

The University of North Carolina Greensboro

The University of North Carolina Greensboro (UNCG) will serve as the lead institution and seeks \$708,405 in IMLS funds and will provide \$708,409 in cost share along with its partners across three years. Our team represents three states (New Mexico, North Carolina, and Montana), five Native American tribes (Crow, Eastern Band of Cherokee, Lumbee, Northern Cheyenne, and Santo Domingo Pueblo), two national community organizations (Head Start and Little Free Libraries), and UNCG. The project team represents a robust and unique collaboration between tribal, public, school, national low-income school readiness program, national literacy experts, national community book exchange experts, and experienced and seasoned university researchers. The goal is to create a team of professionals who have the experience, culturally appropriate context, and expertise to study and address a complex problem - increasing access to literacy resources and libraries for tribal children and families by identifying and breaking down existing barriers.

Our project is a direct response to findings of our yearlong IMLS planning grant. We found that despite Blackfoot parents seeing the value of reading to the future of their children, many of those children, due to a complex and interconnected web of barriers, appear to be growing up in *book deserts* with little access to books (Chow, LaFrombosie, & Roy, 2019). The name *Reading Nation Waterfall* represents an aspirational and resolute metaphor for the vision and desired outcomes of our project. As waterfalls tirelessly carry pure water that turn into streams and rivers bringing the nutrients for life to flourish, we hope to do the same for tribal communities by saturating the daily ecosystem of children and families with carefully selected books for children and their caregivers and information about culturally relevant programs and resources at their local libraries. By building and leveraging a strong network of existing libraries and community organizations, the goal is to maximize access and convenience while removing time, cost, and affordability as fundamental barriers. Reading Nation Waterfall is a project grant in the piloting and scaling maturity level in the Lifelong Learning category.

1. Statement of National Need

National 4th Grade Reading Scores Increase While Native American Scores Decrease. Since 1992, 4th grade reading scores in the United States for all races have increased at statistically significant levels except for American Indian/Alaskan Native children. Scores for the latter decreased by 3%, and as of 2019, were 16 points below the national average (NAEP, 2019). Also, 80% of these children are reading below the proficient level and the average score of 204 is well below the nation's 208 basic proficiency level (NAEP, 2019). The academic challenges for American Indian/Alaska Native students continue at the high school level as they have the nation's highest dropout rate at 10.1% in 2017, over double the dropout rate of White students (4.3%), and almost double the national average of 5.4% (NCES, 2017). Finally, they also have the lowest high school graduation rate at 72.4% of all racial groups (NCES, 2017) and are least likely to continue their education after high school at 17% compared to 60% of the U.S. population (PNPI, 2018).

Reading Proficiency, Not Race, Primary Indicator for Academic Success. A 10-year longitudinal, nationwide study of nearly 4,000 students found that reading proficiency is the key variable, not race: "Gaps in graduation rates among white, black and Hispanic students closed once poverty and reading proficiency were taken into account. If they are proficient in reading, they basically have the same rate of graduation...If they did not reach (reading) proficiency, that's when you see these big gaps emerge" (Hernandez, 2011; Sparks, 2011). The same study found that, "those who don't read proficiently by third grade are four times more likely to leave school without a diploma than proficient readers. For the worst readers, those (below) basic skills by third grade, the rate is nearly six times greater" (Hernandez, 2011, p.3).

Reading From 0-5 Foundational Catalyst for Brain and Cognitive Development. The American Academy of Pediatrics (AAP) recommends that shared reading should begin at birth and it has lasting benefits for the developing brain. This is called *emergent literacy* and is defined as, "the skills, knowledge, and attitudes supporting reading and writing that accrue from infancy" (Hutton et, 2015, p.467). Research finds that, "the

quality of cognitive stimulation in the home, especially before school entry, strongly influences achievement and health outcomes. Children’s books are catalysts for parent-child engagement during sensitive developmental stages when brain growth and plasticity are maximal” (Hutton et, 2015, p.467). Hutton’s (2015) research found that books provide both grammatically correct material and breadth of subject matter that extends far beyond regular daily conversations and subject matter. The long-term impact on brain development resulting from the quality of cognitive stimulation and nurturing during early childhood is called *biological embedding*. Reading stimulates the use of language, visual, and association brain networks, and, “during this critical prekindergarten period, children are highly vulnerable to disparities in cognitive stimulation, especially spoken language, as well as toys and books promoting constructive parent-child engagement” and this “underscores the need for effective interventions applied as early as possible, when brain networks are most amenable to change” (Hutton et, 2015, p.473).

