

## **SCN Abstract**

The NCSU Libraries, University of Kansas Libraries, and Illinois School of Information Sciences request a **\$249,771** National Leadership Grant to develop, populate, and pilot the Scholarly Communications Notebook (SCN), an OER index/repository that will serve as the locus of an active, inclusive, empowered community of practice for teaching scholarly communication to emerging librarians. Building on our successful Planning Grant (LG-72-17-0132-17) we will use this three-year grant to develop the infrastructure for the SCN, recruit participation from a diverse range of stakeholders, and pilot the resource in leading LIS graduate programs.

In the first year we will select a platform for the SCN and put some pilot “flesh” on these platform bones with content developed by the PIs themselves and by soliciting contributions from the community of scholarly communication librarianship. To diversify and enrich our attention to scholarly communication needs and opportunities we will offer competitive financial awards to authors from a broad range of institutions and intersectional identities, particularly emphasizing marginalized and underrepresented perspectives. Year three will be dedicated to promulgation, assessment, and sustaining content recruitment as well as piloting the SCN in graduate courses. To further refine the project and address challenges that are identified in the first two years, the PIs will also host a community gathering focused on implementation and adoption, sustainability, accessibility, and critical reflection.

By deliberately highlighting and supporting participation that reflects the diversity of the field, we hope to make the SCN a more inclusive resource that can welcome contributions from and meet the needs of stakeholders across librarianship and scholarly communication. This project is inspired by DeRosa and Jhangiani vision of pedagogy “as an access-oriented commitment to learner-driven education AND as a process of designing architectures and using tools for learning that enable students to shape the public knowledge commons of which they are a part.” By seeding engagement with stakeholders from across the field, using intentional design, and prototyping use in leading LIS programs, the SCN will leverage open education and open pedagogy to empower stakeholders to fully realize scholarly communication as a transformative practice and support the evolving needs of libraries and their users.

## **Narrative: *Scholarly Communication Notebook***

### **Executive Summary**

The NCSU Libraries, University of Kansas Libraries, and Illinois School of Information Sciences request a **\$249,771** National Leadership Grant to develop, populate, and pilot the Scholarly Communications Notebook (SCN), an OER index/repository that will serve as the locus of an active, inclusive, empowered community of practice for teaching scholarly communication to emerging librarians. Building on our successful Planning Grant (LG-72-17-0132-17) we will develop the infrastructure for the SCN, recruit participation from a diverse range of stakeholders, and pilot the resource in leading LIS graduate programs.

### **Statement of Broad Need**

This proposal requests funding for a multiyear, multi-institutional collaborative project to address a number of significant and related challenges in libraries, broadly including the problematic gap between key IMLS stakeholders (namely, LIS programs/faculty & practicing librarians) and significant unmet need for scholarly communication training across the field. In order to address these challenges, we propose to leverage advances in technology and the growth of theory and praxis concerning open education and open pedagogy through an open platform which we are calling the Scholarly Communication Notebook (SCN), a reference to the Open Pedagogy Notebook (OPN) developed by Robin DeRosa and Rajiv Jhangiani.

The IMLS *Positioning Library & Information Science Graduate Programs for 21st Century Practice* Forum Report (2017) notes a troubling gap between LIS curricula and the rapidly evolving needs of librarianship, citing a lack of communication between LIS practitioners and teaching faculty. Similarly, *Envisioning Our Information Future and How to Educate for it* (2017) notes that full-time LIS faculty “may be years or decades away from immersion in practice.” These reports reflect the experiences of many librarians: libraries are changing rapidly, and the perspective of practitioners - particularly those from underrepresented communities - aren’t visible in LIS curricula, to the detriment of the constituencies we serve. Librarians in the field have vital knowledge and experience that is of direct relevance to library school students.

Meanwhile, scholarly communication has become a core library competency.<sup>1</sup> The Association of College & Research Libraries (ACRL) defines scholarly communication as “the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use.”<sup>2</sup> In research conducted in a previously awarded planning grant (LG-72-17-0132-17), we identified the following themes as core to, though neither exhaustive nor fixed, scholarly communication librarianship: publishing, open access, copyright/fair use & licensing, repositories, open educational resources, research data management, digital & emerging modes of scholarship, bibliometrics, and instruction on these topics.

