Connecting Rural and Small Libraries to Connected Learning

The proposed project responds to the IMLS Laura Bush 21st Century Librarian Program (Funding category: Project; Project category: Lifelong Learning) and covers a three-year period from September 1, 2020 to August 31, 2023. This project brings together interdisciplinary faculty and research scientists from the University of Washington (UW) Information School and the University of Maryland (UMD) College of Information Studies; advisory board members (AB) that are experts in connected learning (CL), continuing education, and rural and small public libraries; and partners that have reputable standing in terms of reaching rural and small libraries nationwide. The main goal of this project is to provide continuing education opportunities to library staff in rural and small libraries on how to embed CL principles into teen programs and services by scaling the IMLS-funded ConnectedLib Toolkit developed by UW and UMD researchers (RE-06-15-0074-15 from 2015-2019) and leveraging the recent IMLS-funded Young Adult Library Services Association (YALSA) Future Ready with the Library - FRwtL (RE 40-16-0081-16 from 2016-2019) and Transforming Teen Services: A Train the Trainer Approach - T3 (RE-95-18-0048-18 from 2018-2021). We will scale the ConnectedLib Toolkit by tailoring the content to meet the needs of rural and small library staff to serve their community's teens successfully, as well as launching a community of practice (CoP) and learning circles that will empower these staff to support each other in building capacity and skills to implement CL activities. In addition, we will work with participating library staff to develop a new module for the Toolkit that focuses on youth civic engagement. This module is inspired by the recognition that many rural and small libraries serve as hubs of civic participation in their communities and are therefore well positioned to promote the civic engagement of their teen patrons (findings from RE-31-16-0013-16 by Phillips, Lee & Recker, 2019).

The direct audiences for this grant are public library staff in rural and small libraries who serve teens. We are partnering with two organizations: YALSA and the Association for Rural and Small Libraries (ARSL). YALSA was an instrumental partner in the grant that the ConnectedLib team previously received, specifically in the design, development, and deployment of the ConnectedLib Toolkit nationwide. ARSL is an active partner in the YALSA FRwtL initiative. We are continuing our partnership with YALSA and securing a new partnership with ARSL to assist in the execution of the project activities and help expand the reach of the ConnectedLib Toolkit to rural and small libraries through their existing network of members. The proposed project fills a significant need to produce worked examples of the application of CL in rural and small libraries, which is almost non-existent. It also fills a need to equip rural and small library staff with skills to design, develop, implement, and evaluate CL to serve teens in underserved areas that need such programming.

STATEMENT OF BROAD NEED

I always see [concern for] the underserved urban kids . . . but you very rarely hear about the underserved rural population – Joan, ConnectedLib participant from a rural midwestern library.

CL is an educational framework that helps prepare youth for life after high school by equipping them with 21st century skills, nurturing the development of new literacies, and connecting their interests and relationships with real-life opportunities (Ito et al., 2013, 2020). At the heart of CL lies an equity agenda—CL was designed to address the gaps in education and career opportunities faced by youth who are not well-served by the traditional educational systems available to them (Reich & Ito, 2017). By integrating youth interests, peer and mentor relationships, and academic, economic, or civic opportunities, a learning experience designed with CL principles can be engaging and motivating for a diverse range of youth.

Need 1: Understand the challenges that rural and small library staff face and identify solutions, examples, and skill sets that they need as they plan, design, implement, and evaluate CL

Almost 20% of the U.S. population, roughly 60,000,000 people, live in rural areas (Ratcliffe, Burd, Holder, & Fields, 2016). Rural counties rank lower than other areas of the U.S. in many measures of social welfare, including poverty, college attainment, and teenage parenthood; some have even gone so far as to call rural America "the new inner city" (Adamy & Overberg, 2017). It's essential to consider the lived experiences of youth in rural America. A report published by the Rural and Community Trust notes, "More than 9.3 million

U.S. students attended a rural school last year, a number larger than the combined enrollment of the nation's 85 largest school districts . . . Rural schools and students often seem invisible because many leaders never encounter these communities directly or lack a full understanding of rural America's challenges" (Showalter, et al., 2019, pg.1). While these youth may be invisible to stakeholders and decision makers, they and their families often seek informal learning opportunities outside of school. The Afterschool Alliance special report *America After 3PM: The Growing Importance of Afterschool in Rural Communities* found that parents overwhelmingly agreed that afterschool programs can support their children in a variety of ways, from helping with homework assignments and developing STEM skills, to promoting their social and emotional development. These parents also recognized opportunities for their children to gain workforce skills including teamwork, leadership, and critical thinking (Afterschool Alliance, 2016). Other research has identified the opportunities that afterschool programs in rural communities—including those based in libraries—can offer youth in support of their developing civic consciousness and engagement (Phillips et al., 2019). Providing CL activities in rural communities—made possible through libraries—will reach the sometimes-invisible youth and help rural youth gain the skills that parents and caregivers see as vital for future success.

As community-based centers of interest-driven, informal learning, public libraries are well-positioned to provide CL-based afterschool programs and services. Since the release in 2013 of *Connected Learning: An Agenda for Research and Design* (Ito et al., 2013), large urban and suburban public library systems such as Chicago Public Library and the Multnomah County Library have been integral players in the movement to bring the CL framework to public library teen services. CL programs at large, urban and suburban libraries often involve specialized staff, expansive teen spaces, significant community partnerships and long-term planning. Although demonstrations of CL have been almost exclusively in larger library systems, CL has much to offer youth in rural areas (Davis et al., 2018). These examples of CL environments in large urban systems are simply not fitting models for rural and small library staff, who face distinct challenges.