The American Academy of Pediatrics also noted that, “Reading proficiency by third grade is the most significant predictor of high school graduation and career success.” They recommend that, “pediatric providers advise parents of young children that reading aloud and talking about pictures and words in age-appropriate books can strengthen language skills, literacy development and parent-child relationships.” Time spent reading together also helps “create nurturing relationships, which is important for a child’s cognitive, language and social-emotional development” (O’Keefe, 2014). Shanahan (2018) noted that, “Reading can lead to learning and that is true if the reading takes place independently, socially, or under the supervision of a teacher. It is true whether the reading is oral or silent, self-selected or assigned, done at home or at school. It is a good idea to require children to read. It is a good idea to encourage children to read on their own” (Shanahan, 2018). According to Piaget (1972; Piaget & Inhelder, 1966/1969), the act of reading in elementary school can be conceptualized as the coordination of many types of processes, including phonological and semantic processes, into an overall system and there is a significant relation between domain-general multiple classification skill (e.g., classifying objects by shape and color simultaneously) and children’s reading skill (Arlin, 1981).

Increased Local Library and Individual Income Linked to Increased Usage, Circulation, and Quality of Life. One of the biggest obstacles and sources of frustration for librarians is knowing that a sizable percentage of children and families in their communities, that could benefit most from using them, do not. While the 2017 IMLS statistics show an increase in library usage nationwide - per capita circulation (Table 4), library visits per person (Table 5), and attendance at children programs (Table 39) (IMLS, 2017) - research also consistently finds a strong correlation between higher education and income levels and increased library usage (Chow, 2019; Carlozzi, 2018; Geiger, 2017; Rainie, 2016). In addition, a strong correlation between funding and library activity, at least as measured through the variables of circulation and annual visitations, has also been found (Swan et al., 2013), “[Library] revenue was a positive predictor for visitation, circulation, and program attendance” (p. 13).

Chow and Tien’s (2019) big data study of all public libraries in North Carolina over a 10-year period found, through regression analysis and predictive analytics, that print book circulation per capita had a statistically significant impact on a community’s high school graduation rate and that both library visitation and amount of local funding directly impacted that print book circulation. The higher the local per capita income of a public library, the higher per capita library visitation and per capita print book circulation, which was the single library output found to be a predictive, causal, and stable variable across multiple quality of life variables, including education level, income, and number of jobs (Chow & Tien, 2019).

Access to Books, Culture, and Recreational Reading Connected to 4th Grade Native American Student Achievement. In 2015, a landmark study conducted by The National Indian Education Study (NIES) surveyed 8,500 AI/AN fourth graders and found statistically significant differences in high-performing vs. low-performing students due to differential access to three main resources: a school library that contained materials about their own culture and people, access to more than 25 books at home, and owning a computer. In addition, higher performing children reported that reading was one of their favorite leisure activities (NIES, 2015). A 2018 international study of 31 countries also found that growing up with home libraries with 80 or more books

had statistically significant benefits in adulthood, "... adolescent exposure to books is an integral part of social practices that foster long term cognitive competencies and...(that) home library size has a loglinear effect on cognitive, numerical, and problem-solving skills that endure throughout life" (Sikorra, Evanish, & Kelley, 2018, p.15). An annual national study conducted by Scholastic finds the average home library for American children ages 6-17 was 103 books, but for frequent readers it was 139 books and for infrequent readers it was 74. Similar disparities were found based on income with families of \$100k or more who averaged 125 books at home while those making \$35k or less averaged 73 (Scholastic, 2019). Scholastic's CEO also noted that the digital age has increased the importance of reading skills as, "...children are growing up in a world full of digital information, which makes it even more important for them to know how to analyze, interpret and understand complex texts, to separate fact from opinion, and to develop a deep respect for logical thinking" (Scholastic, 2013, p. 2).

Self-Selection Key to Intrinsic Love of Reading. When students were asked what teachers could do to get them more involved in reading, many stated the importance of self-selection (Bruckmann, 2002). Numerous studies have found a strong correlation between book choice and developing intrinsic motivation (Gambrell, 1996) and when students are allowed to self-select the books they read, standardized test scores increase (Ley, Schaer, & Dismukes, 1994; Vaughn, 1994). Students like to read books that are of interest to them and ones they can personally connect to, or that speak to their interest and embrace their cultural, ethnic, and linguistic identities (Sewell, 2003). This helps them make connections to the characters and their personal lives and future aspirations (Bruckmann, 2002). How often a child reads can be explained by two factors — the child's initial success in acquiring reading skills and motivation to read (Fuchs & Morgan, 2007).

When students have limited reading choices they often choose not to because they feel the material is uninteresting or un-engaging (Mercurio, 2005). This often leads to a negative feeling about reading, especially if it is teacher initiated. One student stated, "when they force you to read stuff you don't want to read, it becomes a big annoying chore" (Mercurio, 2005, p.132). According to Follos (2007), when students are compelled to read material in school that they find dull and old fashioned (material that they often struggle with both in terms of interest and skill level) it reinforces and substantiates their distaste for reading. Some students find that their extreme dislike for reading can change when a wide array of self-selection material is available (Stairs & Stairs-Burgos, 2010). Scholastic's 13 years of research has found this to be a constant finding: "when kids choose, they read" (Scholastic, 2019) and that frequent readers are more likely to cite increased access to books, and sources such as public libraries, school book fairs or clubs.