Acknowledging the centrality of scholarly communication, organizations like ACRL, the Library Publishing Coalition (RE-40-16-0150-16), Creative Commons (RE-00-15-0116-15), Open Textbook Network (OTN; RE-70-17-0073-17), Scholarly Publishing & Academic Resources Coalition (SPARC), and NASIG are creating resources outlining necessary knowledge and skills. Despite these efforts, LIS programs have yet to take up scholarly communication pedagogy at any scale. The availability of a formal LIS course on scholarly communication topics remains an exception, not the norm, and coverage of scholarly communication topics in other LIS courses remains infrequent and haphazard. As a result, research conducted under our previous IMLS Planning Grant reveals that fewer than 50% of current scholarly communication practitioners felt their education prepared them adequately for *any* of the named areas of work in that field.

Concurrent with the above factors, the creation and use of open educational resources (OER) - “teaching, learning, and research resources that reside in the public domain or are released under an intellectual property license that permits their free use and repurposing by others”<sup>3</sup> - has experienced rapid growth in many sectors of higher education, though not significantly in LIS instruction. Librarians are highly visible in the open education landscape, but

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<sup>1</sup> Finlay, C., Tsou, A. and Sugimoto, C., 2015. Scholarly Communication as a Core Competency: Prevalence, Activities, and Concepts of Scholarly Communication Librarianship as Shown Through Job Advertisements. *Journal of Librarianship and Scholarly Communication*, 3(1), p.eP1236. DOI: <http://doi.org/10.7710/2162-3309.1236>

<sup>2</sup> Association of College & Research Libraries, “Principles and Strategies for the Reform of Scholarly Communication 1,” 2003).

<sup>3</sup> See Hewlett Foundation definition at <https://hewlett.org/strategy/open-educational-resources/>

by and large aren't learning from OER in formal LIS training. Open education practices (OEP), also known as open-enabled pedagogy or open pedagogy, have recently grown out of the OER movement to center the pedagogical implications of open content. OEP are particularly well-suited to instruction on scholarly communication topics and crucial to the success of this project. Open pedagogy is a practice grounded in movement beyond static, top-down authority and towards openness, decentralization, and inclusivity. This transition is also at the heart of scholarly communication, which is too fast moving, too broad, and too important for a static resource to be sufficient. OEP actively invites every stakeholder, particularly practitioners, instructors, and students to engage in content creation and maintenance that benefits all parties.

In order to address these concerns, we have been engaged in IMLS-supported research to inform the design and development of OER addressing scholarly communication. We are currently developing an openly-licensed textbook, under advanced contract with ACRL, that will begin to address the gap. While we intend the textbook to serve as a foundational reference, our research makes clear that the most effective educational resource for this area of work will be modular, iterative, inclusive, decentralized, and practitioner-driven, reflecting perspectives far more diverse than any single book or small team of authors can present. It requires, in DeRosa and Jhangiani's words, an "empowering, collaborative, and just architecture for learning."<sup>4</sup>

## **Project Design**

As discussed above, there is a significant unmet training need to prepare LIS students to do scholarly communication work. In order to address this gap, we propose to develop and initially populate an OER index/repository, the Scholarly Communication Notebook (SCN), informed by the findings of that planning grant and complementary to our open textbook already under development with ACRL. Our intention is that the openly-licensed textbook will provide a modular foundation for teaching scholarly communication. Instructors leading a dedicated scholarly communication course can rely on the textbook for a rigorous, scaffolded overview of the fundamentals of the field. Instructors teaching other core LIS subjects can incorporate relevant sections into their own courses. For example, a course on collection management might

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<sup>4</sup> DeRosa, R. and Jhangiani, R., Open Pedagogy, in *Open Pedagogy: A Guide to Making textbooks with Students*, available at <https://press.rebus.community/makingopentextbookswithstudents/chapter/open-pedagogy/>

bring in materials on open access while a course on archives might incorporate our discussion about copyright into a unit on donor agreements or digitization. Practitioners seeking to update their skills in this area will also be free to use the book for self-study or targeted learning.

For all types of instruction, the SCN will provide complementary infrastructure that unlocks the potential of open pedagogy by presenting current, diverse examples of scholarly communication. It will also provide a resource for “redesigned course assignments to empower students as creators of resources for the common,” rather than simple “disposable assignments.”<sup>5</sup> Like OPN, the SCN will be a site of both theory and practice, as well as a community hub. Practitioners, educators, and students will both discover and contribute open teaching and learning content concerning foundations and new developments in scholarly communication topics and methods, thereby developing expertise in responding to those developments. The SCN will serve as a central location for soliciting creation of new resources and as a durable and discoverable location for openly-licensed scholarly communication teaching and learning content.

