ABSTRACT

The Educopia Institute proposes a one-year Laura Bush 21st Century Librarian Program Planning Grant (National Digital Infrastructure) to study, evaluate, and document sustainability scenarios for grant-funded digital curation and preservation curriculum. The project will convene leading continuing education (CE) stakeholders (trainers, hosts, administrators) from OCLC WebJunction, MIT (DPM), NEDCC (Digital Directions), LYRASIS, NIU (Digital POWRR), UNC-CH SILS (DigCCurr, CRADLE MOOC), DPN (DP Workflow), and the Sustainable Heritage Network (SHN) to engage in multi-stakeholder scenario planning and to develop a shared vision for expanding and supporting digital curation and preservation training.

Project partners will 1) document the variables, models, and approaches to sustainability in practice; 2) produce recommendations for developing pipelines to transition grant-funded curricula into sustainable training programs; and 3) map competencies to current training offerings at the system level. The project will contribute to the continued growth of the National Digital Platform by strengthening and improving the sustainability of digital curation training resources available to librarians, archivists, and curators. Two reports will be produced; the first will provide an overview and environmental scan of current continuing education resources, and the second will document key aspects of and different approaches to CE sustainability. The report will give recommendations for how stakeholders can apply specific adoption and incubation models to help open resources developed in grant-funded projects move into broader use across the fields. Additionally, the project will increase and promote communication between training programs and hosts. Activities will include an environmental scan, two facilitated meetings for key stakeholders, and the production of two project reports. The project will move the emphasis on training from the individual programmatic level to the system level, seeking to ensure that the investments made in developing curriculum reach the broadest possible audience and have the greatest possible impact.

Sustaining Digital Curation and Preservation Training

STATEMENT OF BROAD NEED

Over the last two decades, continuing education opportunities in digital curation and digital preservation have been crucial for re-skilling librarians, archivists, and curators in a quickly changing information environment. Such training resources are typically the primary avenue for information professionals to increase and advance their knowledge and skills beyond an initial graduate degree program.[1] The 2017 NDSA Staffing Survey results indicate that a majority of organizations currently focus on retraining of existing staff to manage digital curation and preservation activities.[2] Consortia, individual libraries, nonprofits, and for-profit businesses serving libraries and archives provide hundreds of institutes, workshops, online and blended training, MOOCs, and other offerings on these topics each year.[3] The IMLS, the NEH, the NHPRC, and multiple private foundations continue to invest millions each year into existing programs and new continuing education projects in this area.[4] Demand for these programs still outpaces supply, and the concentration of these programs in the east coast corridor leaves much of the country without adequate training opportunities.[5] As demonstrated in a 2016 survey of nearly 3,000 professionals in U.S. libraries, archives, and museums about continuing education needs, "Intermediate to advanced technology skills, digital collection management, and digital preservation" are rated highest by respondents as the competency areas in which they most needed 'significant improvement'."[6]

Despite the increased number of training offerings in recent years, many of these grant-funded programs are at risk of disappearing once they are no longer able to secure continued external funding, or program staff move on to other initiatives. Even when these projects have produced free, open, online continuing education materials, there still remains a fundamental issue of continued funding to ensure sustainability of these resources.[7] Currently, there are not clear pathways for training resources developed during grant projects to transition to organizations with more stable funding models. While there have been some recent studies that have investigated sustainability in relation to digital collections development, digital humanities programs, and digital scholarship, to date there have been limited comparable studies of sustainability options for digital curation training resources and programs.[8][9] The present scenario of multiple digital curation training offerings available for practitioners may quickly change if grant-based funding is no longer available, or key project personnel and stakeholders shift priorities.