Small libraries (and the majority of rural libraries are also small libraries) typically have fewer net resources, and are also "less able to leverage economies of scale" (Real & Rose, 2017, p. 2)—not only in terms of financial resources, but also in staffing and space. Rural libraries are less likely to have planned afterschool programing than larger libraries, and they tend to rely more on "ad-hoc" technology training for patrons (Real & Rose, 2017, p. 6, 9). Transportation is also an issue; youth may live miles from the library and lack transportation options to visit. Libraries, in turn, may be located in a different town than teens' high school, making it less likely for teens to spend time at their local library. CL provides an opportunity for library staff in rural and small communities to work with partners who can help alleviate transportation challenges by connecting to youth in out-of-school settings, such as schools and faith-based institutions, where they are already.

Yet when we speak with staff at rural public libraries, we hear not just of challenges, but also of determination and potential—if only they can obtain the right skills, tools, and resources. As Joan (an interviewee in the ConnectedLib first year grant activity) said, "they [teens] need help, but because . . . they're not in a city or because they're not [in] certain places, I think they get overlooked . . . . It's kind of like banging your head against the wall, but we still try." The first year of this proposed project will be dedicated to identifying challenges such as these that rural and small public library staff face and the solutions, examples, and skill sets that will assist them in planning, designing, implementing, and evaluating CL with and for their youth. Addressing these needs will build and expand upon the somewhat limited existing knowledge about CL-related youth services in rural and small public libraries (Davis et al., 2018).

Need 2: Expand and scale the current ConnectedLib Toolkit to include worked examples and voices of rural and small library staff

In 2015, IMLS funded the ConnectedLib project, which resulted in the ConnectedLib Toolkit, a modular set of free, online professional development resources designed with and for public youth library staff to develop their capacity to create and deliver CL activities through their libraries. The Toolkit begins with a module introducing the CL framework and its relevance to youth library programming. Right away, users are encouraged to tie the ideas presented in this introductory module to their specific context by creating a simple

plan to implement or enhance connected learning in their library's youth services. They are then invited to make modifications to this document as they work through additional modules in the Toolkit. These modules are: Connected Learning Programming, Community Mapping, Community Partnerships, Capacity, Design Thinking, Mentoring, Youth Development, and Assessment & Evaluation. Each of these modules includes overview information, case studies, and reflective activities that support understanding of CL for integration into library services for and with teens.

The Toolkit was well-received following its launch in 2019 at ALA Midwinter, spawning three YALSA e-courses based on its content (facilitated by Co-PI Kelly Hoffman), webinars for library-based organizations such as WebJunction, and workshops at national and local conferences. Originally, YALSA had planned to sponsor only one session of the e-course; however, due to high demand, in particular from states with rural populations, three five-week sessions were held. According to site analytics, the Toolkit averaged over 600 unique sessions and over 2,400 page views per month in the 12 months between March 1, 2019, and February 29, 2020. The ConnectedLib team also knows of libraries and state agencies, such as The Seattle Public Library and the Maryland State Library, that have been using the ConnectedLib Toolkit to train teen library staff on CL. Youth services educators in librarian preparation programs (at UMD, UW, University of South Carolina, University of Tennessee, etc.) also have incorporated the Toolkit into their youth services courses. The Toolkit has been featured by the Connected Learning Lab as a research product for libraries and as an example of a trend by the Center for the Future of Libraries at the American Library Association.

We anticipate that the Toolkit will continue to be widely accepted and used, primarily because it was developed through a design-based implementation method. The ConnectedLib team interviewed and conducted focus groups with 92 public library staff serving teens nationwide to obtain examples and determine the needed content (Subramaniam, et al, 2018). During these interviews and focus groups, the library staff described the youth populations they serve, the programs they offer, how they use technology, whether their programs offer youth opportunities to build things or collaborate with other teens and adults, how their programs align with school curricula, and how much their programming is driven by youth interests. We also asked participants how they approach the development of youth programs, the resources they draw on, and the successes and challenges they face in implementing these programs. Following this broad-scale information gathering, we engaged in multiple online and in-person participatory design sessions and interviews with youth services teams from our three public library partners that represent urban, suburban, and rural systems to develop the Toolkit.

During the development of the Toolkit, the ConnectedLib researchers spoke to 30 rural library staff (including "Joan" quoted above) but found there was a dearth of existing CL resources and examples involving rural and small libraries that these library staff were able to share. Although the team partnered with a library system that served rural communities (Kitsap Regional Library System), this particular large and well-resourced partner library system, with nine locations, was not representative of the typical rural library—60% of rural libraries have only a single location (Real & Rose, 2017) and often have fewer library staff and specialists (such as dedicated teen services staff). Concurrently, rural library staff participating in two separate projects spearheaded by YALSA were also in search of examples where they "see" themselves, but were unable to find them in the ConnectedLib Toolkit or in resources offered by the Connected Learning Lab. These projects were T3, a train the trainer project focused on building public library staff skills in embedding CL and computational thinking into their services, and FRwtL, a project supporting rural, small, and tribal library staff development of middle school college career awareness services. We believe it is now imperative to scale the ConnectedLib Toolkit to include the voices of rural and small public library staff, by encouraging them to build these examples themselves. This work will be achieved through a joint participatory design and CoP approach that will allow staff to co-develop, co-implement, and co-evaluate a variety of CL programs, as well as receive guidance from the project team.