Libraries Already Addressing Inequity and Unequal Access but Even Stronger Together. A primary role of libraries is to address unequal access and inequity in their communities, but *are they connected and working together?* An appropriate analogy is how a wireless network functions - individual access points have limited coverage, but when connected together they form one larger network that is much stronger and covers a broader area increasing access, speed, and stability (Google, nd). Libraries represent individual access points to books, information, technology, etc. in their schools, tribal communities, and general public. These different types of libraries are already present at each of the five partner sites, but are they as connected and collaborative as they could be? In the process of forming our partner cohorts for this proposal, it is clear there are definite opportunities to work closer together to form a "literacy mesh network" that is convenient, accessible, and strong at multiple points in a child's life. The excitement of the potential partners to work closer together to address a singular focus - increased literacy and access to libraries for tribal children - is palpable.

Libraries Serving Indigenous Populations. Most of the extant literature on library interactions with Indigenous communities focuses on collection development and management, and the need for their input and partnership in ensuring cultural relevance and appropriateness. Traditionally, the knowledge structures of indigenous populations, especially in relation to information storage and transmission, are different from traditional Western structures and library paradigms. It is often difficult to easily fold their knowledge into existing library collections (Duarte and Belarde-Lewis, 2015). The most fundamental step in working with

indigenous populations is to find ways to appropriately represent and work with them to understand their priorities and how best to serve them in culturally relevant ways. The University of New Mexico has an Indigenous Nations Library Program, in which indigenous community members are hired as librarians to work with their cultural materials (Brown, 2017). Also, the State Library of New South Wales (Thorpe & Galassi, 2018) and Grand Valley State University in Michigan (Shell-Weiss, Benefiel, & McKee, 2017) partnered with the indigenous community to develop and refine policy changes around access to their collections. The U.S. officially recognizes approximately 600 Indian tribes (usa.gov, 2019), and each has its own unique culture, so no one type of library programming or service will appeal to all. Northern Arizona University held a Wikipedia edit-a-thon, where Indigenous students learned how to edit Wikipedia articles and then did so, correcting bias and emphasizing Indigenous perspectives (Bishop, Pringle, & Tsosie, 2017). In efforts to welcome and preserve the lives, voices, history, and culture of indigenous communities, they must be invited to the table, listened to, and respected. This would serve and provide culturally relevant and appropriate library and information services that will benefit them and their communities across their lifespans.

Little Free Libraries (LFL). In 2019, LFLs celebrated their 10th anniversary and began as a book exchange started by Todd Bol, who quickly recognized its enormous potential to bring people together around the love of reading. Today, it is a worldwide book-sharing movement with more than 100,000 registered LFLs in all 50 states and 91 countries with more than 120 million books shared. Strengths include free and open access and convenience, especially important in communities with scarce access ([LFL](#), nd). Cottrell (2018) and Kozak (2017, 2019) discussed, however, three main potential drawbacks of LFLs: 1) They encourage the idea of libraries as simple book warehouses; 2) LFLs are usually overseen by non-librarians, so the quality of selection could be an issue; and 3) Some policymakers could mistakenly see LFLs as supplanting public libraries, allowing local governments and schools to divert library funds to other projects.

The LFL organization has joined as a partner to this proposal and has existing experience working with Head Start, public libraries, and tribal communities. One of their largest partners uses LFLs in more than 20 Head Start Classrooms and they are presently working with more than 500 public library systems across the country. LFL Executive Director Greig Metzger notes, “We believe that Little Free Library can provide complementary support to local, brick and mortar libraries by being an outpost and promoter of traditional library services they provide” (Metzger, 2020). Lastly, LFL has installations in a number of Native American communities and has worked with the Association of Tribal Archives, Libraries & Museums and currently has a LFL installed at the National Museum of the American Indian in Washington D.C. Duane Yazzie, a teacher and reading specialist at Tséhootsooi Diné Bi Olta' School in Window Rock (who is a member of our national advisory committee), recently won an award for establishing the Navajo Nation’s first Little Free Library working with four sixth-grade girls, through LFL’s Impact Library Program. Yazzie noted, "Reading has the power to transport us and move us beyond the present, to show readers what's possible, (and) the places they could go” (Bland, 2019).

