

Raise Up Radio: Family and Youth Engagement in Library Supported Learning Via Radio

The University of North Texas and The University of Alabama, in partnership with the Pottsville Area Library and the Tuscaloosa Public Library, request \$427,731 for the project "Raise Up Radio: Family and Youth Engagement in Library Supported Learning Via Radio" to address educational inequities in rural areas and to create a new community of practice for library professionals. Libraries, museums, and educational institutions will connect with learners in rural communities through Science, Technology, Engineering, and Mathematics (STEM) content delivered over local radio stations. These radio programs will be designed by local youth and families using best practices for equitable engagement in learning, resulting in opportunities designed to meet the unique needs of each community. To support and expand these efforts, team members will form a community of practice for library professionals seeking to design radio programming in partnership with their local community.

Statement of Broad Need

Prior to the global pandemic, educators and researchers already voiced concerns about the widening digital divide in communities, most notably, "the homework gap," for youth without reliable access to the internet during after-school hours (Lee, 2020). Schools and homes in rural and other disadvantaged areas often lack the devices, physical infrastructure, and skills to make productive use of internet access (Tyler-Wood, et al., 2018; Centers for Disease Control and Prevention [CDC], 2020). A recent analysis estimates that students have lost approximately seven months of learning during the pandemic (Marquez, 2020). A separate survey of U.S. educators from the EdWeek Research Center also found that, compared to the wealthiest schools, the poorest schools are less likely to have technology access, less likely to offer instruction, in person or online, and more likely to have students go missing from class (Herold, 2020). Continued safety protocols in schools and communities over the coming years will likely continue to impact student access to hands-on learning opportunities (CDC, 2020; Kamenetz, 2020). Increasingly common extreme weather events, as recently experienced in Texas, also interrupt families' connection with their school community. Youth will continue to grow despite COVID-19 and other disasters; their learning cannot wait. The need for increased access to educational content is now.

For a sustainable solution to this problem, the Raise Up Radio program leverages existing community resources to create accessible, educational content through collaborative partnerships. Utilizing public libraries as community anchors, this program will connect libraries, schools, and museums with youth and families in rural communities through the development and delivery of STEM content over local radio stations. Radio continues to be a significant access point to community news and information for rural communities; it also provides a lower barrier for access and engagement (Waldman, 2011). Radio has also proven to be an effective tool in the United States for community learning and empowerment (Chávez & Soep, 2005; Chávez & Soep, 2010; Gobir, 2020; Kretz, 2017; Richardson et al., 2019), including library-radio partnerships in Alaska, Kentucky, New Hampshire, and others from previously funded IMLS projects.** With Raise Up Radio, libraries will develop locally produced STEM radio programs in partnership with youth and families, using best practices for equitable engagement in learning (Bang & Vossoughi, 2016; Bell, 2012; Caspe & Lopez, 2018; Coppens et al., 2014; Hoffman et al., 2016; Ishimaru et al., 2016; Ito et al., 2013; Roque & Stamatis, 2019). The result will be learning opportunities designed to meet the unique needs of each community.

The proposed project will be developed in high-need communities in rural Texas and rural Alabama. These areas were targeted as Texas and Alabama consistently rank below the national average on both key

economic indicators and access to technologies necessary for teaching and learning (U.S. Census Bureau, 2020 a,b; IMLS Indicators Workbook, 2020; IMLS Public Data Metrics, 2019). Rural-serving libraries, already critical partners in community well-being (Hanacks, 2012; Reid & Howard, 2016), are poised to aid learners who would benefit most from innovative, radio-based educational programming focusing on STEM content.

The Raise Up Radio program is a research-practice partnership designed to mitigate the educational inequities magnified in the U.S. by the COVID-19 pandemic. The proposed project will be developed in high-need communities in rural Texas and rural Alabama. Starting locations are Pottsboro, Texas, and Tuscaloosa, Alabama, two communities that include urban and suburban areas, but also serve sizable rural-living populations. Both states have significant percentages of families living below the poverty level (See Table 1), and fall well below others in their success of educating their students, with Alabama in 50th place and Texas in 34th (U.S. News and World Report, 2020). One in four students—25.6%—in Grayson County, Texas, in which Pottsboro is located, live in a household with no broadband internet subscription. In Tuscaloosa County, the number is one in five—21.8% (Institute of Museum and Library Services [IMLS], 2019). One study found that 50% of K-12 students surveyed in rural Texas said they couldn't complete their homework due to the lack of an internet connection, and 42% received a lower grade because of their disconnectedness (Connected Nation, 2018, p. 106).