This is also an opportune time to work with rural and small public library staff to develop a new module focused on promoting youth civic engagement, a topic that is emphasized in the CL framework (Ito et al., 2013, 2020). Civic engagement contributes to positive youth development, such as promoting academic achievement, contributing to the development of identity and a sense of purpose, and supporting health and well-being (Middaugh et al., 2017; Elder & Conger, 2000). Unfortunately, civic empowerment, engagement, and

knowledge are lower in youth from nondominant and undeserved communities, including many rural areas (Generation Citizen, 2019; Levinson, 2010). Rural areas also have fewer and less diverse engagement options for youth (Oosterhoff et al., 2019; Pritzker & Metzger, 2011). Networked technologies have opened up exciting new forms of civic participation for young people, allowing them to bypass traditional political institutions and effect change directly (Jenkins et al., 2018; YPPRN, 2016). For youth living in rural and small communities, the library serves as an important access point to high-speed, network-enabled activities, in addition to the civic function that the library itself plays in these communities (Phillips et al., 2019). For these reasons, we believe developing a new civic participation module represents a fitting and exciting opportunity to expand the ConnectedLib Toolkit.

Need 3: Develop a community of practice (CoP), to include learning circles, that can serve as a sustainable support system for library staff to learn from each other

In both FRwtL and T3, a CoP has proved to be essential in providing the support, resources, and learning opportunities required by library staff working to improve and change their practices. In FRwtL, each of the four cohorts (composed of 16-24 library staff members in each cohort) participated in a web-based discussion forum in which they posted ideas, questions, and information about the work they were doing with and for their communities. This proved to be a crucial part of their work together, as cohort members were able to receive direct feedback from peers in similar settings and situations. The project team found that the discussion forum was an integral part of gaining skills for the work cohort members were engaged in.

The CoP integrated into the T3 project centers on a listserv, a Google Drive in which participants share a variety of resources they are developing, and monthly virtual learning sessions. Similar to the discussion forum hosted for the FRwtL project, the listserv has proved to be essential to T3 participants as a chance to ask questions and receive answers from peers. This listserv is also providing insight into the topics that need to be covered during the virtual learning sessions. For example, a T3 participant posted on the listserv a challenge she faced during a training with colleagues in her state agency. Several people responded to that post, and through those comments it was clear that many people in the cohort had similar needs. The project team was then able to secure a speaker who could address the needs of cohort members in a live virtual session the very next month.

The project leads of FRwtL and T3 have learned that providing library staff with opportunities to connect with peers plays a central role in achieving success. Learning circles empower learners to develop study groups, focused on peer needs and interests within a specific topic area, and learn together about that topic or interest. In 2008, P2PU developed the concept of learning circles and discovered that learning circles increase retention and self-agency, foster digital inclusion, and invigorate community-based learning (P2PU, 2018). Building a CoP that includes learning circles gives participants the chance to actively learn from each other and empowers them with skills for ongoing learning and development after this funding cycle.

PROJECT DESIGN

We propose a three-year timeline for this project: 9/01/2020 - 8/31/2023. Here, we describe how we address the needs discussed above in the activities for each of the years of this project.

Year 1: Learning about Rural and Small Libraries

Year 1 of this project focuses on developing a deep understanding of the specific needs of library staff in rural and small libraries. The project team will work with one staff member each from 8-10 rural and small libraries who will join a community of practice (CoP) to engage with and provide feedback on the existing ConnectedLib Toolkit. Most of the staff participating in this phase of work will be identified by ARSL and YALSA from the FRwtL libraries as staff well suited for this project and invited by the project team to join the project. In addition, at least one of the libraries will be identified through the ongoing partnerships that the Technology and Social Change Group (TASCHA) at UW iSchool has established with rural libraries in Washington State. The project team will ask each prospective participant to complete a short survey to gauge interest in learning about and applying CL principles to reimagine their approach to working with and for teens. The project team will follow up with brief interviews to ensure potential participants understand the scope of

work and the time commitment required to participate. The project team will ensure that geographic diversity as well as economic, racial, and ethnic diversity is represented in the communities that these participating libraries serve.

Once library staff are selected, the project team will conduct a virtual orientation for participating staff, as well as a separate orientation for their supervisors, intended to explain the importance and value of this work to administrators. At this orientation, the project team will introduce the ConnectedLib Toolkit and the goals and expectations of the project. Following the orientation, participating library staff will be asked to complete all nine existing modules, including the reflective activities. During the first six months of Year 1, participating library staff will work through one to two of the nine modules each month, providing written feedback through feedback templates provided by the project team. They will also participate in a virtual discussion (via Zoom) about the module(s) reviewed that month, facilitated by the project team members. Discussion prompts for these virtual sessions might include: What was the aspect of the module that you can envision using in your day-to-day practice immediately? In what ways do you see the work you are already doing fitting in with the ideas presented in this module? What opportunities do you see for incorporating content focused on engaging youth in the civic life of their communities? This feedback will help identify gaps in and inspire revisions to the existing modules.

In Year 1, as well as subsequent years, the project team will engage members of the advisory board in providing feedback. This will include twice-yearly virtual Zoom meetings in which the project team provides information on project activities and requests feedback on specific aspects of the work.

Co-Design and Toolkit Revision

In the second half of Year 1, participating staff and the project team will use a participatory design (PD) process (Druin, 1999, 2005) to revise the existing modules and develop the new civic engagement module. PD is an especially useful method for working with practitioners (in this case, library staff) as it provides insights that might otherwise be missed by researchers; as Titlestad et al. (2009) note, “A key PD principle is to bridge and blur the user-designer distinction from both directions, through mutual learning processes” (p. 31). This process will include reflecting back on participants’ written feedback and generating ideas about updating the Toolkit modules to support the needs of rural and small library staff. The PD process will be iterative, with the engagement of the participating library staff being elicited through monthly virtual meetings. We will utilize PD techniques such as sticky notes, layered elaboration, and mixing ideas (Fails et al., 2013) that will bring new examples, resources, and content intended to support the distinct needs of rural and small libraries, as well as tweaked examples and content from the original modules that can now scale and apply to these libraries. Identifying, generating, and disseminating examples, resources, and content specific to rural and small libraries represents an important contribution of the proposed project.

