aug. 31,2015. Available at: http://www.huffingtonpost.com/ethan-senack/textbooks-cost-a-lot-here_b_8065762.html

Stacey, P. (2007). Open educational resources in a global context. First Monday, 12(4), 7.

Sutton, S. and Chadwell, F. (2012). Open Textbooks at Oregon State University: A Case Study of New Opportunities for Academic Libraries and University Presses. Journal of Librarianship and Scholarly Communication. 2(4). DOI: http://doi.org/10.7710/2162-3309.1174

U.S. PIRG EDUCATION FUND AND THE STUDENT PIRGS, (2014). Fixing the Broken Textbook market. Available at: http://www.uspirg.org/reports/usp/fixing-broken-textbook-market

Walz, A. R. (2015). Open and Editable: Exploring Library Engagement in Open Educational Resource Adoption, Adaptation and Authoring. Virginia Libraries, 61(1), 23-31.

Ward, D. (2015). Why You Ought to Think Twice Before Assigning a Pricey Textbook. Chronicle of Higher Education. Available at: http://chronicle.com/article/Why-You-Ought-to-Think-Twice-/232877/

Wiley, D. and Hilton III, J. (2009). Openness, Dynamic Specialization, and the Disaggregated Future of Higher Education. International Review of Research in Open and Distance Learning. 10(5).

Wiley, D., Hilton III, J., Ellington, S., & Hall, T. (2012). A preliminary examination of the cost savings and learning impacts of using open textbooks in middle and high school science classes. The International Review Of Research In Open And Distributed Learning, 13(3), 262-276. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/1153/2256

Wiley, D. (2015). The MOOC Misstep and the Open Education Infrastructure, in Bonk, et al. MOOCs and Open Education around the World. Routledge p. 3-11.

Scheduleofcompletion

Tasks (Start July 1st 2017)	July	August	September	October	November	December	January	February	March	April	May	June	Phases
Survey preparation and development	▓	▓											1 - Preparation & Planning
Preliminary Focus Group preparation	▓	▓											2 - Survey & Focus Groups
Conduct Survey			▓	▓									3 - Evaluation, Reporting, and Dissemination
Analyze Survey				▓	▓								
Revise focus group questions and adjust future locations based on survey analysis				▓	▓	▓							
Conduct focus groups				▓	▓			▓	▓				
Transcribe focus group sessions and begin analysis					▓	▓	▓	▓	▓				
Complete data analysis and integrate survey and focus group findings									▓	▓			
Begin disseminating project findings										▓	▓		
Write and disseminate summary report											▓	▓	

DIGITAL PRODUCT FORM

Introduction
The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (i.e., digital content, resources, assets, software, and datasets). The products you create with IMLS funding require careful stewardship to protect and enhance their value, and they should be freely and readily available for use and re-use by libraries, archives, museums, and the public. However, applying these principles to the development and management of digital products can be challenging. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and practices that could become quickly outdated. Instead, we ask that you answer questions that address specific aspects of creating and managing digital products. Like all components of your IMLS application, your answers will be used by IMLS staff and by expert peer reviewers to evaluate your application, and they will be important in determining whether your project will be funded.

Instructions
You must provide answers to the questions in Part I. In addition, you must also complete at least one of the subsequent sections. If you intend to create or collect digital content, resources, or assets, complete Part II. If you intend to develop software, complete Part III. If you intend to create a dataset, complete Part IV.

PART I: Intellectual Property Rights and Permissions

A.1 What will be the intellectual property status of the digital products (content, resources, assets, software, or datasets) you intend to create? Who will hold the copyright(s)? How will you explain property rights and permissions to potential users (for example, by assigning a non-restrictive license such as BSD, GNU, MIT, or Creative Commons to the product)? Explain and justify your licensing selections.

All data and findings from this project will be licensed under a Creative Commons Attribution 4.0-ShareAlike International License. As a traditional, non-directed work, the project's final report will be owned by the authors and collaborators under NCSU REG 01.25.03 Sec. 2.9. The project's proposed journal articles are anticipated to be copyright to the authors and published in open access venues.

A.2 What ownership rights will your organization assert over the new digital products and what conditions will you impose on access and use? Explain and justify any terms of access and conditions of use and detail how you will notify potential users about relevant terms or conditions.

Under NCSU REG 01.25.03 Sec.5.7, North Carolina State claims a perpetual non-exclusive, non-transferrable, royalty-free license to use work created by employees "unless such license will impede scholarly publication or similar activities, or violate a provision of a contract between the employee and a third-party." As such, the non-exclusive license claimed by NCSU will not limit our open licensing of the digital products.

A.3 If you will create any products that may involve privacy concerns, require obtaining permissions or rights, or raise any cultural sensitivities, describe the issues and how you plan to address them.

We will work closely with our Institutional Review Board administrator to ensure appropriate survey design, anonymized datasets, and informed consent for focus groups and survey participants.