Table 1: Economic Indicators and Technology Readiness for Alabama and Texas

Indicator	Alabama	Texas	National
Percent children 18 and under below poverty level ¹	23.8 ^a	20.6 ^b	18.0
Poverty rate ²	17.5	15.5	14.2
Percent without health insurance ²	10.0	17.4	8.6
Percent with no home computer ³	16.6	10.8	12.0
Percent with no home internet ³	26.2	20.4	20.2
Percent with available broadband ³	68.5	62.9	76.5

Data Sources: (1) U.S. Census Bureau, 2020a,b; (2) IMLS Indicators Workbook, 2020; (3) IMLS Public Data Metrics, 2019.

Since the onset of the COVID-19 and the viral shutdown, this inequality in accessibility has become even more dramatic. In Pottsboro, school closings revealed that more than 300 students and teachers did not have internet access at home (D. Connery, personal communication, June 1, 2020). For Tuscaloosa County, Superintendent Walter Davie noted that more than 5,300 students did not have internet access at home (WVUA 23, 2020). In both cases, to continue education, paper packets of homework were delivered by car throughout the school district service area. Rural-serving libraries, already critical partners in community well-being (Hanacks, 2012; Reid & Howard, 2016), are poised to aid students who would benefit most from innovative, radio-based educational programming focusing on STEM content.

Project Design

Raise up Radio addresses the educational needs of rural youth and families, ensuring distance learning and library services are more equitably accessible. The project utilizes radio as a means of program distribution because of its low barrier for direct access to content by community members. In addition, the project builds infrastructure for participating libraries serving rural communities through collaboration and mentorship with

nationally recognized family learning scholars, while also creating a model illustrating best practices for national adoption. The project’s intended outcomes are as follows:

- Expand equitable access to out-of-school time STEM education through the provision of engaging, youth and family content through local radio stations that will be uninterrupted by closures of schools and other public education points due to COVID-19.
- Increase community engagement in rural areas in Texas and Alabama.
- Provide youth and families the opportunity to learn new media creation skills through the development of program content that represents the needs and voice of the community.
- Provide an infrastructure for schools and public libraries to reach and engage their communities through developed networks of community stakeholders that will be uninterrupted due to viral shutdowns related to COVID-19 and other natural disasters (e.g., weather, infrastructure).
- Establish a community of practice for library professionals using, or interested in using, radio broadcasts to innovate local programming.

Research Design

Leveraging the research-practice partnership, project success will be measured through the lens of Design Based Research (DBR) (Barab & Squire, 2004; Sandoval & Bell, 2004). DBR connects previously developed theories to real-world practices through collaboratively designed interventions, then uses a variety of measures to increase our understanding of learning in diverse places. For this project, PIs and library professionals will look to research on informal learning in families and with youth peers to guide participant interactions and program design (Bevan et al, 2013; Heath, 2012; Ito, 2010; Rogoff, et al, 2016). Influential models from previous work in libraries include the Connected Learning Framework (Ito, et al., 2013), Public Library Association’s Project Outcome (ALA, 2016), and Public Library Association’s Framework to Support Family Engagement in Children’s Learning Through Libraries (ALA, 2017a). Following similar models of “turning outward,” as defined by The Harwood Institute and the Libraries Transform Communities initiative to ensure voice equity (ALA, 2017b), participating libraries will work with local youth and families to collect qualitative and quantitative assessment data through collaboratively developed instruments. Analysis of these measures will serve as both an evaluation of program impact and answers to the research questions, 1) how do local, collaboratively developed library programs enhance youth and family STEM learning? and 2) in what ways does STEM content delivered via radio increase interest in STEM for youth in rural areas?