We will dedicate at least two PD sessions to developing and iterating on the new civic engagement module. In the first session, we will revisit and expand on the ideas generated during the previous virtual feedback sessions (held during the first six months of Year 1). The project team will flesh out the ideas from this first PD session and present an initial module to participants for them to iterate on in the second PD session.

Year 2: **Bringing Connected Learning to Library Practice in Rural and Small Libraries**

Year 2 of the project focuses on participating staff from Year 1 rural and small libraries taking their learnings from the revised Toolkit modules and the new civic engagement module into their day-to-day practice. Before they start this work, the project team will set up virtual consultation sessions with each of the participating staff to discuss, plan, and brainstorm how they are going to embed the ideas of CL into their work. The project team will continue to meet virtually with the library staff on a monthly basis to discover how staff are using what they learned through the Toolkit and gather case studies and worked examples for integration into the Toolkit. This feedback will be used to make further revisions to the Toolkit modules. Between these monthly check-ins, the team will ask participants for regular feedback and reflection as they engage in implementation of CL in their library programs and services. This feedback will include a reflection/reporting form that library staff submit following each session that integrates CL. The reflection form may include

questions about what was successful, what was challenging in the integration of CL, and how participants were able to use what they learned from the Toolkit. We expect that through implementation of CL programming, the participating libraries will reach approximately 250 teens (10 participating libraries with 25 teens participating in CL-embedded activities.)

Year 2 will also employ learning circles, study groups that "allow students to focus their learning upon their own practice, and encourage their colleagues to act as critical co-investigators promoting dialogue and collaborative enquiry" (Wade & Hammick, 1999, pg.163). Learning circles empower learners to strengthen accountability, increase self-guided learning, share resources and experiences, and expand motivation and risk taking (Damasceno, 2018). Participants in this project's learning circles will determine a CL topic of group interest, appoint one or more members of the cohort to take the lead in facilitating the learning, meet regularly to discuss that topic, and develop a resource or project as an outcome of their learning. The project team will work with participating library staff to uncover themes and topics for the learning circles, train library staff on how to successfully facilitate learning circles, and support implementation of learning circles. The number of learning circles created will be based on the specific interests of participating library staff. Potential topics might include: starting with outcomes when building CL assessments, and successful techniques for building community relationships in rural communities. Participants will set their own goals and schedule and will meet virtually at the end of the monthly meetings to lead their knowledge building through the learning circles. In addition to giving participating staff the opportunity to expand their knowledge and skills, the learning circles will provide space for staff participants to design and develop tools that can be integrated into the revised Toolkit. Materials developed through the learning circles will be added to the revised Toolkit.

The project team will continually document (1) how staff leverage what they have learned from the Toolkit and apply their knowledge to teen services, and (2) how a CoP, including learning circles, can be used to expand staff knowledge and skills. Using reflections and examples shared via the CoP, and feedback from the AB, YALSA, and ARSL, the project team will further refine the Toolkit to support rural and small libraries.

Year 3: Dissemination

The focus of Year 3 will be nationwide dissemination of the Toolkit. The project team will host a one-day virtual symposium featuring the CoP participants who have successfully integrated CL into their work. The project team will engage with participating staff to plan topics for the virtual conference and consider facilitation strategies for successfully hosting learning experiences in a virtual conference environment. Additionally, the project team will solicit proposals for the symposium from rural and small libraries across the U.S. Potential topics for the virtual symposium include: the what, why, and how of CL; why CL in rural and small libraries and how it benefits the youth that are served; getting started with CL through your rural or small library; promoting youth civic engagement through CL programming in the library; and building rural and small library community support for CL. The virtual conference will be offered for free, and sessions will be recorded and archived online for later viewing. State library agencies will be encouraged to arrange watching parties of rural and small library staff who will attend and network with nearby colleagues. Following each virtual session, participants will be asked to answer one or two reflective questions about their learning and experiences. We will encourage those in watching parties to have live discussions about these questions and share their feedback through a reflection form. Examples of the reflective questions we will pose include: How can you integrate the ideas presented in the session into your own practice? What more would you like to learn about from the session you just participated in?

The energy generated from the symposium will help expand other dissemination efforts such as articles, presentations, webinars, and e-courses. We plan to leverage our relationships with our partners and AB members for our dissemination efforts. This includes submitting articles to the YALSA member journal, *Young Adult Library Services* (*YALS)* and the association's research journal, *Journal of Research on Libraries and Young Adults.* We intend to share our process and resulting Toolkit with academic communities, such as Association for Library and Information Science Educators (ALISE) and the *Connected Learning Summit,* and at practitioner-focused venues such as the *ARSL Annual Conference*. Building on relationships developed as a part of the original ConnectedLib work, the project team will work with YALSA, ARSL, WebJunction, and the

Connected Learning Lab to schedule webinars, e-courses, and blog posts. We will also work with participating library staff to submit proposals to local and regional library conferences in the areas of the state in which they work. The project team will encourage participating library staff to submit conference sessions and to collaborate with the team on article submissions. The project team strongly believes that the voices of library staff doing the work need to be central to all of the team's dissemination efforts.

The current ConnectedLib website, which will be updated and revised through the work of this project, will continue to host all of the project materials and will continue to live beyond IMLS funds provided for this initiative. This will be achieved through no-cost hosting on GitHub and ongoing tech support provided by the University of Washington Information School.