The question of how to better ensure the longevity and impact of digital curation and preservation training has been raised in many single-program settings (see e.g., DPM, Digital POWRR, and DPOE); it has

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[1] Educopia Institute. (2015). "Spanning Our Field Boundaries: Mindfully Managing LAM Collaborations" p. 7. https://educopia.org/publications/spanning-our-field-boundaries-mindfully-managing-lam-collaborations

[2] Atkins, W., Kussmann, C., & Kim, K. (2017, October 20). Staffing for Effective Digital Preservation 2017: An NDSA Report. http://doi.org/10.17605/OSF.IO/3RCQK

[3] Tibbo, Helen. (2015). "Digital Curation Education and Training: From Digitization to Graduate Curricula to MOOCs." *International Journal of Digital Curation*, Vol 10, Iss 1, pp 144-153. http://www.ijdc.net/index.php/ijdc/article/view/10.1.144/387

[4] Owens, T., Sands, A.E., Reynolds, E., Neal J., and Mayeaux, S. (2017). The First Three Years of IMLS Investments to Enhance the National Digital Platform for Libraries. Washington, D.C.: Institute of Museum and Library Services, Office of Library Services.

[5] Coalition to Advance Learning, 2016

[6] Drummond, Christina et al. (2016). "Self-Identified Library, Archives, and Museum Professional Development Needs 2016 Edition" p 13. https://educopia.org/publications/self-identified-library-archives-and-museum-professional-development-needs-2016-edition

[7] Gallinger, M. (2017). Open Digital Preservation Training and Professional Development Opportunities. Washington, D.C.: Institute of Museum and Library Services, Office of Library Services.

[8] Maron, N. L., & Pickle, S. (2014, June 18). Sustaining the Digital Humanities: Host Institution Support Beyond the Start-up Phase. https://doi.org/10.18665/sr.22548

[9] Maron, N. L., Pickle, S., & Marcum, D. (2013, November 20). Searching for Sustainability: Strategies from Eight Digitized Special Collections. https://doi.org/10.18665/sr.22647

not yet been addressed at the system/infrastructure level.[10] There are many sustainability models currently operating both within and beyond our field from which we can learn. From national and international trainer associations (e.g., ATD, AAACE) to nonprofits and service providers in our fields (e.g., SAA, ACA, LYRASIS, NEDCC), and from academic environments (e.g., MIT, UNC-CH, SJSU) to long-lived conference series' hosted with community-based support but no formal infrastructure (e.g., PASIG, Code4Lib), there is no "one size fits all" approach to growing and sustaining curriculum.

Another significant issue related to current digital curation training resources is the lack of regular communication and information exchange between programs and organizations developing and providing these resources. While there may be *ad hoc*, informal communications that take place between project or program representatives, there are no current formal or strategic communication channels for ensuring ongoing exchange of information, resources, and ideas. This lack of strategic communication between institutions and programs is a challenge that cuts across libraries and archives in various arenas, and represents a significant barrier to building relationships and collaborative endeavors.[11] A result of this lack of communication amongst digital curation training projects and programs, especially during early planning and development activities, has been the duplication of and overlap in the content of training resources.

A librarian, archivist, or curator seeking to increase and advance their digital curation knowledge and skills through continuing education resources currently has more options to choose from than ever before. Determining the differences between current offerings and selecting the training option that is most relevant for their specific institutional needs is a significant challenge that many practitioners face. Considering the investment of time and financial resources that individuals and institutions put towards professional development, this selection process is clearly important, but one that practitioners currently undertake with limited guidance or support. Navigating and understanding the differences and benefits of specific training programs can be a confusing and stressful exercise, due in part to a lack of current resources that systematically compare and contrast training options, leaving the burden on the practitioner to make these judgements on a case by case basis.

To ensure our national investments in digital curation and preservation training have the greatest possible impact, we need to establish better mechanisms and pathways for transitioning successful grant-funded curricula and resources into ongoing, replicable training programs that can serve the needs of targeted constituencies. We also need to strengthen relationships between existing trainers, hosts, and administrators of digital curation and preservation training programs, improving their knowledge of each other's offerings and fostering a network of support. Finally, we need better mechanisms for informing those seeking continuing education opportunities in these areas what programs are available and what competencies they fulfill.