Libraries as Community Leaders and Catalysts for Lifelong Learning. The project differs from most other community literacy projects because it situates libraries as the leaders and systemic change agents in attempting to address early children literacy. By developing formal and long-term collaborations between different types of libraries, Head Start, Little Free Libraries, and the community, Reading Nation will assertively build the capacity to facilitate, support, and sustain lifelong learning. Drawing upon existing research, the project seeks to curate a systematic process where quality and culturally relevant books are given away for free while providing children with the opportunity and enough options for self-selection. Furthermore, increasing access to books is not enough without building reading partnerships with parents and caregivers to encourage and spark increased home reading. The project also seeks to create a current of momentum to increase use of local libraries by providing funding to develop customized and culturally relevant programming and leveraging LFLs as a way to inform and connect children and their caregivers to such opportunities at their local libraries. The focus is on both ends of the lifelong learning spectrum - children and their adult caregivers. It complements current practice of different types of libraries working closer together to share collections and

increase access to library services for children. It builds upon existing theory and scholarship in cognitive development that continues to show how important reading is to early children's brain development and human cognition. By situating libraries as a community catalyst, this means taking a systematic approach to understanding barriers and then piloting and scaling potential solutions. Our project design is process oriented so that it is flexible to the local needs of different tribes and communities. It is both a pilot in terms of working with local communities to identify their own unique barriers, and potential ways to address them, and it is also scaling in terms of using the community assessment process, lessons learned, and the intervention we piloted in our planning study.

2. Project Design

Increasing Access to Literacy Resources and Libraries. Our Reading Nation Waterfall project will have one primary goal: to increase access to literary resources and libraries for Native American children and families. The project also has five primary outputs, and six primary outcomes. The five primary outputs will be: 1) Build library and community strategic partnerships to assess and address increased access to culturally relevant library resources and programming across the lifespan; 2) Pilot systematic and networked provision of convenient access to reading resources and information about library programming. This is accomplished by disseminating free, librarian-curated books into the hands of children in an immersive, convenient, and strategic fashion at home, in their neighborhoods, at preschool, at elementary school, and at libraries; 3) Increase children and parent-children reading time using research driven best practices; 4) Increase library usage and circulation; and, 5) Develop a web-based toolkit to enhance replicability and dissemination. The six short- and long-term outcomes are: 1) A sustainable and collaborative literacy network between different types of libraries, Head Start, Little Free Libraries, and PreK/elementary schools to increase unfettered access to reading material for children 0-10; 2) Increased number of books at home; 3) Increased independent and parent-child reading at home; 4) Increased grade level reading scores for tribal children entering kindergarten; 5) Increased 4th grade NAEP reading scores for tribal children; and 6) Dissemination and generalization of findings and model to other libraries and children and parents in general.

Guiding project assumptions include: 1) There are indeed existing barriers to access to literacy resources and libraries at each of our partner sites, 2) Little Free Libraries will work equally well (all books disseminated to children) in these different communities, 3) Increased books at home will lead to increased independent and parent/child reading, 4) Children and families will attend programming and use resources and services strategically designed to be responsive to community assessment findings, and 5) Increased access to books and libraries will lead to increased reading scores. The potential risks include: 1) Project activities are not appropriately implemented, 2) Librarians will not have the time to dedicate to project activities, 3) Lack of collaboration between libraries and Head Start, and 4) Lack of data collection in terms of inputs, outputs, and outcomes. A project manager will be hired to help ensure project logistics and activities stay on track. The project activities have been specifically allocated to different partners so they have discrete roles and responsibilities. For data collection, the project will hire a part-time evaluation expert who will help ensure project inputs, outputs, and outcomes are properly identified, cross walked, and collected throughout the project.

The research is clear that reading literacy by 3rd or 4th grade is a primary indicator of future academic success and quality-of-life indicators. In a child's life, years 0-5 represent one of the most significant primary developmental periods where brain growth and cognitive development occurs. Libraries specifically, and library and information science as a field, have the opportunity and expertise to play a leadership and catalyst role in identifying barriers to lifelong learning. By increasing access and uniting community resources and organizations in innovative ways, libraries can support and promote literacy, access to books, and increased relevance and use of libraries for children and families at school and in the community.

The Resources, Experience, Capacity, and Network to Get the Job Done. Our Reading Nation Waterfall project will be organized as follows: A **Project Administration Team** at The University of North