Year	Measurable Outcomes/Evaluation	Data Sources	Target
1 (09/20 – 08/21)	- Identify gaps in current Toolkit related to rural & small libraries - Revise CL Toolkit modules & develop new civic engagement module based on feedback from participating library staff - Develop CoP for co-learning among library staff	- Recordings & chat transcripts from virtual sessions with library staff - Reflections and feedback submissions of participating library staff - Co-design session notes and report	- Gaps in current Toolkit defined - Methods, materials, and resources for updated Toolkit modules identified - Revised Toolkit launched
2 (09/21 – 08/22)	-Identify successful methods for integrating CL into rural and small libraries -Train participating staff and implement learning circles so library staff have opportunities to gain skills and knowledge related to CL - Document learning circle experiences, successes, and challenges	-Recordings & chat transcripts from virtual sessions with library staff - Reflection & feedback forms submitted by participating library staff following CL embedded activities - Reflections & feedback submissions of library staff - Field notes, recordings, and ongoing documentation of learning circle progress	- Case studies and worked examples developed - Participating staff demonstrate new learnings related to CL and develop materials as a result of CoP/learning circle participation - Analysis and synthesis of learning circle documentation

3 (09/22 – 08/23)	Disseminate the revised Toolkit widely to rural and small library communities	- Website statistics - Virtual symposium registration and reflection form data - Webinar attendance - Accepted conference submissions and attendance and article readership	- At least 350 rural & small library staff will access the ConnectedLib site - At least 350 rural & small library staff will register for the virtual symposium - At least 100 rural & small library staff will access the new Civic Engagement module - 25% increase in hits to the revised Toolkit following article publications and conference presentations

Table 1. Overview of measurable outcomes, data sources, and targets for each phase of the project.

Potential Risks and Challenges

The project team recognizes there are risks and challenges associated with this project, primarily in connection with the capacity of rural and small library staff. It is possible that staff who agree to participate in this work will find they do not have the time necessary to carry out project activities. We will use several methods to mitigate this challenge: (1) Provide a detailed job description and timeline to all library staff invited to participate in the project. (2) Facilitate pre-participation conversations in which the time commitment and activities required are clearly defined. (3) Ask participating library staff to sign a MOU that demonstrates they have clearly considered the time and effort commitment that is required (see supporting documents for MOU example). (4) Provide stipends to participating library staff to recognize and acknowledge their efforts, as well as funds for them to purchase supplies needed to develop CL programs in their libraries. Similar to the time challenge, it is possible, and even likely, that participating library staff may change jobs during the timeline of this initiative. The project team will work to overcome this challenge by working with ARSL to put together a list of potential participants who can be called on to fill in on an as-needed basis. It may also occur that library administrators and colleagues may not see the value in this work and may, as a result, make it difficult for designated staff to participate. The project team will host an information session for administrators to facilitate conversations about the value of this work. Project team members will also periodically send updates about the work to administrators to keep them engaged and informed. Lastly, the current COVID-19 pandemic poses major challenges to researchers and practitioners engaged in library-based work. We believe the decision to conduct our work with library staff through virtual means is particularly warranted in light of these challenges.

PROJECT PERSONNEL

Co-PIs for this project are Davis, Subramaniam, Coward, and Hoffman. Dr. Davis, an Associate Professor at the UW Information School, will serve as the project lead. Her research focuses on the educational opportunities that new media technologies provide diverse youth in both formal and informal learning environments. She brings an expertise in connected learning principles, digital media and learning, and human development and education. Co-PI Dr. Subramaniam, Associate Professor at the College of Information Studies at the UMD, is engaged in research that reimagines the use of public libraries as informal learning environments that inspire disadvantaged young people to develop emerging digital literacies. She brings expertise in youth librarianship, librarian training, and participatory design methods. Co-PI Coward is a senior principal research scientist at the UW Information School, director of the Technology & Social Change Group (TASCHA), and

co-founder of the Center for an Informed Public. He studies issues of information access, digital inclusion, digital skills, misinformation, and civic engagement. Much of this work is centered in public libraries. Co-PI Hoffman is a doctoral candidate at the College of Information Studies at the UMD. She was a core team member of the original ConnectedLib project with responsibility for gathering data from library staff across the U.S, and developed the content of the ConnectedLib Toolkit with input from these library staff, project partners, and project PIs. The project PIs will coordinate all activities with project partners, advisory board members and the library staff who will be participate in all phases of the project (see *Budget Justification* for their scope of work). Linda W. Braun will serve as a learning consultant on the core team of the initiative. Braun serves as the project manager for both the YALSA T3 and FRwtL projects. She has wide experience as a researcher, trainer, and educator with a focus on building confidence and competence in library staff so that they can successfully serve the needs of youth in their specific community.

PhD Students and Research Personnel

Both UW and UMD will have one graduate student (Hoffman is the student at UMD) at each institution that will support the project PIs with all of their responsibilities (described in detail in the *Budget Justification*). Stacey Wedlake, research coordinator and analyst for TASCHA (UW iSchool), will support the logistical operations of the project and contribute her expertise in digital equity, program evaluation, and developing and delivering continuing education curricula to librarians.

Project Partners

The Association of Rural and Small Libraries (ARSL) and YALSA will be partners on this project. They will provide the project team with connections to staff in rural and small libraries who can offer insight into the needs of these libraries when it comes to integrating CL principles into their work with youth. Each of these national partners will also support dissemination of project materials through their communication channels.