Table 2: Research Questions and Potential Data Collection Instruments

<p>Research Questions:</p> <p>1) How do local, collaboratively developed library programs enhance youth and family STEM learning?</p> <p>2) In what ways does STEM content delivered via radio increase interest in STEM for youth in rural areas?</p>	<p>Potential Data Collection Instruments (to be finalized with librarians, youth, and family collaborators):</p> <ul style="list-style-type: none"> ● Community asset mapping for local STEM-related resources ● Pre and post program measures of STEM literacy such as critical thinking skills ● Family diaries about STEM activities ● Short community surveys related to STEM ● Interviews and/or focus groups with a range of community families and youth ● Recorded radio broadcasts and listener responses ● Video observations from collaborative design meetings
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Project Activities

During the project's two-year period, six libraries serving rural communities will each implement a total of four, five-week STEM educational programs delivered over local radio stations. The programs will be concurrently streamed and recorded for release as podcasts with transcripts to ensure multiple points of engagement, as well as accessibility. Librarians will facilitate collaboration among local schools, museums, education departments, and national experts, who will work directly with teams of youth and families to create content and programs that are both designed for, and representative of, the voices within their communities. Participating libraries will receive a permanent set of recording equipment to assist in the development of content for the current project, as well as future programs. Each library will receive ten digital audio recorders for youth and family teams to borrow to record program segments at home and throughout the community. Recorders will be returned to the library at regular intervals for sanitation according to the most current health standards and to upload created content for mixing into the radio programs. Librarians will prepare related STEM activity kits for library patrons to use at home for radio program enhancement. Additionally, 200 radios will be provided for each library to circulate among community members who do not otherwise have access to a radio. In working with our advisory board, STEM kits will reflect the structure and requirements of programs developed by the community for each participating library. As an example, STEM kits may include materials for squishy or paper circuits, which would require conductive dough, LED bulbs, small batteries, paper, and pencils (Qi, n.d.). Activity kits and radios will be sanitized upon return based on current CDC recommendations.

As they begin to develop their programs, staff in participating libraries will utilize the Connected Learning (CL) framework as the model for considering the learning needs of the families in their communities. The CL framework for learning is built on the premise that meaningful learning takes place at the intersection of interests, relationships, and opportunities (Chicago Learning Exchange, 2019), but also that learning takes place within the shared purpose and practices of a group or community (Widman, S., Penuel, W., Allen, A.R., et. al., 2020). In initial meetings, and through the planning stages with each cohort, library staff will work with PIs and advisory board members to consider the learning needs and interests of the families in their communities, and how to leverage existing community relationships with local business, community leaders, and educational institutions to join the development of engaging programs for families that can be broadcast over local radio. Each library will develop its programs alongside participating families, and in coordination with community stakeholders to ensure that these programs represent the voices and cultures of their communities. Utilizing CL provides libraries with a scalable framework for developing sustainable programs during, and after the life of the project.

In year one, PIs will work with a pilot cohort of rural-serving librarians at Tuscaloosa Public Library in Alabama and Pottsboro Public Library in Texas. In year two, these librarians will serve as mentors for four additional libraries—two in Texas and two in Alabama. The grant provides 12.5% FTE salary for two years for Year 1 cohort librarians, to support their leadership roles. Through this cohort model, the project will connect multiple libraries serving rural communities, forming a network of libraries within their respective states, as well as between Texas and Alabama, with librarians prepared to leverage the work from the Raise Up Radio project and apply for future grants that further expand equitable services in their communities. A team composed of community participants and library staff from the first cohort will travel with PIs to an American Library Association (ALA) Annual conference to present findings with the goal of further connecting the voices of these rural communities to a nationwide conversation surrounding this work.