This project will directly address the above needs by convening leading continuing education (CE) stakeholders (trainers, hosts, administrators) from LYRASIS, Northeast Document Conservation Center (NEDCC), Digital Preservation Management Workshop, Northern Illinois University (Digital POWRR), University of North Carolina at Chapel Hill School of Information and Library Science (DigCCurr, CRADLE MOOC), Digital Preservation Network (DP Workflow), Sustainable Heritage Network, and OCLC WebJunction to 1) document the variables, models, and approaches to sustainability in practice; 2) produce recommendations for developing pipelines to transition grant-funded curricula into sustainable training programs; and 3) map competencies to current training offerings at the system level. It will contribute to the continued growth of the National Digital Platform by strengthening and improving the sustainability of digital

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[10] These individual efforts have largely sought a next-phase grant, not a long-term sustainability plan, to support a successful training effort for a few more years and/or a few additional sites.

[11] Educopia Institute. (2015). "Spanning Our Field Boundaries: Mindfully Managing LAM Collaborations" p. 7. https://educopia.org/publications/spanning-our-field-boundaries-mindfully-managing-lam-collaborations

curation and preservation training resources available to librarians, archivists, and curators. The project will move the emphasis on training from the individual programmatic level to the system level, seeking to ensure the investments made in developing curriculum reach the broadest possible audience and have the greatest possible impact.

PROJECT DESIGN

Goals and Outcomes

This project's primary goal is to explore sustainability scenarios and relationships between grant-funded training projects and organizations that host continuing education resources as part of their mission/business structure. It will bring together a diverse set of stakeholders currently developing and/or providing continuing education resources to engage in discussions on sustainability. These discussions and an associated environmental scan will provide the materials for two reports that will include descriptions of models for transitioning grant-funded training curricula and resources to other organizational environments; a comparative analysis of training content and learning competencies across current continuing education resources; and recommendations for next steps, including implementation of sustainability models. The project will produce a set of materials that focus on the bounded, high-need area of digital curation and preservation training sustainability; however, these materials will also serve as a model for how other topical training areas might address similar issues. Findings will be circulated broadly through the library, archives, and museum sectors.

Project Activities

The main activities that will be conducted during the one year grant period (July 2018 to June 2019) include 1) conducting an environmental scan of digital curation and preservation continuing education resources; 2) planning and hosting two project partner meetings; and 3) generating two project reports. The first report will illustrate the state of the field of current CE stakeholders and activities, and the second will be on sustainability scenarios and models, including recommendations for future implementation projects. Please note that the following is a summary timeline for the project; a Gantt chart is provided in the supporting appendices to this grant proposal submission.

Setup and Environmental Scan: During this initial stage we will hire project consultants, set a regular virtual meeting schedule, select a location and date for the initial project partner event, and conduct an environmental scan building on work by Educopia (competency mappings, survey research) and UNC-CH (2015 study of existing training cited above). We will also work with AAACE, ATD, and other associations to research and document sustainability models (verticals, pipelines, etc) used in other fields.

Partner Meeting 1: We will plan and host an initial event with all project partners (approximately 15 people). In advance of the meeting, PIs and a professional facilitator will draft and circulate an agenda and the environmental scan to all invitees for input on content and structure. Questions may include: How does ownership function? How is curricula updated? How do attendee networks function? Who are our attendees (geography, diversity)? What risks and opportunities can we identify for existing trainings? Where have we successfully bridged from a creator to a maintainer structure? What lessons have each of us learned? What is the market these CE offerings serve? What is their impact to date?

Report 1: Project staff will synthesize findings from the initial partner meeting and circulate a meeting report to participants for feedback. We will disseminate this report in month six in an open, web-based format, and use it

to generate interest and receive feedback from extended stakeholders, including hosts and trainers across library, archives, and museum topical areas.

Report 2: Project staff will draft and share report two on sustainability research (conducted during months 1-2 and months 5-6) with all partners. We will host virtual project partner discussions of findings and potential directions to explore.