Advisory Board

The project team has assembled an outstanding advisory board whose members hold a wide range of experience and expertise directly related to this project. AB members include: Dr. Mizuko Ito and Dr. William Penuel, Co-PIs of the IMLS funded *Capturing Connected Learning in Libraries* project; Gail Sheldon, the Youth Services Consultant at the Alabama State Library and one of the pilot participants in the T3 project; Bailee Hutchinson, a Board member for ARSL, Branch Manager at the Altus (OK) Public Library, and an active member of cohort 3 of the FRwtL project; Tammy Dillard-Steels, Executive Director of YALSA; and Dale Musselman, Learning Manager at WebJunction. Each of the advisors has expertise in defining, implementing, and evaluating CL opportunities through libraries. We will conduct virtual meetings with AB members twice per year to obtain their continuous feedback and input, and we will engage their specific expertise in the development of Toolkit components as needed.

DIVERSITY PLAN

The motivation for this proposal is grounded in a commitment to diversity, equity, and inclusion. The research that Co-PIs Davis, Subramaniam, and Hoffman conducted in their prior IMLS-funded ConnectedLib Project surfaced disparities between urban and rural and small libraries with respect to their capacity to implement CL programs for youth (Davis et al., 2018; Subramaniam et al., 2018). In their prior review of CL literature, the Co-PIs learned that most attention has been given to urban libraries' efforts and ability to support youth's CL experiences (Hoffman et al., 2016). We do not dispute the need for this attention. Many urban libraries serve youth who otherwise lack access to rich, technology-enabled learning experiences (Reich & Ito, 2017). At the same time, our interviews with library staff across the United States revealed that rural and small libraries face distinct challenges of their own that must be addressed if they are to succeed at introducing CL into their environments (Davis et al., 2018). These challenges include restricted sources of community partnerships in rural and small libraries; the traditional roles that library staff and youth typically assume in youth programs (i.e., library staff leads, youth follow); and limited sources of external support.

Although the ConnectedLib Toolkit was developed to be used by a wide range of libraries with varying levels and types of resources, our pilot work surfaced opportunities to tailor the Toolkit even more to the specific needs and concerns of library staff working in rural and small libraries and develop targeted professional development support around its use. The proposed project will enable us to pursue these opportunities, making the Toolkit more relevant and useful to rural and small libraries. In our recruitment efforts in Year 1, through our partners and existing connections, we will recruit and work with library staff from communities that serve diverse underserved youth, many of whom live in low-socio-economic-status and/or immigrant and refugee communities. In our dissemination efforts, we will provide opportunities for virtual participation that will reach library staff from rural and small libraries who often cannot afford to attend conferences. Our ultimate goal is to close the CL gap between urban and rural and small libraries by empowering library staff in these communities to provide CL experiences to youth who otherwise would not have access to such opportunities.

BROAD IMPACT

The project team is confident that our project activities and plans for national dissemination (detailed in the *Project Design* section) will lead to widespread, lasting change within the library field by building the capacity, confidence, and excitement of rural and small library staff across the U.S. to implement CL programs for youth. Staff in rural and small libraries who use the ConnectedLib Toolkit will be able to: (1) articulate the value of CL in learning; (2) implement CL programs and services customized to meet the specific needs of their local community's youth; and (3) provide and receive support from a community of rural and small library staff nationwide that are committed to advancing their knowledge in CL. Their engagement with the ConnectedLib Toolkit will position rural and small libraries to enhance youth's academic, civic, and economic participation, facilitate lifelong learning, and promote digital inclusion.

The PD and CoP/learning circles approach used with the initiative's library partners will result in a Toolkit that is scaled to specifically meet the opportunities and challenges of working in rural and small settings. The flexibility of the GitHub platform we are utilizing means that library staff across the nation are able to easily access and adapt the resources in the Toolkit to fit their specific needs and contexts. To increase library staff capacity and the likelihood of successful adoption of the ConnectedLib Toolkit, we will use our dissemination efforts to share best practices for using the Toolkit in conjunction with CoPs and learning circles. These best practices—which will include key documentation (e.g., feedback/reflection templates, PD materials, learning circle guides) generated from the project—will be disseminated widely through the virtual symposium, webinars, and library-focused publications, providing a replicable, sustainable model for rural and small libraries across the U.S. to emulate. We anticipate that sharing these best practices and resources will inspire other rural and small library staff across the U.S. to develop their own CoPs and learning circles centered around CL. In this way, the results of the proposed project will be sustained well beyond the funding period. The project team has put into place a strong set of collaborators and partners, individual experts, and advisory board members, which will help ensure the proposed project succeeds in its goals for broad impact.

Year 1 2020-2021	September	October	November	December	January	February	March	April	May	June	July	August
Develop resources for recruitment of participating libraries												
Recruit and select participating libraries												
Meet virtually with Advisory Board												
Orientation and kickoff meeting												
Review of current ConnectedLib Modules												
Monthly cohort CoP virtual sessions												
Plan for Toolkit revision re-design session												
Facilitate Toolkit re-design session												
Revise Toolkit and develop CE module based on learnings from library participants and co-design												
Development of tools for evaluation and assessment												
Ongoing evaluation data gathering, review, analysis, and synthesis												

Year 2 2021-2022	September	October	November	December	January	February	March	April	May	June	July	August
Launch of re-designed Toolkit modules												
Meet virtually with Advisory Board												
Virtual meeting to discuss library staff goals for integrating Toolkit learning into practice												
Participating staff develop and facilitate library activities that integrate Toolkit												
Monthly cohort CoP virtual sessions												
Virtual session on building ConnectedLib Learning												
Participating staff participate in learning circles												
Develop case studies												
Revision of evaluation and assessment tools												
Ongoing evaluation data gathering, review, analysis, and synthesis												

Year 3 2022-2023	September	October	November	December	January	February	March	April	May	June	July	August
Meet virtually with Advisory Board												
Monthly cohort CoP virtual sessions												
Continue learning circles facilitated by participating library staff												
Plan for virtual symposium												
Advertise virtual symposium												
Publicize proposal submission for virtual												
Host virtual symposium												
Submit proposals to local, state, regional, and national conferences												
Submit articles to academic and professional journals												

DIGITAL PRODUCT FORM

INTRODUCTION

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to digital products that are created using federal funds. This includes (1) digitized and born-digital content, resources, or assets; (2) software; and (3) research data (see below for more specific examples). Excluded are preliminary analyses, drafts of papers, plans for future research, peer-review assessments, and communications with colleagues.