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Carolina Greensboro's School of Education led by Project Director and professor Dr. Anthony Chow. Dr. Chow will be supported by a project manager in charge of day-to-day operations, a consultant in charge of increasing parent-child reading at each chapter, one graduate assistant, university contract and grants team, and professional evaluator Dr. Ayesha Boyd and the Office of Assessment, Evaluation, and Research Services ([OAERS](#)). A **National Advisory Committee** representing a diverse group of experts in literacy, Native American culture and education, libraries, and Head Start will meet every six months to inform and guide the project ([View list](#)). This 15-member committee includes [Renée Gokey](#) (Eastern Shawnee/Sac and Fox), Teacher Services Coordinator Specialist, Smithsonian's National Museum of the American Indian; [Jo E Williams](#), Director, Alamo Navajo School Board, Inc.(ANSBI) Early Childhood Program; [Teri Stringer](#), Senior Manager, National Indian Head Start Directors Association (NIHSDA); [M. Greig Metzger](#), Executive Director, Little Free Libraries; [Tammy Dillard-Steels](#), Executive Director, ALA's Young Adult Library Services Association (YALSA); [Sandy Littletree](#) (Navajo), Ph.D. Library and Information Science and Lecturer, University of Washington iSchool; [Duane Yazzie](#) (Navajo), Teacher and Reading Specialist, Tséhootsooi Diné Bi Ołta' School and 2019 recipient of Little Free Library's Todd H. Bol Award for Outstanding Achievement; [Lesley Farmer](#), Ed.D., Professor of Library Media and Literacy, California State University Long Beach; [Mike Jetty](#), (Spirit Lake Dakota Nation/Turtle Mountain Chippewa) Indian Education Specialist, Montana Office of Public Instruction; [Melinda Ivey](#), Ph.D., William E. Moran Distinguished Professor in Literacy, Department of Teacher Education and Higher Education, UNCG; [Colleen Fairbanks](#), Ph.D., Professor of Literacy and Culture, Department of Teacher Education and Higher Education, UNCG; [Greg O'Brien](#), Ph.D., Professor and Chair, Ethnohistory and American Indians of the Southeast, Department of History, UNCG; [Tammy Gruer](#), MLIS, Clinical Assistant Professor and School Library Program Coordinator, Department of Library and Information Science, UNCG; [Ali Askarov](#), Ph.D., Associate Professor and Director of Graduate Studies, Department of Peace and Conflict Studies, UNCG; and [Justin Harmon](#), Ph.D., Assistant Professor, Department of Community and Therapeutic Recreation, UNCG

A **Project Steering Committee** will meet quarterly and be attended by all senior personnel which include representatives from each of the five Reading Nation Chapters, Dr. Chow the Project Director, project manager, Dr. Ayesha Boyd the project evaluator, and Renee Gokey and Dr. Farmer as our two parent literacy partner program consultants. This will ensure progress, a constant feedback loop throughout the project, sharing of best practices, and opportunities to identify and resolve issues and challenges. There will be **Five Reading Nation Chapters** across three states. Each chapter will reflect slightly different, locally driven and formal collaboration between tribal, public, school libraries, and a local Head Start program. Two tribes are participating in North Carolina: The *Eastern Band of Cherokee Chapter* will be led by the Qualla Boundary Tribal/Public Library and include their Head Start program, Cherokee elementary school library, and the Snowbird Community Public Library. The *Lumbee Chapter* will be led by the Lumbee Tribe and reading expert Dr. Heather Sellers at UNC Pembroke along with LRDA-Rennert Head Start, Rex-Rennert Elementary School, and Robeson Public Library. Two tribes will participate in Montana: The *Crow Chapter* will be led by Dr. Jason Cummins, Principal of Crow Agency Public School in partnership with the school librarian, and Big Horn County Public Library. Their Head Start program recently closed due to financial constraints, but the elementary school has begun offering PreK classes. The *Northern Cheyenne Chapter* is adjacent to the Crow reservation and will be led by Wooden Legs Tribal/Public Library and collaborate with their Head Start and Lame Deer Elementary school librarian. One tribe is participating in New Mexico: The *Santo Domingo Pueblo Chapter* will be led by the Santo Domingo Pueblo Tribal/Public Library along with their Head Start, Santo Domingo Elementary School, and border town Lomalinda Public Library.

Project Timeline and Protocol. Year 1 will start by establishing organizational capacity and finalizing project operations and logistics. The administrative team will be established including the project director, a project manager, professional evaluator, and graduate assistant. The steering committee will be convened next and will consist of the leads from each of the five Reading Nation partner cohorts and two project consultants focused on increasing parent/child home reading activity. They will finalize the timeline,

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resources, and the start of the project. An evaluation crosswalk and logic model will be developed to help plan, track, and align all project activities to goals, outputs, and outcomes. The national advisory committee will be convened to approve the project plan and provide input. Members include experts in literacy, Native American education, libraries, youth and libraries (e.g. YALSA), the Director of the National Indian Head Start Directors Association (NIHSDA), and the Executive Director of the national Little Free Libraries (LFL). At UNCG, six faculty experts in literacy, libraries, peace studies, and Native American culture and history have been identified and will serve on the national advisory committee.