We recognize that an experimental, community-based project of this sort carries risks in attracting sufficient and sufficiently diverse contributors to create and sustain the resource. It also carries the risk of being, like so many online resources, difficult to discover and, as a result, underutilized. We also recognize the danger that this resource might be populated and used primarily by the same privileged stakeholders that are too often centered in discussions about scholarly communication. In our project design, we seek to mitigate each of these risks by attending to support for content creators and to promotional strategies and building strong relationships with a diverse scholarly communication community. To this end, the first two years of this work will have a dual focus: 1) developing a first iteration of the SCN and soliciting community feedback; and 2) recruiting and supporting contributors to populate the platform with content that reflects and encourages diversity in the profession.

Throughout the latter half of 2019, we will select a platform for the SCN and locate that platform at an institution selected for its ability to support the platform and its users, as well as its commitment to long term preservation and access. Platform selection will be informed by PI

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<sup>5</sup>Jhangiani, R., Ditching the “Disposable assignment” in favor of open pedagogy, available at <https://osf.io/g4kfx/>

participation in the spring 2019 Mozilla Open Leaders program, a selective training program to train and support open leaders in designing and building projects that empower others to collaborate within inclusive communities. Initial impressions from this program suggest that the SCN must be decentralized and contributions must be easy to “fork” or make a copy that “acts as a sort of bridge between the original repository and your personal copy”<sup>6</sup> so that existing content can be used as the basis for a new project. A platform like GitHub or GitBook that connects to a vibrant community and supports robust version control offers a promising place to begin, but we will continue to explore and develop the platform throughout the project.

As 2020 begins, we will put some pilot “flesh” on these platform bones with content developed by the PIs themselves and by soliciting contributions of content already existing from the community of scholarly communication librarianship, such as the participants in the meeting funded by our previously awarded IMLS planning grant. This first iteration is intended for initial testing and review as well as to provide models for further contributions.

We recognize that scholarly communication conversations are too often dominated by voices from wealthy, white, R1 research institutions, representing only a narrow facet of the scholarly enterprise. To diversify and enrich our attention to scholarly communication needs and opportunities, we will offer competitive financial awards to authors from a broad range of institutions and intersectional identities, particularly emphasizing marginalized and underrepresented perspectives. As outlined in the diversity plan below, we will use a spectrum of ALA affiliate organizations to reach out to practitioners from a range of economic, ethnic, and racial categories. We will also solicit and fund contributions from practitioners from a broad range of institutions, from community colleges to the wealthiest research universities, in hopes of fully representing the broad national work of scholarship and the libraries that support it.

We will share three calls for applications for financial support (currently expected to be \$2,500 per contributor), to be issued in the summer of 2020, spring of 2021, and fall of 2021. In the following months, PIs will work with the selected contributors to develop, review, and test the OER modules they will be adding to the SCN. We expect these contributions to be completed within four months so those examples can be used to further test and refine the SCN. In parallel

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<sup>6</sup>GitHub Guide to “Forking Projects” at <https://guides.github.com/activities/forking/>

to the development by the awardees, we will solicit contributions from other sectors of the community and will promote resources as they become available, deploying them in our own instructional work and encouraging their use by others throughout that network.

As contributors are developing resources, we will conduct a soft pilot of the SCN. We have already recruited instructors at LIS programs including the University at Buffalo, University of South Carolina, Dublin City University, University of North Carolina-Chapel Hill, and University of Illinois Urbana-Champaign to pilot courses making use of SCN content. For the soft pilot, we will reach out to these instructors and engage with them in deploying some of the resources in instruction, with an eye toward identifying gaps to fill during the remaining period of work and to improving discoverability and usability.

Year three will be dedicated to promulgation, assessment, and sustaining content recruitment to keep apace with shifts in this dynamic field. There will be a final round of awards to support contributors, specifically calling for applications addressing areas of need identified by the initial pilot. A second pilot round of courses will take place in the fall of 2022. To further refine the project and address challenges that are identified in the first two years, the PIs will host a community gathering focused on implementation and adoption, sustainability, accessibility, and critical reflection. The exact nature of that gathering will be determined based on the lessons learned from the work of years one and two and our sense of whether the gathering would be best populated by contributors, users, or both.