Sequence of Events**Year 1**

1. ***Pilot Cohort Onboarding and Kickoff (September 2021)***
 - a. PIs meet with cohort librarians in TX and AL to discuss community needs and outline plans for collaborating with youth and family teams to execute four, five-week radio STEM programs.
 - b. Librarians, PIs, and advisory board members identify radio stations and other partners for program/content development; the team reaches out to local schools to coordinate distance learning curriculum and efforts.
2. ***Pilot Cohort Advisory Board Meeting 1 (September 2021)***
 - a. Advisory board members videoconference with project teams, providing guidance on initial program design, radio program content, learning outcomes, family engagement, and the creation of STEM learning kits.
3. ***Planning and Program Development (September through December 2021)***
 - a. Cohort libraries identify youth and families interested in developing library radio programs and commence regular meetings for brainstorming content, co-designing curriculum, and creating instruments to assess program success.
 - b. Librarians and PIs reach out to radio stations and community partners.
 - c. PIs meet regularly with cohort librarians to provide support and collect research and assessment data.
4. ***Program Implementation (January through July 2022)***
 - a. Libraries advertise programs, circulate radios, and create/distribute STEM kits for each of the five-week radio programs.
 - b. Cohort librarians and youth and family teams use assessment instruments developed during Planning and Development.
5. ***Pilot Cohort Advisory Board Meeting 2 (February 2022)***
 - a. Library cohort members attend a virtual meeting after program series is aired for double-loop learning (i.e., debriefing and reflecting on successes and needed changes for subsequent programs).
6. ***Select Cohort 2 Members for TX and AL (March 2022)***
 - a. PIs ask state library agencies in Texas and Alabama to each nominate two public libraries to participate in Cohort 2. Nomination criteria will include strong staff commitment to service rural communities with limited broadband access.
 - b. PIs contact prospective candidate libraries and confirm commitment of two libraries from each state for Cohort 2.
7. ***Evaluation of Pilot Cohort Program (Ongoing, culminating in August 2022)***
 - a. Cohort 1 libraries, youth and families, and advisory board members review collected data. Findings inform structural changes for Cohort 2.
 - b. PIs submit written reports of project results to conferences for the following year.

Year 2

1. Cohort 2 will follow the same sequence of events as the Pilot Cohort: Cohort 2 Onboarding (September 2021); Cohort 2 Advisory Board Meeting 1 (September 2022); Planning and

Program Development (September 2022 through December 2022); Program Implementation, (January 2023 through July 2023); Cohort 2 Advisory Board Meeting 2 (February 2023).

- a. Pilot Cohort members will serve as mentors to Cohort 2 members. PIs seek to build relationships between libraries in their own states, as well as between the two states to expand project capacity by developing library teams for collaborating on projects and collectively applying for future national grants to broaden equitable access to educational STEM content and project services.
- 2. *Evaluation of Cohort 2 Program and Full Project (Ongoing, Culminating in August 2023)***
 - a. All library cohorts and Year 2 youth and family teams, as well as PIs and advisory board members will review data collected to measure project outcomes and assess achievement.
- 3. *Develop Best Practices Guide (August 2023)***
 - a. PIs develop a freely available guide for public libraries, schools, museums, and other educational organizations engaged in distance learning to further equitable access.
 - b. The guide will contain case studies, program examples, recommendation for best practices, and consideration for future projects.
- 4. *Dissemination (June 2023 through August 2023)***
 - a. The guide will be published on the university-hosted project websites; information will be distributed through youth services listservs and Chief Officers of State Library Agencies (COSLA).
 - b. PIs and Pilot Cohort members will offer two webinars about the project, present at conferences, and write articles about the project experience and results. Potential conferences include the ALA Annual Conference, state library conferences, the Connected Learning Summit, and the International Conference of the Learning Sciences.

Project Team

The project will be led by faculty members from the Department of Information Science at The University of North Texas (UNT) and the University Libraries at The University of Alabama (UA) (See Table 2). Dr. Sarah Evans, Lead Principal Investigator (PI), is Assistant Professor of Youth Librarianship and Co-Director of the Multiple Literacies Lab at UNT. With over 20 years' experience working among libraries and schools, her research focuses on voluntary learning in a variety of settings, in particular online fan communities and public libraries. Dr. Evans spent most of her professional career managing a small library branch located in a semi-rural community. Lance Simpson, Co-PI, is a Research and Instructional Services Librarian at UA. His nine-year library and makerspace experience has culminated in the development of successful Connected Learning spaces and programs for teens. He facilitates training for librarians across Alabama and nationally through the IMLS funded Transforming Teen Services Project, and has led multiple community family learning programs, including as a facilitator in the PrimeTime Family Reading Program. Mr. Simpson grew up in rural northwest Georgia, where he was a regular volunteer at his local public library. Before his current position as a Research and Instructional Services Librarian with The University of Alabama, he managed youth services for Tuscaloosa Public Library.