Each of the five partner cohorts will first establish their community advisory board and a \$100 stipend will be used to incentivize participation and commitment. A community assessment coordinated at UNCG using the method and instrumentation from the planning study, but customized locally by each tribe, will be conducted at each site. High-priority needs and priorities will be identified and the advisory committee will work with the local librarians, consultants, and project administrative team to design, develop, and implement customized and collaborative library programming, services, and resources. Most of these will start being implemented at the end of Year 1 or at the beginning of Year 2. Simultaneously, three donated and fully constructed Little Free Libraries (LFLs) will be delivered to each cohort and placed at a local Head Start/PreK program, elementary school, and in a residential/community high traffic area for tribal children and families. School and public librarians with the expertise to select and order reading material will finalize protocol for labeling and tracking books along with work flow for book ordering and weekly curation. Each LFL will follow the piloted process for curation - 10 new children's books and 10 gently used books as well as 10 books targeting parents and caregivers (from school and public library partner donations) will be added weekly. All community donated books (part of the "take a book, leave a book" ethos of LFLs) will be pulled, examined, and either labeled and added back to the LFL or donated elsewhere.

Each LFL will also serve as a physical space to announce and connect children and families to project-driven library programming and services focused on increasing literacy and parent/child home reading. A parent literacy partner program will be developed by Dr. Lesley Farmer to educate parents on the importance of parent-child interaction and give them tools they can use at home to build early literacy skills with their children. According to Dr. Farmer (2020) parents may be reluctant to serve as a partner for a plethora of reasons: lack of self-confidence in their own literacy, language differences, other personal and workplace commitments, or general reluctance to join something that will mean more time and resources. The program will also be developed to encourage parent and child home reading. The program will use community assessment results to build reading partnerships by identifying and working with existing community structures, priorities, and values. The focus will be on building reading partners as extensions of existing trusted community partners such as partnerships with school-parent groups, religious institutions, and youth-serving agencies and providing clear examples of other parents' involvement and specific activities they can use (Farmer, 2020). This program will be provided to our participating libraries and the LFLs will be leveraged as a form of outreach to inform and connect children and families to the customized programming, resources, and services offered at their local libraries. The literacy consultants and evaluator will also identify appropriate inputs, outputs, and outcomes to measure the success and impact of the project on parent/child home reading. This will collect baseline data for each partner, including current reading habits and frequency. PreK and 4th grade reading test scores for the past five years will also be collected. The steering committee will meet quarterly to discuss issues and share successes. The advisory board will meet every six months, and the evaluator and PI will conduct at least one site visit each year over the summer. A website and social media for the project, and all partners, will be added to myreadingnation.com and results will be widely disseminated through various academic venues including ALA, PLA, AASL, ATALM, and peer reviewed publications.

Year 2 will see data-driven refinement of the project based on what was formally and informally learned from Year 1. Year 2 will see the increased rollout of strategies, programming, and services identified from the community assessment to increase access to libraries, reading at home, reading partnerships, and literacy activity in general for children and families. A total of 3,120 children's books and 1,560 books for caregivers (1,040 and 520 per LFL) will have been disseminated for each of five cohorts for a first-year

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project total of 15,600 children's books and 7,800 books for adult caregivers. There will also be output totals for: reading partnerships; strategies created and information provided; the number of new programs and services offered; frequency they occurred; number of attendees; library card registrations; and additional library books checked out at those events. Formal opportunities for improvement identified from evaluation results will be addressed and changes in reading scores at PreK/kindergarten and 4th grade for partner sites will be documented and analyzed. Project leadership will develop a web-based toolkit in collaboration with our advisory committee and partners designed to maximize impact and dissemination of the model, process, and best practices will be developed. Development will begin February 2022 and it will be completed by July 2022. Results will continue to also be widely disseminated through various academic and professional venues and webinars will be offered every six months starting October 2021.

Year 3 will see continued refinement of project activities and design based on evaluation results and lessons learned. Year 3 will build on a two-year dissemination of approximately 31,200 children's books and 15,600 books for adult caregivers. Project implementation and impact using the logic model will continue to be assessed using inputs, outputs, and outcomes within each cohort, and for the entire project in the aggregate. Focus will now be on scaling, dissemination, and generalizing successful aspects of our model on a national basis. The toolkit will be complete, free webinars will continue to be provided every six months, and results will continue to be widely disseminated through various academic and professional venues. An additional National Leadership Grant will be submitted seeking to enhance and disseminate Reading Nation in three new ways: 1) To additional tribal head start programs, 2) To tribal middle and high school age students, and 3) To low income children and families of all races. Other dissemination and funding opportunities with our local and national partners will also be explored. At the conclusion of the project the approximate total of free books disseminated will be 46,800 children's books and 23,400 books for adult caregivers (9,360 and 4,680 for each cohort, respectively).