Feedback from these activities will inform the final report and sustainability plan for the SCN. Project evaluation will be informed by standard metrics of online use, such as site visits and downloads. Instructors and students in courses that deploy resources from the SCN will be asked for feedback on benefits and challenges in locating appropriate resources and in making use of them. Contributors will also be asked to provide feedback on the authoring process and the support provided. Feedback will be gathered through online forms and selected follow up conversations. As this feedback is received, the SCN will be poised to begin its next iteration, so resulting changes in process and policy can be integrated into its growth.

We will attend to sustainability throughout the lifetime of the award-funded activity and intend to develop a formal plan in the final years. Our platform will be chosen with an eye to

openness and community investment in its continued maintenance and improvement. We will work with our contributors to identify the best-documented and widely-adopted formats to use in creating their resources. We anticipate a full range of formats, such as standard text documents, multimedia, podcasts, videos, slide sets and perhaps formats we have not yet anticipated. Beyond technical sustainability, we recognize the perhaps more daunting challenge of sustaining community interest and participation. We are assuming that deploying the SCN in support of open pedagogy will open up one new source for materials as students in classes making use of the SCN are encouraged to develop their own contributions to enrich the resource.

It is integral to the design of the SCN that it be an openly accessible living organism of sorts. The SCN will be promoted to librarians and LIS faculty through professional conferences and publications; we anticipate that the resource will be of interest at conferences such as ACRL, the Library Publishing Forum, Open Education, ALISE and FORCE11. We will also deploy relevant online venues such as the ACRL ScholComm listserv, the Open Textbook Network listserv, the SPARC LibOER list and through the project web site at [lisoer.wordpress.ncsu.edu/](http://lisoer.wordpress.ncsu.edu/). The PIs will also reach out to the presenters of the ACRL Scholarly Communication Roadshow and Scholarly Communication Toolkit to make connections between that curriculum and the resources in the SCN. In addition, we will use our professional social media networks to raise awareness about the SCN and its uses.

Finally, the release of our ACRL textbook will be an opportunity to promote the SCN as a companion resource that will enrich the use of the text. Upon formal launch, the PIs will also offer webinars for potential users to learn more about the resources available through the SCN. Lessons learned from the development process and from recruiting and supporting authors will be shared in the final report to IMLS, but will also be shared in disciplinary and professional venues. All publications will be made available openly and shared through the project web site as well as through the PIs institutional repositories. By default, all resulting work, both by the PIs and by contributors, will carry an open license and thus be openly available for revision and adaptation by future users.

The preliminary budget of \$249,771 over three years includes 1% of the PI's salary (\$3,527), funding for a graduate student (\$30,375), fringe (\$3,579), a stakeholder gathering



(\$1,905), scholarships to support diverse attendance at the gathering (\$5,410), as well as PI-team travel for collaborative work (\$14,517). Sub-awards for the co-PIs likewise include 1% of salary as well as travel resulting in a requested sub-awards for the University of Kansas of \$17,273 and the University of Illinois of \$32,867. The budget provides \$77,500 for 31 competitive awards and applies NC State University's federally approved indirect cost rate (\$62,818).

## **Diversity Plan**

The SCN is explicitly intended to support and educate a diversifying workforce of LIS professionals and to extend social justice values to all participants by intentionally and thoughtfully reflecting the people, institution types, and service models in scholarly communication. That scholarly communication workers are well-positioned to advance diversity, equity, and inclusion is well documented.<sup>7</sup> Building on our successful planning grant and related IMLS-supported projects, as well as our open textbook, the SCN will be a platform for practitioners, students, and scholars, particularly those from underrepresented backgrounds, to share a diverse and emerging body of scholarly communication ideas and practices.

The ongoing work of supporting diverse communities and voices must be at the heart of this project, but we will begin by soliciting contributions and providing awards to developers from an initial set of communities identified in the ALA Related Groups, Organizations, Affiliates & Chapters. This set is grounded in research done as part of our planning grant as well as the work currently being done by ACRL as part of their Research Agenda on the Research Environment and Scholarly Communication System. In recognition of the value of the labor provided by contributors sharing their own experiences we intend to offer financial awards to all participants in the initial phase. By deliberately highlighting and supporting participation that reflect the diversity of the field, we hope to make the SCN a more inclusive resource that can welcome contributions from and meet the needs of stakeholders across librarianship and scholarly communication.