Partner Meeting 2: We will plan and host a second project partner meeting focused on scenario planning. Agenda topics and questions will include: How do we build "pipelines" for distributing both the content and the responsibility for its assessment, maintenance, and use? What incentives can we show for PIs who create curriculum and for programs that host CE programs as part of their ongoing business models? How do we bridge all stakeholders (including attendee networks) to effectively promote and propel programs? How do we articulate and support at a system level the competencies needed and offerings available, including those that cross over different sectors and fields (nonprofit, government, private; library, archives, museums)?

Final Reports: After the second partner meeting we will finalize report two; publish the environmental scan and both reports and disseminate widely; and host informational webinars to further circulate findings and recommendations for next steps.

Risks and Strategies

The project team recognizes that any project with multiple partners and stakeholders faces an array of potential risks that may need to be dealt with during the funding period. Specific risks and associated mitigation strategies for this project include:

1. Partner meetings don't produce useful results - The project team has assembled a diverse group of leaders in digital curation and preservation continuing education resources who will bring a unique mix of viewpoints and perspectives related to sustainability of training resources. The challenge for the project will be ensuring that partner meetings are planned and structured to ensure that the ideas and opinions of partners are channeled towards producing a collaborative vision for sustaining grant-funded continuing education resources. To mitigate this risk we will be contracting an external meeting facilitator who will ensure that both partner meetings are efficient, productive, and quality experiences for all project partner representatives.

2. Project findings and deliverables don't result in action - Due to their exploratory nature, planning projects have an inherent risk of producing results that provide more understanding and insight of specific problems or issues, but may not include clear and actionable directions for how to resolve those issues. The project team will address this risk by ensuring that the second half of the project is focused on producing an actionable set of steps that can be implemented in the near-term by a variety of continuing education stakeholders.

Communications Plan

The Educopia Institute and project partners are committed to the wide dissemination of project findings and outputs. This outreach and dissemination process will begin at the inception of the project, and continue to expand and amplify after an award is granted, building throughout the grant period and beyond. The design of this project has intentionally involved a broad range of stakeholders, including leaders in the development, management, and hosting of digital curation and preservation continuing education resources. The project team will produce an environmental scan, research findings, sustainability scenarios and models, and recommendations for implementation, all of which will be distributed to target audiences described below.

This project team has already consulted with numerous entities in the digital curation and preservation training and continuing education arena, and this application includes formal commitments from partners and letters of support from individuals who are connected to the "meta-organizations" and professional associations serving

these communities. These groups have broad and deep reach. If awarded, the project would kick off with the development of a project website and the distribution of announcements throughout the field, including to several target audiences described below. The project team will also leverage Educopia's social media presence to disseminate information about the project to the broader library and archives fields. We will create and launch social media campaigns aligned with the release of the draft of final versions of the primary project report deliverables.

Continuing Education and Professional Development hosts and trainers: The project partners include representatives from LYRASIS, Northeast Document Conservation Center (NEDCC), Digital Preservation Management Workshop, Northern Illinois University (Digital POWRR), University of North Carolina at Chapel Hill School of Information and Library Science (DigCCurr, CRADLE MOOC), Digital Preservation Network (DP Workflow), Sustainable Heritage Network, and OCLC WebJunction. Educopia has strong ties to the Coalition to Advance Learning in Archives, Libraries, and Museums (CALAM), which encompasses over 20 organizations, including SAA, ALA, ACRL, ARL, ALISE, AASLH, and many others committed to training across sector boundaries. We will work with all of these groups to circulate information about the project to all of their constituents.

Librarians, archivists, and digital curation practitioners: Each of the project partners is connected with broad communities of practice and will help with outreach and dissemination of project reports to ensure that current professionals and practitioners have an opportunity to provide feedback on draft versions of the sustainability models and recommendations.

Project Resources
Proposed Budget
The project budget is $49,964, which breaks into the following categories: $14,322 salary/fringe, $24,000 project partner travel, $6,000 in consultants (meeting facilitation and graphic design), $2,200 supplies, plus indirect costs.