The only content we will manage that may involve privacy concerns will be our survey and focus group information. We will obtain rights from our survey and focus group participants to share the data under Creative Commons Attribution-ShareAlike 4.0 International License. We will not share any personally identifiable information collected in the survey or focus groups and will anonymize all respondents. We do intend to share identifying information at the organizational/institutional level as collected by the survey with permission of respondents.

Part II: Projects Creating or Collecting Digital Content, Resources, or Assets

A. Creating or Collecting New Digital Content, Resources, or Assets

A.1 Describe the digital content, resources, or assets you will create or collect, the quantities of each type, and format you will use.

We will create a Survey questionnaire and collect survey data utilizing Qualtrics, an industry leader providing online survey software to which North Carolina State University Libraries has arranged a site-license. We will share the survey data as standard .txt and .csv delimited data.

Interviews will be recorded; transcripts will be prepared with names and any personal identifiers changed. Participants will have the right to have the audio recorder turned off at any time during the interview. All intermediary data files will be captured as .wav and converted to .mp4. All files will remain in the possession of the primary investigators and stored on a password protected server system run by the NCSU Office of Information Technology.

A.2 List the equipment, software, and supplies that you will use to create the content, resources, or assets, or the name of the service provider that will perform the work.

We anticipate using Qualtrics for our survey instrument. For the focus groups we will record using digital voice recorders and oTranscribe (http://otranscribe.com/), an open digital tool that assists with transcription. All surveys and focus groups will be conducted and managed by the PIs and affiliated staff. This project will leverage the support of the NCSU Libraries User Research Team, which has expertise in survey design and focus group facilitation, as well as in analyzing the data derived from surveys and focus groups.

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG) you plan to use, along with the relevant information about the appropriate quality standards (e.g., resolution, sampling rate, or pixel dimensions).

.txt, .pdf, .csv, .wav .mp4
All audio files will comply with a sampling rate of 44.1 kHz

B. Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan (i.e., how you will monitor and evaluate your workflow and products).

We will follow workflow as outlined in our schedule of completion. Our timeline for meeting planned tasks will help us monitor and evaluate our progress. Workflow and procedures will be conducted using professional best practices and reviewed and managed by our Institutional Review Board, Office of Information Technology, and ICPSR as well as project leads.

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period of performance. Your plan may address storage systems, shared repositories, technical documentation, migration planning, and commitment of organizational funding for these purposes. Please note: You may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the period of performance of the federal award (see 2 C.F.R. § 200.461).

We will manage and preserve data in ICPSR. We will archive the project and any pre-prints on NCSU's Scholarly Publications Repository (https://www.lib.ncsu.edu/repository/scholpubs/search.php).

C. Metadata

C.1 Describe how you will produce any and all technical, descriptive, administrative, or preservation metadata. Specify which standards you will use for the metadata structure (e.g., MARC, Dublin Core, Encoded Archival Description, PBCore, PREMIS) and metadata content (e.g., thesauri).

For our survey and focus group data we will provide metadata and generate documentation that conforms with Data Documentation Initiative (DDI).

C.2 Explain your strategy for preserving and maintaining metadata created or collected during and after the award period of performance.

Our survey data will be preserved in ICPSR and maintained using ICPSR metadata editing and management features.

C.3 Explain what metadata sharing and/or other strategies you will use to facilitate widespread discovery and use of the digital content, resources, or assets created during your project (e.g., an API [Application Programming Interface], contributions to a digital platform, or other ways you might enable batch queries and retrieval of metadata).

We are partnering with ICPSR, which disseminates data to researchers, students, policymakers, and journalists around the world based on its Access Policy Framework (https://www.icpsr.umich.edu/icpsrweb/content/datamanagement/preservation/policies/access-policy-framework.html).

D. Access and Use

D.1 Describe how you will make the digital content, resources, or assets available to the public. Include details such as the delivery strategy (e.g., openly available online, available to specified audiences) and underlying hardware/software platforms and infrastructure (e.g., specific digital repository software or leased services, accessibility via standard web browsers, requirements for special software tools in order to use the content).

Digital content will be made accessible to the public after an embargo as we create the toolkit. Data will be preserved through our Scholarly Publication Repository and ICPSR. It will be made accessible to the public on ICPSR's website and via NCSU's public repository. Scholarship will be made openly available through open venues as described above.

D.2 Provide the name(s) and URL(s) (Uniform Resource Locator) for any examples of previous digital content, resources, or assets your organization has created.

NCSU Libraries Digital Projects and Initiatives page: http://www.lib.ncsu.edu/dli/projects,
Scholarly Publications Repository: https://www.lib.ncsu.edu/repository/scholpubs/search.php
NCSU Libraries GitHub Repository: https://github.com/NCSU-Libraries
NCSU Special Collections Research Center: https://www.lib.ncsu.edu/scrc

Part III. Projects Developing Software

A. General Information

A.1 Describe the software you intend to create, including a summary of the major functions it will perform and the intended primary audience(s) it will serve.

N/A

A.2 List other existing software that wholly or partially performs the same functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

N/A

B. Technical Information

B.1 List the programming languages, platforms, software, or other applications you will use to create your software and explain why you chose them.