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<sup>7</sup> See Inefuku, H. and Roh, C., *Agents of Diversity and Social Justice: Librarians and Scholarly Communication*, in *Open Access and the Future of Scholarly Communication: Policy and Infrastructure*, 107-127 (2016); Baildon, M. *Extending the social justice mindset: Implications for scholarly communication*, *College and Research Libraries*, 79(4), (2018).

## **Broad Impact**

The SCN will be the locus of an active, inclusive, and empowered community of practice for teaching scholarly communication. By spotlighting the experiences of a diverse set of practitioners, the SCN will prepare students to understand and instructors to teach both the established definitions and the transformative, inclusive potential of scholarly communication.

To maximize the impact of this resource, the SCN will be integrated with our openly-licensed textbook to be published by ACRL in 2020. Because we have identified a set of instructors willing to pilot the textbook and SCN as paired OER we are confident that the SCN will be used as the core resource for instruction at those LIS programs. We hope that successful adoption in those courses will lead to new adoptions as other faculty instructors learn about and adopt these resources based on the initial success of the named instructors. We also intend to make the open textbook and SCN modular and to align sections with the standards of core LIS subjects so they can be both a core textbook for dedicated scholarly communication courses and a trusted resource that can be plugged into courses and build knowledge and skills across the practice of librarianship. The open, modular, and iterative nature of the SCN also opens the door for instructors in other adjacent fields to share their own stories and tailor the resource to their own disciplines.

We also hope that students in the course will carry the SCN with them into library practice so they can continue to refer to and ultimately contribute their own experiences. Because it is designed to bridge the divide between instructors and practitioners, the SCN will also be introduced at leading open culture conferences so that open education and scholarly communication practitioners can engage with the project and spread the word. As discussed in the Diversity Plan, we also plan to partner deliberately with practitioners in community colleges, HBCUs, tribal colleges, and other institutions that serve underrepresented communities so that the SCN can better-reflect the experiences of those communities and be more easily developed and tailored to meet their needs.

We recognize that sustainability is a key aspect of any project of this type. In order to keep the SCN continuously refreshed by new examples and to reflect emerging practice and theory we are exploring strategies for developing an online community that is truly reflective of

the transformative, decentralized values we preach but our field does not always practice. Our Project Design describes initial steps we will take to build sustainability into the project. In addition, we have identified several strategies we will continue to explore across and beyond the life of the grant for embedding these values into the SCN.

First, over the course of our planning grant we have been prototyping and piloting workshops designed to empower individual creators to develop and share openly-licensed resources in places like the SCN. We initially explored designs for these workshops in a session we hosted at The Library Collective 2018. Based on the success of this initial session, we have explored several approaches for designing and hosting OER-development workshops at OpenEd18 and the Charleston Conference. Each of these sessions has helped us identify best practices and challenges in leading development workshops for “micro-OER” such as videos, lesson plans, and similar materials that can be submitted to the SCN. We specifically learned important lessons about avoiding or translating discipline-specific jargon, offering equitable support for participants with different levels of institutional support, and especially helping participants recognize their own expertise. These sessions will culminate with a full day preconference to be held at ACRL 2019, which we hope will lead to a clear, reproducible roadmap for these workshops. This preconference will be held concurrently with PIs final Mozilla Open Leaders work, and we hope that a working prototype of the SCN will be available for a very early review as a component of open pedagogy for teaching scholarly communication.

The vision of open pedagogy described by thinkers like DeRosa and Jhangiani can be summarized “as an access-oriented commitment to learner-driven education AND as a process of designing architectures and using tools for learning that enable students to shape the public knowledge commons of which they are a part.” By seeding engagement with stakeholders from across the field, using intentional design, and prototyping use in leading LIS programs, the SCN will leverage OER to empower stakeholders to fully realize scholarly communication as a transformative practice and support the evolving needs of libraries and their users.

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## DIGITAL PRODUCT FORM

### Introduction

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (e.g., 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. 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

All applications must include a Digital Product Form.

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Please check here if you have reviewed Parts I, II, III, and IV below and you have determined that your proposal does NOT involve the creation of digital products (i.e., digital content, resources, assets, software, or datasets). You must still submit this Digital Product Form with your proposal even if you check this box, because this Digital Product Form is a Required Document.

If you ARE creating digital products, 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.

There are two parts of the SCN that are subject to IP: the platform itself and the content it hosts. To the extent possible based on platform selection decisions, copyright in the platform will be held by co-principal investigators and subject to an open source license.