The project advisory board will work directly with library staff to provide guidance in designing meaningful family programs, engaging their communities, shaping programs for implementation through radio, and assessing efficacy and impact for these community programs, especially in considering sustainability. Leveraging experience in research and practice, the project advisory board team includes the following members: Scott Allen, Deputy Director for the Public Library Association (PLA), furthering the organization's

commitment to digital equity and family engagement; Linda W. Braun, Learning Consultant/CEO of LEO, brings experience in youth development and community engagement in libraries; Dr. Ricarose Roque, Assistant Professor of Information Science at The University of Colorado, Boulder, brings experience in studying learning environments and engaging families in computing; Dr. Sarah Jo Ward, CEO of Sarah Jo Ward Consulting, LLC, brings experience in strategic planning, informal learning, and community and design based research; and Roy Williams, Public Relations Director for the Birmingham Public Library, brings experience as a radio host and newspaper journalist. Letters of Commitment from the Pilot Cohort and Letters of Support from the Advisory Board Members are available in Supporting Documents 1 and 2.

Table 3: Raise Up Radio Team Members

<p>Principal Investigators: Sarah Evans, Ph.D., Assistant Professor, UNT Lance Simpson, Assistant Professor, UA</p> <p>Advisory Board Members: Scott Allen, Deputy Director, Public Library Association Linda W. Braun, Learning Consultant/CEO, LEO Sarah Jo Ward, Ph.D., Sarah Jo Ward Consulting, LLC Ricarose Roque, Ph.D., University of Colorado, Boulder Roy Williams, Birmingham Public Library</p>	<p>Public Library Staff: Pilot Cohort TX-Pottsboro Area Library Dianne Connery, Library Director Lindy Meiser, Library Manager AL-Tuscaloosa Public Library Haley Bryant, Youth Services Manager Marti Ball, Branch Manager Kaitlyn Lynch, Library Associate</p> <p>Public Library Staff: Cohort 2 2 Alabama Library Staff (TBN) 2 Texas Library Staff (TBN)</p>
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Diversity Plan

This project works directly with rural Americans, a group typically economically disadvantaged and underserved (Richardson & London, 2007). Due to the substantial residency of underrepresented ethnic groups in Texas and Alabama, many of the states’ rural citizens identify as non-white. As the Housing Assistance Council (HAC) points out, the location and concentration of minorities in rural areas and small towns often differ from those of the nation as a whole. Many rural minorities are clustered geographically in regions closely tied to historical, social, and economic dynamics. The focus locations of this project-- Texas and Alabama--mirror these findings. The HAC finds just under one quarter of all rural and small town Latinx in the US live in Texas alone. In Texas, about 31% of rural & small town residents are Latinx (Housing Assistance Council, 2012). Latinx refers to persons of Cuban, Mexican, South or Central American (U. S. Census Bureau, 2010). Similar statistics are evident in Alabama. In Alabama’s rural & small town population, about 21% percent of residents are African-American (Housing Assistance Council, 2012). Despite advances made through various historical events, such as the Civil Rights Movement, labor struggles, the experiences and conditions of rural minorities are often overlooked given the small populations and variations by location. Based on these facts, the full project team will examine the demographic makeup of each library’s service area, then target their participant recruitment efforts for youth and family in predominantly non-white sectors.

Instead of the usual focus on the librarian “serving” the underserved, this project explores effective practices for collaborating with community members in creating relevant and timely programs. This approach moves our field beyond only consulting patrons and occasionally partnering with expert organizations. While the “librarian as gatekeeper” model is outdated, its influence remains in the form of librarians generating programs without a diversity of perspectives. In applying the theoretical lens of Design Based Research, participants are directly involved in defining the challenges and opportunities for STEM learning in their community. More than this work of defining, the intergenerational participants will co-create and implement the

project. In the dissemination of project results, more library staff will see the advantages of establishing equitable collaborations with patrons, thus shifting the power dynamic towards greater inclusion of diverse voices. The establishment of a professional network for librarians engaged in radio programming will be an opportunity to further important conversations on sustaining direct community involvement.

The COVID-19 pandemic has shown some of the challenges rural Texas and Alabama communities have faced long before the pandemic -- limited resources. The PIs deliberately structured the project budget so the majority of the funds will be used for library materials, library staff time, and participant incentives. In offering compensation and additional resources to research partners, the team recognizes the valuable work of those whose contributions are often unacknowledged.

Broad Impact

At the community level, six libraries serving rural populations will develop, implement, and assess STEM programs for families that are delivered through radio and podcasts. Working alongside PIs and the advisory board members, these libraries will learn and implement skills in creating new media. They will also further develop relationships with leaders and families in their communities for the creation of future programs and community initiatives following the completion of the project.