The digital products you create with IMLS funding require effective stewardship to protect and enhance their value, and they should be freely and readily available for use and reuse 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

If you propose to create digital products in the course of your IMLS-funded project, you must first provide answers to the questions in **SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS.** Then consider which of the following types of digital products you will create in your project, and complete each section of the form that is applicable.

SECTION II: DIGITAL CONTENT, RESOURCES, OR ASSETS

Complete this section if your project will create digital content, resources, or assets. These include both digitized and born-digital products created by individuals, project teams, or through community gatherings during your project. Examples include, but are not limited to, still images, audio files, moving images, microfilm, object inventories, object catalogs, artworks, books, posters, curricula, field books, maps, notebooks, scientific labels, metadata schema, charts, tables, drawings, workflows, and teacher toolkits. Your project may involve making these materials available through public or access-controlled websites, kiosks, or live or recorded programs.

SECTION III: SOFTWARE

Complete this section if your project will create software, including any source code, algorithms, applications, and digital tools plus the accompanying documentation created by you during your project.

SECTION IV: RESEARCH DATA

Complete this section if your project will create research data, including recorded factual information and supporting documentation, commonly accepted as relevant to validating research findings and to supporting scholarly publications.

SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS

A.1 We expect applicants seeking federal funds for developing or creating digital products to release these files under open-source licenses to maximize access and promote reuse. What will be the intellectual property status of the digital products (i.e., digital content, resources, or assets; software; research data) you intend to create? What ownership rights will your organization assert over the files you intend to create, and what conditions will you impose on their access and use? Who will hold the copyright(s)? Explain and justify your licensing selections. Identify and explain the license under which you will release the files (e.g., a non-restrictive license such as BSD, GNU, MIT, Creative Commons licenses; RightsStatements.org statements). 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.

The ConnectedLib toolkit (https://connectedlib.github.io/) is currently licensed under a Creative Commons Attribution-NonCommercial-ShareAlike license (CC BY-NC-SA), and we will continue to do so even with the additional content that we will add to the toolkit as a result of this proposed project. The project website (https://connectedlib.ischool.uw.edu/) and it's content and resources will also be licensed under a Creative Commons Attribution-NonCommercial-ShareAlike license (CC BY-NC-SA). The licensing info is indicated in the main page of the websites. This license will encourage wide and flexible adoption of our tools and resources by allowing others to remix, tweak, and build upon them non-commercially and use them in their existing professional development contexts, provided they credit project personnel and license their new creations under the same terms.

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.

All project products will be freely accessible with use only limited by the conditions of the Creative Commons Attribution-NonCommercial-ShareAlike license. Terms of use of this license is already posted on the project website.

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 do not anticipate that content created will involve privacy concerns, require obtainment of permissions or rights, or raise cultural sensitivities. Standard practices for tracking site usage and obtaining cookie consent compliant with the EU ePrivacy Directive/GDPR will be used.

SECTION II: 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.

The project will add additional content to the ConnectedLib Toolkit (https://connectedlib.github.io/). The content will be similar in format to the existing content on the site (e.g. text, video, images, and downloadable PDFs). The website is hosted on Github servers and will be developed using Jeckyll or a similar Ruby-based generator.
Additionally, the project website (https://connectedlib.ischool.uw.edu/) is hosted on University of Washington servers and will be updated using Wordpress. All published research articles resulting from the project will also be available on this website. We will supply pre-prints for those that are not available via open-access. Resource materials will be licensed under a Creative Commons Attribution-NonCommercial-ShareAlike license (CC BY-NC-SA).

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

All the hardware and software necessary for the creation of this content will be provided by the UW Information School. The PIs and graduate research assistant will be using workstations provided by their respective schools. The school license Microsoft Office products and Adobe Acrobat, which will be used to produce the resource materials, as well as survey and data analysis products (e.g., SPSS Statistics, Qualtrics) to facilitate analysis of quantitative metrics. To facilitate analysis of interviews, participatory design sessions, we will obtain a subscription for Dedoose Qualitative Analysis Software from: https://www.dedoose.com/.

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG, OBJ, DOC, PDF) you plan to use. If digitizing content, describe the quality standards (e.g., resolution, sampling rate, pixel dimensions) you will use for the files you will create.

File formats associated with this project will include: .pdf, .docx, .pptx, as well as data files (e.g., .sav, .csv, .txt) and website files. Website support and guidance will be provided by UW's IT Services team to ensure quality standards are appropriate and that longevity and stability of file types are maximized.

Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan. How will you monitor and evaluate your workflow and products?

The PIs will review all data and project products prior to release. The graduate assistant at the University of Washington will test all products prior to release and will monitor the website and address any issues that arise. Usability of the website and project products (e.g. downloadable PDFs) will be tested by the library staff during development and upon launch/publication.

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period. Your plan should 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 UW Information School is strongly committed to advancing education in library services and will continue to support the maintenance of, and provision of public access to, products resulting from this project well after the grant period of performance. UW's iSchool retains an experienced IT Services team with an excellent track record of supporting PIs in maintaining long-term public access to research and education products.