Key Personnel
Sam Meister (Preservation Communities Manager, Educopia Institute) will serve as principal investigator for the project. Meister has served on project teams for multiple grant-funded collaborative research projects, most recently as co-principal investigator for the IMLS-funded OSSArcFlow: Researching Archival Workflows for Born-Digital Content project, and the Preservation & Curation of ETD Research Data & Complex Digital Objects project[12]. He also serves as a core instructor in the Digital Preservation Outreach and Education (DPOE) program at the Library of Congress.

Dr. Katherine Skinner (Executive Director, Educopia Institute and Adjunct Professor) will act as co-principal investigator and overall coordinator for the project. Skinner has served as PI for grants and contracts totaling more than $2.5M, including a broad range of cross-sector initiatives in digital preservation, scholarly communication, and continuing education across libraries, publishers, archives, and museums. She has substantial expertise in managing collaborative projects involving a broad range of partner types, and an established reputation for empowering project teams, ensuring that each member is deeply involved (see e.g.,

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[12] https://educopia.org/research/grants/etdplus

"Nexus: LAB"[13] and "Mapping the Landscapes,"[14] two large scale, cross-sector education projects undertaken in 2014-2017). She will ensure the project and its deliverables adhere to open access principles and community frameworks, that they are both built and sustained by a range of committed partners, and that all outputs circulate broadly across the memory organization landscape.

DIVERSITY PLAN

As repositories of culture and knowledge, libraries and archives mirror many of the past and current structural inequities of broader society. Numerous voices across the library and archives professions have called for critical engagement with the inherent assumptions and biases that influence the daily activities of librarians and archivists, including regular procedures such as collection development, description, and access.[15] These biases have new implications in relation to the curation and preservation of digital materials as libraries and archives extend their collection and preservation activities outside of traditional domains to include materials such as websites and social media.

This critical engagement needs to extend to the training and continuing education resources that library and archives professionals rely upon to ensure that they have the needed skills and knowledge to perform their work. When it comes to training and continuing education, the issues of sustainability and diversity and inclusion are interconnected. It is through continuing education that library and archives professionals are able to expand their skills and embark in new career directions, including focusing on the areas of digital curation and preservation. Continuing education developers, host organizations, and trainers need to ensure that diverse voices in terms of gender, sexuality, race, ability and cultural backgrounds are involved in the design, development, dissemination of, and access to training resources so that these resources are appropriate, relevant, available, and useful to diverse audiences. Expanding continuing education to a wider set of trainers and audiences will contribute to the increased sustainability of these resources, as feedback collected during assessment can be utilized to further refine and improve the value of training materials over time.

This project will address diversity in two ways. First, by applying a lens of diversity and inclusion during our environmental scan activities and partner meetings to assess and evaluate current digital curation and preservation continuing education resources, we will identify areas of needed improvement within the context of grant projects and host organizations. Second, we will extend this initial assessment by ensuring that the identified gaps and areas of improvement are specifically addressed with the sustainability models, scenarios, and recommendations that are included in final project report deliverables.

NATIONAL IMPACT

This project addresses a national need to engage in sustainability modeling and planning for digital curation and preservation training curriculum at the system level to ensure that continuing education resources are able to persist, grow, and be improved beyond their initial grant-funded development. By engaging leading continuing education stakeholders in this planning and modeling work, this project is positioned to spark systemic changes in how near-term and future training resources are created, managed, assessed, and sustained across multiple

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[13] https://educopia.org/research/grants/nexus-lab-leading-across-boundaries
[14] https://educopia.org/research/mapping-the-landscapes