PIs will disseminate findings through published research in the form of case studies and peer-reviewed journal articles, as well as through presentations at various library and professional conferences including the annual conferences for the American Library Association, Texas Library Association, Alabama Library Association, and the Connected Learning Summit. The presentation with the American Librarian Association will include graduate research assistants for the project from both University of North Texas and The University of Alabama, as well as library managers and a parent/caregiver and child from two of the participating libraries. Each of these team members will share their experiences in designing and implementing the library programs, their successes and challenges, and plans for future programs.

In order to enhance infrastructure for community engagement for public librarians, PIs will work with cohort librarians and community stakeholders for their respective libraries to develop a toolkit that will be freely available for library staff across the country to access. The toolkit will contain program examples, case studies, recommendations for evaluation, successes and challenges, as well as templates for developing community programs, and for designing programs for radio. In addition, staff from cohort libraries and PIs will launch a community of practice for library professionals who are using radio as a medium for program deployment in reaching their local communities. This community of practice will promote best practices, and also provide a means of further developing cross-county partnerships for rural libraries, especially in leveraging their collective work to apply for future funding in national initiatives that would ultimately benefit their own communities.

Table 4: Assessing Project Outcomes

<i>Project Outcomes:</i>	<i>Assessment and Success Indicators:</i>
<p>1) Expand equitable access to out-of-school time STEM education through the provision of engaging, youth and family content through local radio stations that will be uninterrupted by closures of schools and other public education points due to COVID-19.</p>	<p>Develop assessment questions and tools with library staff that align with each library’s staffing capacity and strategic plan, following recommendations from, “Partnering with Future Ready with the Library.” (Allen, A. R., Worman, A., Widman, A., Michalchik, V., and Penuel, W., 2020). Success indicators for this outcome include: project libraries developing, implementing, and assessing one or more five-week programs delivered over radio.</p>

<p>2) Increase community engagement in rural areas in Texas and Alabama.</p> <p>3) Provide youth and families the opportunity to learn new media creation skills through the development of program content that represents the needs and voice of the community.</p> <p>4) Provide an infrastructure for schools and public libraries to reach and engage their communities through developed networks of community stakeholders that will be uninterrupted due to viral shutdowns related to COVID-19 and other natural disasters (e.g., weather, infrastructure).</p> <p>5) Establish a community of practice for library professionals using, or interested in using, radio broadcasts to innovate local programming.</p>	<p>Utilize post-pandemic librarianship recommendations for engaging communities in collaborative, design thinking, including the development of community asset maps (Subramaniam, M., Braun, L.W., Asgarali-Hoffman, S.N., Jordan-Stovall, K. & Kodama, C., 2021)., and in the co-creation of programs. Success indicators for this outcome include: project libraries recruiting and including families and community leaders/institutions in the development of their programs.</p> <p>Success indicators for this outcome include: recruiting families to participate in program design, teaching families to use audio recording equipment, and guiding them in the creation of audio for use in programs.</p> <p>Collaborate with cohort libraries, families, education and community stakeholders to create a toolkit with templates for implementing similar programs including program examples, successes and challenges, and pathways to success in collaboration with partners. Success indicators for this outcome include the creation, and accessible publication of this toolkit.</p> <p>Success indicators for this outcome include the development of a community of practice.</p>
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* References cited in Supporting Document 3.

** See IMLS funded projects NL-30-01-0007-01 (2001), LG-40-05-0298-05 (2005), LG-40-05-0383-05 (2005), and LG-48-13-0051-13 (2013)



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 work products of the project include radio broadcast programs in local communities, webinars about the progress and outcomes of the program in different location, and a toolkit for libraries who would like to implement similar programs. Any applicable copyright for the radio broadcast programs will be held jointly by the local library that creates it and the radio station that broadcasts it. These entities will be encouraged to use a non-restrictive license, so that these can be shared widely with interested libraries. The University of North Texas and University of Alabama will jointly hold any applicable copyright for webinars and the toolkit. It is the intent of the planning initiative team to make freely accessible other non-confidential related work products (reports, outcome results, etc.) A Creative Commons license may be appropriate and will be displayed on hosting web pages.

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.

UNT and UA will assert their standard rights over any project developed by faculty within the institutions. Access to webinars and the toolkit will be freely accessible. Terms of access and conditions will be communicated to users of any work product.