Metadata

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

Since the digital product is not data-sensitive, metadata will be manually generated by project staff. Standard practices for SEO Metadata will be followed. In addition, metadata in the form of topics and subject tags, suggested and tested by the library staff that will be working in year 1 and 2 of the project, will be used to provide access to the resource. A site map and menu on the project website will be created to aid in navigating site content, as well as an integrated search option.

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

Metadata used on the website will be periodically reviewed by the PIs and graduate research assistant, including at least annually after the grant period of performance, and will update terms and the metadata schema as needed to ensure the site continues to be useful and navigable.

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).

To support widespread discovery of the site and the resource that we will be developing for all library staff, we will integrate search engine optimization principles into the design.

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, delivery enabled by IIIF specifications).

We will make all digital content openly available online, accessible via standard web browsers. Care will be taken to ensure the site and its contents will be accessible and navigable in mobile browsers, which we have done in the past with ConnectedLib toolkit and the website.

D.2. Provide the name(s) and URL(s) (Universal Resource Locator), DOI (Digital Object Identifier), or other persistent identifier for any examples of previous digital content, resources, or assets your organization has created.

https://connectedlib.ischool.uw.edu/
https://connectedlib.github.io/
https://badges.ischool.uw.edu/
http://dcbadges.com/
https://naturecollectionsapp.ischool.uw.edu/

SECTION III: SOFTWARE

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 or similar functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

N/A

Technical Information

B.1 List the programming languages, platforms, frameworks, 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), URL(s), and/or code repository locations for examples of any previous software your organization has created.

N/A

Access and Use

C.1 Describe how you will make the software and source code available to the public and/or its intended users.

N/A

C.2 Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

N/A

URL:

SECTION IV: RESEARCH DATA

As part of the federal government's commitment to increase access to federally funded research data, Section IV represents the Data Management Plan (DMP) for research proposals and should reflect data management, dissemination, and preservation best practices in the applicant's area of research appropriate to the data that the project will generate.

A.1 Identify the type(s) of data you plan to collect or generate, and the purpose or intended use(s) to which you expect them to be put. Describe the method(s) you will use, the proposed scope and scale, and the approximate dates or intervals at which you will collect or generate data.

A variety of data sources will be collected for this project - including recordings of virtual chats, recording of participatory design (PD) workshops, reflection/feedback notes, pre/post module assessments/surveys, and the collection of materials and artifacts used as part of connected learning program, planning, implementation, and evaluation. The goal of these various data sources is to understand the challenges and needs that rural and small libraries face and have in terms of designing and offering connected learning programs in their communities. The data collection activities are spread across the three years and are more fully described in the accompanying narrative for the project. PD sessions and virtual chats will be audio or video recorded depending on the preference of the participants.

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?

Yes, the project requires IRB approval, as it involves research with human subjects. The PIs have a long history of working with the IRB and receiving approval for similar projects, including the project that involved the creation of the original ConnectedLib toolkit. As noted in the schedule of completion, submitting the required IRB forms will be done as soon as we receive notification that this grant is funded.

A.3 Will you collect any sensitive information? This may include personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information. If so, detail the specific steps you will take to protect the information while you prepare it for public release (e.g., anonymizing individual identifiers, data aggregation). If the data will not be released publicly, explain why the data cannot be shared due to the protection of privacy, confidentiality, security, intellectual property, and other rights or requirements.

PII will be collected as part of initial data collection from the participating library staff. Once the data has been collected, we will create a unique numerical identifier and use that identifier as the way to refer to the participant throughout the project. A file mapping identifier to participant will be kept separate from the rest of the data set in a password protected file. In preparing data for public release, any information in the datasets that could be used individually or in combination with other data points to re-identify an individual will be removed.

A.4 What technical (hardware and/or software) requirements or dependencies would be necessary for understanding retrieving, displaying, processing, or otherwise reusing the data?

For all qualitative data collections (i.e. participatory design sessions), participants will have the option to consent to have the session video and/or audio recorded. If they consent, the files will be recorded using standard recording equipment. Some transcriptions will occur “in house” by graduate students working on the project. Other portions of the data will be transcribed by the professional transcription service.

A.5 What documentation (e.g., consent agreements, data documentation, codebooks, metadata, and analytical and procedural information) will you capture or create along with the data? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the data it describes to enable future reuse?

Consent forms will be collected from all participants before any data collection begins. A master file will include the participant name and the unique numerical identifier assigned to each participant. This file will only be accessible to the researchers and will be password protected. This will represent the only direct link between participant names and their assigned pseudonyms to ensure confidentiality while enabling the researchers to link back to the original participants. All the consent forms will be stored in PI’s locked cabinet in the PI's office and will be destroyed after five years. Researchers will generate field notes following each type of data collection to summarize findings. All files will be kept on password-protected computers.

A.6 What is your plan for managing, disseminating, and preserving data after the completion of the award-funded project?

During the project, the research team will manage the data using UW's cloud file-sharing service. Data will be archived by the PIs on their personal computers following the completion of the study. Data that is shared publicly will first be scrubbed to remove any potential identifiers (personal information that by itself or in combination with other collected data could re-identify an individual participant). Data will be shared on the project website in accessible formats.

A.7 Identify where you will deposit the data:

Name of repository:

ConnectedLib

URL:

https://connectedlib.ischool.uw.edu/

A.8 When and how frequently will you review this data management plan? How will the implementation be monitored?

This plan will be reviewed every 12 months to ensure all procedures for data protection are in place and to make any necessary updates based on new data collected.