3. Diversity Plan

Five Native American tribes will participate as Reading Nation Waterfall partners. They were identified through a combination of recommendations from librarians, existing contacts, and local proximity. They were also confirmed because their tribal children and families may have barriers to access to literacy and libraries and benefit from this project. Working through Head Start at four of the five regions and an elementary school at the fifth location where their Head Start became financially insolvent, we will have direct access to tribal children and families who socioeconomically qualify for Head Start. While the assumption that distressed children and families will have barriers to access to literacy resources and libraries, the project has a built-in community assessment to more precisely identify local needs and opportunities that the project, library partnerships, and Head Start may be able to address.

4. National Impact

A Piloting and Scaling Project. Founded and informed by a 2018-2019 IMLS Planning Grant, the Reading Nation Waterfall project is at the piloting and scaling maturity level and seeks to directly respond to existing research along with the findings of our own year-long study that identified multi-faceted barriers to access to books and libraries for Blackfoot children and youth, collectively representing a *book desert*. Our study's sample included 84 interviews, 105 randomly selected surveys, 53 parent surveys, and four focus groups. Analysis of the data suggest seven main findings: 1) The Blackfoot community in general did not value or prioritize reading or libraries, 2) school libraries were not well funded and students did not have easy access to them, 3) most did not visit the tribal/public library often, 4) participants were not read to frequently as children, 5) only 25% had more than 80 books in their home libraries, 6) libraries were not considered a popular destination on the reservation, and 7) significant disconnects existed between library services and programming and needs of the community (Chow, LaFrombosie, & Roy, 2019).

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Three Little Free Libraries (LFL) were piloted and placed at their Head Start preschool and K-1 and 2-3 grade elementary schools (the participating school district separates elementary grades into separate schools). In collaboration with the Glacier Public Library and their Friends Group, additional funding was raised and each LFL was curated weekly with 10 new and 10 gently used children and adult books. All donated books by the public were pulled, reviewed for appropriateness, and either placed back or removed entirely. All books at all three locations were taken over a four-month period (approximately 1,000 books circulated). Our project will seek to continue to pilot and scale different ways to disseminate books to Native American children and families. We will engage the tribes using a community-centered approach to help assess needs, identify priorities, and design and develop culturally relevant and appropriate resources and programming focused on local, context-specific needs.

Pilot and Scaling Maturity Level. Increasing access to literacy resources and libraries for children and families is a complex problem which requires a multifaceted approach in creating systemic change within the participating communities. Our project first began as a planning grant to better understand the existing barriers in the Blackfoot Nation. Based on the findings of that year-long study, we identified potential ways in which different types of libraries could collaboratively form a network with other community organizations to help directly address existing barriers. These barriers include cost, convenience of access, the resources and opportunities to read at home, and relevant library resources, services, and programming for Native American children from 0-10. While the specific sample of study currently is focused on tribal children and families, this project represents an innovative opportunity for different types of libraries to collaborate with community organizations and take the lead in directly addressing a complex societal problem that expands beyond this population. Native American children and youth need greater access to books and libraries. Libraries have both the expertise and existing community mission to keep exploring innovative ways to increase access to books and develop community-centered programming for this population and other members of the community.

National Impact in Multi-faceted Ways. Our project proposes to address one of the seminal challenges faced by our nation's public libraries: *how do we deliver children and youth materials to those who do not visit our libraries?* We propose a plan that extends selection and curation of library materials to a targeted population where libraries are not part of their cultural tradition by providing them for free in spaces children in poverty already reside to maximize convenience and accessibility. In addition, we will work with tribal partners to develop culturally centered library programming and resources and establish a reader partnership program. Our project will have national impact in seven ways: 1) It further pilots, scales, and extends activities previously funded and tested in the field through an IMLS planning grant, 2) Expands these activities to new audiences, 3) Is easily replicable and implementable across the field, 4) Addresses all three aspects of the core mission of IMLS - Promote Lifelong Learning, Build Capacity, and Increase Public Access, 5) Focuses on the Lifelong Learning project category by working with cross disciplinary partners working with children from 0-10, 6) Establishes a team with the expertise, experience, and culturally appropriate perspective to implement the project, and 7) Develops and disseminates, in partnership with local and national library associations and community organizations, a Native American literacy and library model. We will also develop and disseminate a process to be shared via web-based toolkit and traditional academic presentation and publications for easy replication.

Sustainability, Adaptability, and Dissemination. School districts and participating public libraries may contribute to sustainability by adding maintenance and curation of the LFLs and continuation of associated programming, services, and resources into their annual budget and normal workflow. LFLs also could become sponsored by the county, schools, the community or organizations. The project is designed to maximize adaptability and replicability. It will be guided by a logic model that clearly identifies project goals and the specific inputs, outputs, and outcomes. These will help ensure strategic and systematic planning, community assessment, implementation, and evaluation are built-in to the project on a day-to-day, year-to-year basis. Part of the annual activity of the project will be to disseminate lessons learned and the general process in a plethora

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of ways: through traditional academic venues, through the web/social media, and through webinars. The webinars will focus on the results of the project and ways in which to adopt and disseminate Reading Nation. The online toolkit will be designed for easy and rapid maintenance and refinement and strategically developed for ease-of-use and usability in understanding and adopting the model and process.