Copyright in all hosted content will remain with author/contributor. Content generated under the 31 incentive grants will carry a Creative Commons Attribution (CC-BY) license, and all other contributed content hosted on the platform will be licensed with a CC-BY license as default, with the option for users to select a less open CC license, not including the "No Derivatives" which is not compatible with 5R openness. These choices and the rationale behind them will be clearly communicated to contributors and users.

**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.

None; there will be no restrictions on access or use aside from any uses that are excluded based on the open license selected by contributors. For example, we don't want to imply that any content may be used commercially if a contributor selects a non-commercial license for their work. Our intent is for the platform and hosted content to be as open as possible.

**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 include the possibility of submitting contributions anonymously for any contributor who desires to select that choice out of concern for privacy (or any other reason). Creative Commons already includes the right to waive attribution, so that right will be extended to contribution metadata. Contributors will have to either submit their work with an open license or openly license it through the submission to the SCN, either of which will cover our rights to host the content. Submissions will be reviewed for offensive or appropriate content.

## **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 the format(s) you will use.

We are soliciting open educational resources to populate the SCN. We anticipate a full range of formats, such as standard text documents, multimedia, podcasts, videos, slide sets and perhaps formats we have not yet anticipated.

Because we plan to contribute materials directly, to fund contributions from identified developers, and to solicit ongoing contributions, we expect a significant number of resources in a variety of formats.

**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 will develop content with standard word processing and design tools such as google docs and Microsoft Word and then share them openly on the web using non-proprietary formats. Other contributors will be free to select the appropriate tools, software, and supplies as long as the final version that is shared is openly accessible.

**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).

Standard textual materials will be shared using HTML, Markdown, PDF, and similar open and non-proprietary formats. Multimedia materials will also be shared openly using formats such as FLAC or SVG, as appropriate.



## **B. Workflow and Asset Maintenance/Preservation**

### **B.1** Describe your quality control plan. How will you 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 and Office of Information Technology 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).

The platform will be hosted at an institution selected for its commitment to long term preservation and access. Platform selection will be informed by PI participation in the spring 2019 Mozilla Open Leaders program, which suggests that the SCN must be decentralized and contributions must be easy to “fork” so platform like GitHub or GitBook may be appropriate. Content will be hosted in this platform as well as in relevant repositories that are most appropriate for the specific material and formats. For example, textbooks may be hosted in the Open Textbook Library, shorter materials may be hosted in open repository such as the LIS Scholarship Archive or Humanities Commons CORE platform. We will attend to sustainability throughout the lifetime of the award-funded activity and intend to develop a formal plan in the final years.

## **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).

Where appropriate, 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.

Metadata will be linked to any data sets we develop and both will be openly shared in appropriate repositories.

**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).

All materials will be openly licensed and share on the SCN itself. Our first task will be to identify the best platform for the SCN. We will begin with the Open Pedagogy Notebook as a model (<http://openpedagogy.org/>) and have begun to investigate platforms such as GitHub and GitBooks since they support open sharing and reuse through forking.

**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.

Our current project page is available at: <https://lisoer.wordpress.ncsu.edu/>

## **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 N/A Any software developed by contributors will be released with an open license

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

N/A Any software developed by contributors will be deposited in GitHub

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

Name of publicly accessible source code repository:

N/A Any software developed by contributors will be deposited in GitHub

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.

We will gather feedback from developers and users of the SCN through webforms, interviews, course evaluations and similar direct communication. We may also conduct brief surveys and interviews in the third year of the project.

**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 do all assessment work in consultation with our institutional review boards.

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

**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.

Where required, 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).

Datasets will be openly shared in nonproprietary formats after appropriate steps are taken to protect any PII.

**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?

Any documentation for surveys or assessment materials will be linked to the relevant data sets and stored with the PIs during the project. Once they are anonymized and ready to be shared they will be shared openly.

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

Any datasets will be stored in an open repository such as the LIS Scholarship Archive (<https://osf.io/preprints/lissa/discover>) or Humanities Commons CORE platform (<https://hcommons.org/core/>).

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

Name of repository:

LIS Scholarship Archive;

URL:

<https://osf.io/preprints/lissa/discover> ; <https://hcommons.org/core/>

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

We will review this plan at regular intervals throughout the project, particularly as we begin and conduct evaluation and assessment activities.