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.

Each participant will have their privacy rights protected per university and library policies. Freely available products will not involve privacy concerns.

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 digital content we plan to create include audio recordings (will vary depending on the library), radio programs (approximately 25 per library), webinar recordings (approximately 2), and a program toolkit (one). Audio recordings will in the formats usable by the libraries and radio stations involved, typically .WAV or .MP3. Webinars will be hosted in an online communication program such as Zoom, which typically creates .MP4 files. The online toolkit will be in a .PDF format.

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.

Each library will be given amateur recording set-up including mixer, microphones, laptop computer, and external hard drive, plus a set of digital audio recorders for family participants to use in the community. These products include:

Focusrite Scarlett Solo Studio 3rd Gen Recording Bundle
On-Stage Stands Microphone Shockmount and Desktop Microphone Stand
Olympus VN-Series Digital Voice Recorders
MacBook Pro and WD-Easystore Portable Hard Drive
Investigators will use standard university resources for creation of webinars and toolkit.

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.

DOC, PDF, WAV, MP3, MP4

Workflow and Asset Maintenance/Preservation

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

As recordings are made, project staff will check the quality of the recording during the process of uploading it into digital storage. Throughout the project, investigators and professional personnel will discuss the storage of recordings and other relevant materials to ensure that an appropriate amount of storage is available and that the workflow is efficient.

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).

As the radio programs will belong to the local libraries and radio stations, they will be the primary holders of the digital assets. UNT and UA will request duplicates of these radio programs for archival purposes. The webinars and the program toolkit will be housed on university servers to share on a university-hosted website. The files for these will also be duplicated and held in the research archives of the lead principal investigator.

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).

Not applicable for this project.

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

Not applicable for this project.

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).

Not applicable for this project.

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).

The radio programs will be broadcast over the radio airwaves. Access to these programs and transcripts of the programs will be made available on the public library websites and the university-hosted project website. Recordings of webinars and the toolkit documents will also be made available on the project website. All assets will be in formats that are usable by widely available software, such as PDF.

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.

Not applicable for this project.

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.

Not applicable for this project.

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.

Not applicable for this project.

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.

Not applicable for this project.

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

Not applicable for this project.

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

Not applicable for this project.

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

Not applicable for this project.

B.5 Provide the name(s), URL(s), and/or code repository locations for examples of any previous software your organization has created.

Not applicable for this project.

Access and Use

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

Not applicable for this project.

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

Name of publicly accessible source code repository:

Not applicable for this project.

URL:

Not applicable for this project.

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 will be collected for the purpose of research and program evaluation. These will include field observations when investigators visit library sites, notes from in-person and online meetings with project personnel, learning impact surveys with youth and family collaborators at regular intervals, semi-structured interviews about project experiences with librarians and with youth and family collaborators, community patron surveys to measure radio program reach and participation, and circulation numbers for items related to the project. Together, these qualitative and quantitative measures will be analyzed for the purpose of understanding and evaluating this type of library program.

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, data collected directly from librarians and community participants will require IRB approval. When notice is received that this project has been funded, the project director will submit data collection forms and participant consent forms to UNT IRB for review.

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.

Full recordings of participant interviews and their accompanying transcripts will not be publicly released to maintain confidentiality. Quotes used from these interviews will not contain personally identifiable information. Field observations and meeting notes will have any identifiable information removed before public release. Quantitative survey data and circulations statistics will have not identifiable information and therefore may be released to the public without alteration.

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

Not applicable for this project.

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 stored in a locked file in the office of the lead principal for the minimum amount of time required by the institutional review board. For participant confidentiality, the connection between their identities and the data will be removed (i.e. names substituted with codes or pseudonyms) and therefore should not be permanently associated with the data.

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

Raw research data will be stored by the lead principal investigator for the length of time recommended by the institutional review board. Publicly available (non-confidential) research data will be housed in the UNT Digital Library.

A.7 Identify where you will deposit the data:

Name of repository:

UNT Data Repository

URL:

<https://digital.library.unt.edu/explore/collections/UNTDRD/>

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

The data management plan will be reviewed yearly by the co-principal investigators, who will ensure that implementation has occurred. The data management plan and implementation will also be monitored upon the regular renewal of UNT IRB approval throughout the project, which includes both the periods of data collection and of publication of results.