Our project resources have been carefully planned to ensure the capacity is in place. For example, both a project manager and graduate assistant will be responsible for day-to-day operation and institutional dissemination. This is also a research and teaching area of expertise of the Project Director and lead PI who will supplement these activities with additional graduate students. UNCG and SOE communications will widely publicize this project to its national network since it is the lead university, Dr. Chow is the Project Director, and so many of its faculty are involved.

The core partners involved in this project are also able and willing to explore wider dissemination of the Reading Nation concept in other tribal communities and communities in general on a national basis. For example, the National Native American Head Start Directors Association could seek to scale the benefits of this project to all tribal community Head Start programs. The National Head Start program could also become a strategic partner in disseminating to more schools and programs in non-tribal communities nationally. The Little Free Libraries organization has already donated 15 physical LFLs to the project and will also explore identifying corporate sponsors to add several fully funded additional LFLs to each of the five cohorts during this project. They could also become a strategic partner in disseminating the Reading National model to other schools, libraries, and communities. As a condition of participation, YALSA would like to see the extension of Reading Nation to tribal middle and high schools but also sees the importance of early literacy as part of the continuum and foundation for increasing the usage of libraries beyond elementary school. Dr. Farmer sees this project as an opportunity to continue research and application of best practices in creating parent/caregiver reading partnerships to increase home reading as well as connect them in a strong way to libraries. Reading Nation could also begin scaling its model to other school/public/tribal libraries in other communities on a national basis.



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.

We do not seek to license any of our digital work for this project and freely share our intellectual property under the Creative Commons license. This includes our online toolkit, website, recorded webinars, and online instruments.

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

Under the Creative Commons License we openly and freely share all of our digital work with others.

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.

There are no privacy concerns and participants in our webinars will sign a release form giving permission for any recording to be used under our Creative Commons License.

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 Reading Nation Toolkit will be web resource center in WordPress. The toolkit will include be a fully functional website that will share all aspects of the project with visitors. This will include but not be limited to: Project narrative, logic model, instruments, reports, guidelines, programs, lessons learned, research data, video recordings, and stepwise guides on how to replicate any aspect of the project.

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.

UNCG owns an enterprise version of WordPress that it runs on UNCG servers. Most documents will be in PDF format and will be created using Microsoft Office software such as Word, Excel, and PowerPoint.

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.

All files will be in PDF, DOC, XLS, PPT, MPEG 3 and 4, and JPEG.

Workflow and Asset Maintenance/Preservation

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

We will have both a project manager and graduate assistant assigned to the project and they will be responsible for ensuring quality control.

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).

All UNCG servers are automatically backed up in real time. All content for our toolkit will be saved and stored in these backups.

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).

N/A

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

N/A

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

N/A

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).

Openly available online through our 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.

The toolkit will be served off our website myreadingnation.com.

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.

We will only use MS Office and WordPress.

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

It will HTML files only.

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.

myreadingnation.com

Access and Use

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

Openly available website.

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

Name of publicly accessible source code repository:

Reading Nation Website

URL:

myreadingnation.com

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.

We will collect both qualitative and quantitative data. This includes: Interviews, focus groups, paper and online surveys, input and output data, and aggregate test scores.

Community assessments will take place from September to October 2020. Input and output data will be generated throughout the project and collected as inputs or resources, project activities, outputs from those activities. Outcome data will be collected in terms of baseline aggregate test scores for children entering kindergarten and NAEP 4th grade reading scores.

Using logic model data about the project will be collected constantly but a annual evaluation will take place in May and June to document the current inputs, outputs, and outcomes of the project.

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

Yes, it will involve IRB approval and this will be sought if the project is funded starting no later than August 2020.

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.

No, sensitive information will be gathered. All performance data will be gathered in the aggregate with no identifying information.

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

All data will be collected using Qualtrics online survey software and then analyzed using MS Office software mostly Excel and Word.

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?

There will be a code book needed to analyze the online survey results. All files will be stored using Box and/or Google drive.

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

All data will ultimately be stored in Box, which is backed up by UNCG in real-time. Some of the data will be publicly shared on our website.

A.7 Identify where you will deposit the data:

Name of repository:

Reading Nation Project DropBox Folder

URL:

<https://uncg.box.com/s/wl93h84i9ohfgn2f15f4r3a7n2zxnglx>

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

As a team we will review our data management plan on a monthly basis.