[15] See Sadler, B., & Bourg, C. (2015). Feminism and the Future of Library Discovery. The Code4Lib Journal, (28). Retrieved from http://journal.code4lib.org/articles/10425 and Kelleher, C., Sangwand, T.-K., Wood, K., & Kamuronsi, Y. (2010). The Human Rights Documentation Initiative at the University of Texas Libraries. *New Review of Information Networking*, *15*(2), 94–109. https://doi.org/10.1080/13614576.2010.528342

organizational environments. It will provide concrete, actionable guidance that can be implemented by continuing education resource developers and service providers to ensure that valuable training materials produced with grant-funding can be sustained and expanded to reach multiple, diverse practitioner audiences. Project deliverables, including an environmental scan and two reports, will increase understanding of sustainability scenarios for continuing education resources, as well as articulate viable implementation options for continuing education resource creators, hosts, and providers. The recommendations in the project reports will lay the groundwork for future activities, including projects focused on the testing and implementation of sustainability models that could serve to assess and refine these models. Such future projects could demonstrate which models are most feasible, furthering the larger effort to ensure practitioners have continued access to current, quality continuing education resources.

This project will have broad national impact, strengthening and advancing the ecosystem of digital curation and preservation training resources that practitioners need to do their work as 21st century library and archives professionals. Through the environmental scan and improved communication and coordination among continuing education trainers, hosts, and administrators this project will result in better understanding of the similarities and differences within training curriculum content. Library and archives professionals, from multiple institution types and geographic regions, will benefit from the comparative analysis of training curriculum content and learning competencies within the project reports and accompanying webinars, providing valuable information to assist them in selecting which training resources to pursue for their individual professional development. Project deliverables will provide practitioners with the information they need to make this decision-making process more focused, strategic, and efficient, aligning local institutional needs with the most relevant and appropriate digital curation and preservation training resources.

While the focus of the project is on digital curation and preservation training resources, the sustainability models that will be produced will be readily adaptable for other types of continuing education content. The project team will work closely with the Coalition to Advance Learning in Libraries, Archives, and Museums to ensure that project deliverables will be relevant and customizable beyond the specific network of continuing education stakeholders developing and providing digital curation and preservation training resources.

Measurable outcomes for the project include:
1. *15 project partners will participate in two in-person meetings to document variables, models, and approaches to sustainability in practice.* Relationships between continuing education stakeholders will be strengthened through increased understanding of each other's activities along with improved communication and coordination across programs and between grant-funded projects and organizations that host ongoing continuing education offerings as part of their business models.
2. *Two project reports on sustainability models and scenarios will be produced and distributed in open, web-based formats.* The network of continuing education stakeholders will be strengthened with a foundation and roadmap for implementing sustainability models for grant-funded digital curation and preservation training resources.
3. *An environmental scan will be produced illustrating the current state of the field for digital curation and preservation continuing education resources.* Library and archives professionals will be empowered to make better informed, strategic professional development decisions based on improved understanding of the similarities and differences amongst current digital curation and preservation continuing education offerings.

Educopia Institute - Sustaining Digital Curation and Preservation Training												
	2018						**2019**					
Tasks	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
Setup and Environmental Scan	███	███										
Partner Meeting 1			███	███								
Report 1					███	███						
Report 2		███				███	███	███				
Partner Meeting 2								███	███	███		
Final Reports											███	███

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

☐ 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.

The project report deliverables will be assigned a Creative Commons Attribution 4.0 International (CC-BY 4.0) License.
The selection of this license supports the project's goal of producing openly available resources that can be easily adapted, modified, and re-used.

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.

Educopia Institute and its partners will not assert any ownership rights over the project reports produced during this project. CC-BY is the only stipulation we will place on use, and this is justified as a way of ensuring credit for the authors of the materials, both at initial release and in all reuse scenarios.

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.

N/A

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.

This project will create two text-based project reports.

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.

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).

> The project will release the reports as PDF documents.

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).

> N/A

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).

> N/A

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).

> N/A

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

> N/A

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).

N/A

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).

Project deliverables will be openly available online via the Educopia Institute website.

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.

https://educopia.org/research/etdplus

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:

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.

N/A

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?

 N/A

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).

N/A

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.

 N/A

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).

 N/A

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?

 N/A

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

N/A

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

Name of repository:

URL:

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

 N/A