N/A

B.2 Describe how the software you intend to create will extend or interoperate with relevant existing software.

N/A

B.3 Describe any underlying additional software or system dependencies necessary to run the software you intend to create.

N/A

B.4 Describe the processes you will use for development, documentation, and for maintaining and updating documentation for users of the software.

N/A

B.5 Provide the name(s) and URL(s) for examples of any previous software your organization has created.

N/A

C. Access and Use

C.1 We expect applicants seeking federal funds for software to develop and release these products under open-source licenses to maximize access and promote reuse. What ownership rights will your organization assert over the software you intend to create, and what conditions will you impose on its access and use? Identify and explain the license under which you will release source code for the software you develop (e.g., BSD, GNU, or MIT software licenses). Explain and justify any prohibitive terms or conditions of use or access and detail how you will notify potential users about relevant terms and conditions.

N/A

C.2 Describe how you will make the software and source code available to the public and/or its intended users.

N/A

C.3 Identify where you will deposit the source code for the software you intend to develop:

N/A
Name of publicly accessible source code repository:

URL:

Part IV: Projects Creating Datasets
A.1 Identify the type of data you plan to collect or generate, and the purpose or intended use to which you expect it to be put. Describe the method(s) you will use and the approximate dates or intervals at which you will collect or generate it.

Survey data will be collected in the first quarter of 2017 using Qualtrics to store respondents' answers to a questionnaire we will administer as part of stakeholder engagement. It will be analyzed during the second quarter of our 2017 fiscal year.

Focus group data will be recorded during the second quarter of our 2017 fiscal year. Transcription and analysis will begin in the second quarter of 2017 and continue through the fourth quarter of 2017.

A.2 Does the proposed data collection or research activity require approval by any internal review panel or institutional review board (IRB)? If so, has the proposed research activity been approved? If not, what is your plan for securing

approval?

We will be developing our survey instrument and focus group questions in consultation with NCSU IRB. Based on preliminary conversations, we expect these materials to be approved the first quarter of our 2017 fiscal year.

A.3 Will you collect any personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information? If so, detail the specific steps you will take to protect such information while you prepare the data files for public release (e.g., data anonymization, data suppression PII, or synthetic data).

The study will employ thorough procedures to minimize any risk and protect the participants' confidentiality and anonymity. Publications about the findings from the study will mask the identity of all participants. Interviews will be digitally recorded; transcripts will be prepared with names and any other personal identifiers anonymized to protect participants. Survey data will similarly be anonymized.

Participants will have the right to have the audio recorder turned off at any time during the interview. All intermediary data files will remain in the possession of the primary investigators and stored on a password protected server system run by the Office of Information Technology.

A.4 If you will collect additional documentation, such as consent agreements, along with the data, describe plans for preserving the documentation and ensuring that its relationship to the collected data is maintained.

Each participant will sign a consent form approved by NCSU IRB. All participants will be assigned a numeric identifier by the researchers. The identifier will then be used to reference data objects related to that participant. Both the digital copies of signed consent forms and the name to identifier mappings will be encrypted and stored on a password protected server system managed by the Office of Information Technology. Only the PIs will have access to those files.

A.5 What methods will you use to collect or generate the data? Provide details about any technical requirements or dependencies that would be necessary for understanding, retrieving, displaying, or processing the dataset(s).

The survey will run through Qualtrics, an industry leader providing online survey software to which North Carolina State University Libraries has arranged a site-license. We will share the survey data as standard .txt and .csv delimited data.

Individual interview data will consist of audio recordings and interview transcripts as .txt. After the transcription process is completed, the audio recordings of the interviews will be disposed of. Survey data will be stored in .csv. As ICPSR members, the PIs will work with ICPSR to clean, anonymize and document the data.

A.6 What documentation (e.g., data documentation, codebooks) will you capture or create along with the dataset(s)? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the dataset(s) it describes?

We will associate our survey questionnaire and documentation with the survey dataset using DDI.

Our focus group data will be analyzed using a codebook generated by the project team. The codebook will be shared along with the project data.

A.7 What is your plan for archiving, managing, and disseminating data after the completion of the award-funded project?

Digital content will be made accessible to the public after an embargo as we create the toolkit. Data will be preserved through our Scholarly Publication Repository and ICPSR. It will be made accessible to the public on ICPSR's website and NCSU's public repository page. Scholarship will be made openly available through open venues as described above.

A.8 Identify where you will deposit the dataset(s):

NCSU Libraries Digital Projects and Initiatives page: http://www.lib.ncsu.edu/dli/projects,
Scholarly Publications Repository: https://www.lib.ncsu.edu/repository/scholpubs/search.php
NCSU Libraries GitHub Repository: https://github.com/NCSU-Libraries
NCSU Special Collections Research Center: https://www.lib.ncsu.edu/scrc

A.9 When and how frequently will you review this data management plan? How will the implementation be monitored?

We will review the DMP during our planning phase, during the data collection process, and then prior to submitting to the ICPSR.